



Research article

An intervention to address nurse educators' occupational well-being: A process evaluation



Jenni Rinne^{a,*}, Helena Leino-Kilpi^{a,b}, Sanna Koskinen^a, Terhi Saarinen^c, Miko Pasanen^a, Anneli Vauhkonen^c, Leena Salminen^{a,b}

^a Department of Nursing Science, University of Turku, 20014 Turun Yliopisto, Finland

^b Turku University Hospital, Finland

^c Department of Nursing Science, University of Eastern Finland, Kuopio, Finland

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ABSTRACT

Background: There is a global need for more support for the occupational well-being of educators working in nurse education, where nurse educators experience challenges when managing their own occupational well-being. However, there is a lack of research studies into occupational well-being interventions.

Aim

To evaluate the usability and utility of the Self-Help Intervention for Educators in nurse education.

Design: A process evaluation was conducted after the intervention in Spring 2022.

Settings: Educational organisations providing national regulated practical nurse education in Finland.

Participants: Nurse educators ($n = 37$), completing the 8-workweek intervention.

Methods: Data were collected with the self-reported electronic feedback questionnaire consisting of three sections: 1) 10-item System Usability Scale, 2) 7-item Utility scale developed for this study and 3) 4 open ended questions. The data were analysed statistically and with content analysis.

Results: The intervention was found to be usable; especially the easy learnability and usage of the digital Smart Break-SHINE program and the applicable exercises. It was estimated to be moderately useful as a well-being and break promoter at work. The utility of the intervention to promote physical activity and recovery during working hours was statistically more positive for educators with <5 years of work experience than those with over 15 years. Usability and utility barriers were found especially regarding workload issues.

Conclusions: The Self-Help Intervention for Educators supports the occupational well-being of nurse educators and includes well-being actions suitable for different work surroundings (e.g., remote working) without the need for constant facilitating. The intervention was found to be most beneficial for early career nurse educators. The Self-Help Intervention for Educators needs more development to overcome the usability and utility barriers related to workload issues.

1. Introduction

The aim of this process evaluation was to evaluate the usability and utility for nurse educators of the occupational well-being intervention, Self-Help Intervention for Educators (SHINE). Occupational well-being is not only important for nurse educators, but also for the well-being support they provide to students (Aldrup et al., 2020). However, based on research evidence, nurse educators experience challenges when managing their own occupational well-being (Rinne et al., 2022;

Singh et al., 2020; Vauhkonen et al., 2023). Very few studies have investigated promotive interventions for occupational well-being (Baker, 2010; Stegen and Wankier, 2018; Wiklund Gustin et al., 2020). This study addresses this research gap by evaluating the usability and utility of a self-conducted occupational well-being intervention for nurse educators.

* Corresponding author.

E-mail addresses: jlrinn@utu.fi (J. Rinne), helena.leino-kilpi@utu.fi (H. Leino-Kilpi), smtkos@utu.fi (S. Koskinen), terhi.saarinen@uef.fi (T. Saarinen), misapas@utu.fi (M. Pasanen), anneli.vauhkonen@uef.fi (A. Vauhkonen), leesalmi@utu.fi (L. Salminen).

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2. Background

2.1. Literature review

Occupational well-being is defined in various ways depending on the context and the field of research (Hascher and Waber, 2021). The International Labour Organisation (ILO) states that occupational well-being should consider all aspects of working life and that health promotion and maintenance should create healthy, satisfied, and engaged workers (Forastieri, 2014). There is a wide range of occupational well-being models describing the essence of occupational well-being from all aspects of working life. In this study, the theoretical framework, *Content Model for the Promotion of School Community Staff's Occupational Well-being* (Saaranen et al., 2007, 2020) was used. The overall occupational well-being in this framework consists of four aspects:

- 1) worker's resources and work (e.g., person's health and workload),
- 2) work community (e.g., social working environment),
- 3) professional competence (e.g., pedagogical skills) and
- 4) working conditions (e.g., chemical factors).

Previous occupational well-being studies among nurse educators have shown that workload issues are a challenge for occupational well-being. Nurse educators were found to experience high mental workloads, backlog situations at work, not having time for breaks, and a lack of support for actions that would improve occupational well-being (Rinne et al., 2022; Singh et al., 2020; Vauhkonen et al., 2023). Although the educators experienced a moderate to high work-related stress (Moyer, 2022; Singh et al., 2020), they also had favorable levels of positive affective feelings towards the work (Arian et al., 2018; Kippenbrock et al., 2022). Consequently, there is need to support occupational well-being of nurse educators, especially managing mental workload factors during working hours (Rinne et al., 2022).

There are few studies focused on promoting occupational well-being interventions among nurse educators (Baker, 2010; Stegen and Wankier, 2018; Wiklund Gustin et al., 2020) and no published process evaluations. Based on the limited literature, the experiences of occupational well-being interventions were reported as positive (Baker, 2010; Stegen and Wankier, 2018) although there was a need for inner motivation to be involved in interventions (Wiklund Gustin et al., 2020).

There are a small number of studies addressing the process evaluation of digital occupational well-being interventions among office workers (Blake et al., 2019; Macdonald et al., 2020; Muurauskangas et al., 2016). These digital physical activity interventions were considered both usable and useful in raising awareness of workplace health (Blake et al., 2019; Macdonald et al., 2020). Support from the management of the organisation and inner motivation from the staff enhanced the intervention's usability (Blake et al., 2019; Macdonald et al., 2020). The barriers to such interventions were the lack of time to conduct the exercises and a failure to integrate the digital activities into everyday working life (Macdonald et al., 2020; Muurauskangas et al., 2016).

2.2. SHINE intervention

The four aspects of the *Content Model for the Promotion of School Community Staff's Occupational Well-being* (Saaranen et al., 2007, 2020) can be investigated separately, if the occupational well-being promotive actions are targeted within that specific aspect (Saaranen et al., 2007). The focus of this study is on worker's resources and work (e.g., personal physical and mental resources at work, personal workload factors). In this model, resources and workload factors need to be in balance to gain the best level of overall occupational well-being (Saaranen et al., 2020) (Supplementary Material A, Table).

The Self-Help INtervention for Educators (SHINE) is an 8-workweek (completed within eight weeks when working) intervention designed to support the occupational well-being of nurse educators during working

hours using both personal resources and workplace support. The aim is to primarily improve the balance between personal resources and workload, where the intervention should enhance the resource-workload-balance (Supplementary Material A, Table). The UK Medical Research Council (MRC) framework on developing and evaluating complex interventions (Skivington et al., 2021) was utilised to describe the intervention process through **eight steps** (Supplementary material B, Figure).

The first, second and third steps were to identify the development needs to support occupational well-being activities during working hours and managing mental workload (Rinne et al., 2022), to find a relevant theoretical framework (*Content Model for the Promotion of School Community Staff's Occupational Well-being*, Saaranen et al., 2007, 2020), and to identify the educational context considering nurse educators work finding a suitable intervention wherever the work takes place (Rinne et al., 2021). The intervention was designed to use a digital delivery with workplace support to have a positive impact on occupational well-being. It also provided educators with the opportunity to conduct the intervention wherever their work took place.

Step four identified the key components to improving the personal resource-workload-balance. The key components discovered were: (1) physical activity at work; (2) recovery activities at work; (3) self-regulation development activities at work; and (4) workplace support for personal resources promoting activities at work. A full description can be found in the effectiveness study of this intervention (Rinne et al., 2024). SHINE was based on shared responsibility between the workplace and the educators and was implemented using self-conducted exercises (i.e., can be carried out with self-regulation without an instructor: e.g., physical activities, relaxation, deep breathing and self-regulative exercises) during working hours. These techniques have been found beneficial when promoting occupational well-being of educators in previous studies (Rinne et al., 2021). Increasing physical activity (e.g., moderate exercise by walking) at work has been shown to increase educators resource-workload-balance by improving heart rate variability (Liu et al., 2015), whereas decreased physical activity has been shown to worsen physical health of nurse educators (Main et al., 2017). Recovery activities at work, such as breaks and relaxation pauses, have indications for better personal resources among workers (Sianoja et al., 2018). Self-regulation development activities (e.g., awareness, goal setting, and monitoring) have been shown to predict a health behaviour change through which educators gain better personal resources. Such self-regulatory activities include self-awareness, goal setting, and self-reflection (Hennessy et al., 2020). With self-reflection, work strain could be alleviated by fostering personal resources at work (Wiklund Gustin et al., 2020). Workplace support (e.g., giving opportunities to participate in work and leisure time activities promoting occupational well-being) is seen as essential for occupational well-being promotive actions that are done during working hours as they require support from managers and colleagues (Rinne et al., 2022; Singh et al., 2020).

In the fifth step the content of SHINE and its delivery method were created. The digital Smart Break SHINE-program was created in order to deliver three of the developed SHINE components (physical activity at work, recovery activities at work, self-regulation development activities at work). Educators could log into the web-based program with their e-mails preferably with a computer, but other devices were applicable (e.g., mobile phone). This program was adapted from the original Smart Break-program (<https://www.smart-break.com>) which already consisted of various 3-min physical activity exercises. The program was tailored by adding a 3-min breathing with body movements recovery exercises, self-regulative weekly tasks and a diary with rewards for completed exercises, thus creating the content of SHINE. The tasks represent different self-regulative exercises during each week (e.g., outdoor exercises). SHINE program's guided exercises consists of: two daily short 3-min exercises that needed to be completed every workday (earning a star in the diary), one weekly changing self-reflective task to

be complete within each workweek (earning a diamond in the diary) and a weekly self-evaluation of personal resources. In addition, a voluntary maximum of three e-mail reminders were established in the program set up by the educators to send to themselves. SHINE's fourth component was designed to add one hour/week of support and encouragement (e.g., e-mail or face-to-face) from the managers to complete the exercises.

In the sixth step, the usability and utility of SHINE was piloted in Autumn 2021 with a one-group post-test design with nurse educators ($n = 9$) educating future practical nurses. After four workweeks, the intervention was confirmed as being both usable and useful. SHINE was found especially useful for increasing physical activity. In addition, the pilot group was asked to give their development suggestions. **In the seventh step**, the development needs were identified for reframing the intervention according to the nurse educators in the pilot project: 1) weekly e-mail reminders from the research team were added about completing the exercises, 2) more nature related pictures were added to the program and 3) video loadings were checked to function properly. The developed SHINE was implemented in the daily working life of nurse educators (Supplementary material C, Figure). **The eighth step** was the evaluation of the intervention. This study evaluates the process, where effectiveness evaluation is reported elsewhere (Rinne et al., 2024). The following two research questions were considered:

1. From the perspective of nurse educators after completing an 8-workweek SHINE intervention what is a) the usability and b) the utility of SHINE?
2. What possible associations can be found between the background variables of nurse educators and a) the usability and b) the utility of SHINE?

3. Methods

3.1. Study design and sample

This process evaluation study followed MRC framework for evaluating complex interventions (Skivington et al., 2021). The process evaluation is important as it can help to determine why an intervention fails or why it succeeds and can also establish to what extent an intervention can be used by specified users to achieve specified goals (Brooke, 2013; Lyon et al., 2021; Skivington et al., 2021).

Process evaluation considers the usability and usefulness of an intervention in the real life context (Murray et al., 2016; Perski and Short, 2021; Skivington et al., 2021), where this process evaluation considers the experiences of the usability and utility of the SHINE intervention in the daily working life of nurse educators. In addition, the fidelity concerning quality of the intervention's delivery, dose and responsiveness is under investigation (An et al., 2020).

The study sample consisted of nurse educators who had completed the 8-workweek SHINE intervention; the nurse educators taught in two corresponding secondary vocational schools educating practical nurses (Rinne et al., 2024). In this study, a nurse educator is defined as an educator, teaching theoretical or practical content to nursing students in educational institutions (WHO, 2016) (Supplementary material A, Table). Nurse educators in Finland have a yearly based work schedule of 1500–1700 h of work per year generating approximately 38 h per week. The only inclusion criterion for participation ($n = 37$) was working as a full-time educator. Nurse educators have a master's degree specialised in teaching either practical subjects (e.g., nursing, social care, rehabilitation) or general subjects (e.g., mathematics and languages). The exclusion criteria included pregnancy and having a pacemaker because of the outcome measurements in the intervention's effectiveness study (Rinne et al., 2024). The educators ranged from 32–62 years of age (mean 49.05, SD 8.09) and their work experience as educators from 1–33 years (mean 11.05, SD 6.98) (Supplementary material D, Table). The weekly hours/week were 37.03 h (SD 7.40) during enrolment and 35.86 h (SD 7.40) after completing the intervention.

3.2. Data collection

The data were collected with the SHINE feedback questionnaire sent from the secure web application REDCap (Research Electronic Data Capture) as a personal link to the educator's email after completing the 8-workweek SHINE. Three reminder emails were also sent automatically to nonresponding educators after one week. The SHINE 21-item feedback questionnaire was accompanied by three demographic questions (age, remote work and work experience) and consisted of the following sections: 1) 10-item "System Usability Scale, SUS-scale" (Brooke, 1996, 2013), 2) 7-item Utility-scale developed for this study and 3) four open-ended questions about SHINE's usability, utility and development needs. The same questionnaire was used in the piloting phase ($n = 9$).

The first section, "SUS-scale" (Likert scale, 1 = strongly disagree, 5 = strongly agree) included a calculated total SUS score ranging from 0 to 100 (100 being the best possible usability), where the total score should be considered as percentile ranking (Brooke, 1996, 2013) total SUS score above a 68 considered as above average (Brooke, 2013). SUS is freely available and widely used usability measurement scale as it has good psychometric properties (Brooke, 2013). The second section, 7-item Utility scale, (Likert scale, 1 = strongly disagree, 5 = strongly agree), measured SHINE's utility for promoting the resource-workload-balance, and the intervention's key components: physical activity, recovery, self-regulation and workplace support. The developed 7-item utility scale was evaluated using an expert panel ($n = 6$) to calculate the content validity index (CVI-S) of the relevance and understandability of the questions (Polit and Beck, 2006). The panel found the relevance of the questions to be excellent (1.00) as well as the understandability (0.92). The utility items are each considered as separate items thus securing the reliability of the developed items. The third section consisted of four open-ended questions as regards those factors supporting or hindering SHINE's usability, utility and developmental needs.

3.3. Data analysis

The data were analysed using statistical programs: SPSS 27, Excel-program, and R version 4.0.2. Descriptive statistics are represented as frequencies, percentages, mean, standard deviation, median and inter-quartile range values. Individual SUS and Utility Likert-scale items were divided into three categories (agree, neutral and disagree). The associations between the background variables and the usability and utility were tested using the Kruskal Wallis test and Mann Whitney *U* test. Pairwise testing was done using Dunn's test with Bonferroni correction. These non-parametric tests were used for data having a nominal scale in each item under investigation and data not indicating convincingly normal distribution (Van Buren and Herring, 2020).

The answers to the open-ended questions were analysed using content analysis creating categories of expressions (Erlingsson and Brysiewicz, 2017). The expressions were downloaded to an Excel-program dividing all the expressions into separate lines. First the data were analysed deductively coding the expressions either into usability or utility experiences and excluding any other expressions. These usability and utility expressions were categorised inductively creating sub-, upper- and finally main categories. The analysis process was conducted by two authors independently (J.R. & S.K.) and then by discussions together to provide a consensus as regards the final categories.

3.4. Ethical considerations

This study followed the conduct for responsible research (GDPR, 2016; TENK, 2023). This study was granted ethical approval from The Ethics Committee for Human Sciences at the University of X, Health Care Division [11/2021]. The research permissions were obtained from both the vocational nursing schools in Spring 2022. All participants gave their informed consent before the study after receiving oral and written study information.

4. Results

4.1. SHINE fidelity

The fidelity of the intervention can be investigated evaluating the quality of the intervention’s delivery, dose and responsiveness (An et al., 2020). Digital delivery was chosen for three of the SHINE components (physical activity at work, recovery activities at work, self-regulation development activities at work) with a recommended dosage of two 3-min exercises of physical activity and recovery per workday and accompanied by a weekly changing self-regulative task to be conducted each workday. A SHINE usage profile (Supplementary material D, Table) was calculated in the Smart Break SHINE-program according to the participant’s completion of the daily 3-min exercises. The digital delivery can be considered satisfactory, as 70 % of the educators were active users completing the daily 3-min exercises 3–5 times/workweek, and 81 % completing 6–8 of the weekly changing self-regulative tasks; 95 % self-evaluated their weekly personal resources in the Smart Break SHINE-program as showing good responsiveness. The fourth SHINE component, workplace support, was arranged in the educational organisations, where the educators had one hour per week to complete the SHINE activities as part of a functional occupational well-being in-service training dosage. There were no strict fidelity measurements for the weekly support and reminders from the managers, however, they reported reminding the educators in their weekly meetings or by e-mail and giving their support to conducting these activities during working hours.

4.2. Usability of SHINE

The Smart Break SHINE-program was found usable (mean 76.35, SD 14.45), with a score of 68 representing the average SUS score (Brooke, 2013). The best individual SUS-items rated were for the learnability of the program (n = 35 agreed to learn the program quickly) and easy usage (n = 31 agree with easy usage) (Fig. 1).

The usability experiences consisted of usability facilitators and barriers (Table 1). Usability facilitators were: 1) the program’s good qualities, 2) usage supporters and 3) the communal approach of the program. The experiences of the usability facilitators are described as follows (the number refers to the respondent):

“Breathing exercises were good during working hours (30)” [Usable breathing exercises], “I looked forward to conducting the exercises during the workday (1)” [Inner motivation for usage], “I could do the exercises with my colleague (14)” [Applicable to use together with colleagues].

The usability barriers were: 1) work related obstacles, 2) implementation limitations and 3) the program’s technical problems (Table 1):

“Workload is the essential barrier...feeling that I don’t have time...e-mails, answering students’ messages ... (13)” [Heavy workload], “...we

Table 1

Educators’ (n = 37) experiences of the usability of SHINE.

Subcategories	Upper category (f = expressions)	Main category (f = expressions)
Usable breathing exercises	Program’s good qualities (f = 37)	Usability facilitators (f = 65)
Versatile exercises		
Applicable length of the exercises		
Easy to use		
Usable weekly self-reflective tasks		
Logical entirety for usage		
Good inner rewarding system		
Applicable to use with a mobile phone		
Usage reminders from the program		
Applicable in different working surroundings		
Inner motivation for usage	Usage supporters (f = 20)	
Sense of commitment for usage		
Reminders from the research team		
Encouragement from co-workers		
Good usage instructions from the research team		
Applicable to use together with colleagues	Communal approach of the program (f = 8)	
Applicable to use with students during classes		
Backlog situations at work		
Heavy workload	Work related obstacles (f = 42)	Usability barriers (f = 65)
Lacking peaceful work environment		
Should be used with a mobile application	Implementation limitations (f = 16)	
Usage was lacking community approach		
Lacking personal resources to use the program		
Need for better introduction to usage		
Hard to remember to conduct the exercises	Program’s technical problems (f = 7)	
Problems with logging in the program		
Problems in video loadings		

should find the time in calendar to do these exercises together (8)” [Usage was lacking community approach], “Videos didn’t work well sometimes (24)” [Problems in video loadings].

Overall, SHINE was experienced as having usable exercises applicable for performing during working hours. Reminders and inner motivation were considered particularly essential for successful usage. The most problematic issues for usage were the backlog situations and a

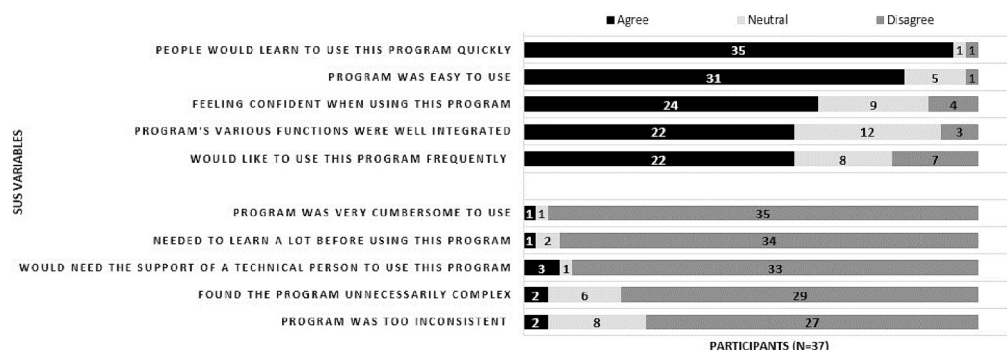


Fig. 1. The usability of the Smart Break SHINE-program (system usability scale SUS, Brooke, 1996).

high workload (Table 1).

4.3. Utility of SHINE

SHINE was experienced as useful (Fig. 2). The best utility scores were found in promoting physical activity at work ($n = 25$ agreed), personal resources at work ($n = 21$ agreed), recovery during working hours and self-regulation of personal resources at work ($n = 19$ agreed). SHINE was experienced as least useful in decreasing personal workload and promoting workplace support for personal resources ($n = 14$ agreed).

The utility experiences found the utility success factors and utility barriers (Table 2). The utility success factors were: 1) a well-being promoter at work and 2) a break promoter at work:

“Breathing exercises relaxed before other work tasks (27)” [Recovery experiences promoter at work], “I learned to have breaks, because they had been neglected being so engaged in my work (1)” [Break teacher], “The breaks work best when remote working (2)” [Remote work break booster].

The utility barriers were: 1) the unmet needs for break preferences and 2) no workload impact.

“I rather needed other things to do in a break... (8)” [Rather doing other things in the breaks], “This program can’t change the fact, that there is too much work, and not enough time to do it (25)” [Fails to consider the high workload].

Altogether, SHINE was experienced as useful at promoting physical activity, recovery, self-regulation of personal resources during working hours and a break promoter. The utility barriers were related to the different needs experienced for break activities and having a low workload impact (Table 2).

4.4. The associations between the background variables and the usability and utility

There were significant positive associations between work experience and the experienced utility, but the usability findings indicated no significant associations with the background variables (Table 3). Those educators having <5 years of work experience as a nurse educator experienced SHINE as more useful for promoting their physical activity ($p = 0.005$) and recovery experiences ($p = 0.018$) during working hours than those with over 15 years work experience. The best utility scores were found among educators between 40 and 50 years, having under 5 years of work experience who were actively remote working; the worst scores were among those over 50 years old, who had over 15 years work experience and rarely worked remotely.

5. Discussion

This process evaluation study evaluated the usability and utility of the four-component digital SHINE intervention from the perspective of

Table 2
Educators’ ($n = 37$) experiences of the utility of SHINE.

Subcategories	Upper category ($f =$ expressions)	Main category ($f =$ expressions)
Recovery experiences promoter at work	Well-being promoter at work ($f = 29$)	Utility success ($f = 43$)
Personal resource self-regulation promoter		
Personal resources promoter (e.g., physical and mental energy)		
Physical activity promoter at work		
Outdoor activities promoter during working hours	Break promoter at work ($f = 14$)	Utility barriers ($f = 18$)
Break teacher		
Break guide		
Remote work break booster	The unmet needs for break preferences ($f = 13$)	Utility barriers ($f = 18$)
Breaks better allowed		
Rather doing other things in the breaks	No workload impact ($f = 5$)	
Need for a different kinds of break exercises		
Fails to consider the high workload		
Fails to consider not having time for the exercises		

nurse educators. The four components were: 1) physical activity at work, 2) recovery activities at work, 3) self-regulation development activities at work and 4) workplace support for personal resources promoting activities at work (Rinne et al., 2024). These components are relevant when targeting promotive actions towards the personal resources and workload of educators to better occupational well-being management (Rinne et al., 2022; Saaranen et al., 2007). The evaluation process followed MRC framework (Skivington et al., 2021). This process evaluation is important as it concentrates on the implementation of the intervention in the working life of nurse educators. The benefits of the study can also be applied to other educational organisations considering supporting occupational well-being during working hours.

The experienced easy usage and learnability of SHINE is a valuable asset when planning the implementation in daily working life (An et al., 2020). The exercises (especially breathing exercises) meet the usability needs when working as they now include 8-workweeks of digital facilitators to integrate the activities into daily working life. However, inner motivation is important when continuing intervention’s activities after the facilitators cease (An et al., 2020). This study found the inner motivation and sense of commitment for conducting these activities being valuable usage supporter along with encouragement from co-workers. SHINE was considered applicable for use together with colleagues, as well as with students during classes, which could support the well-being of the whole school community. SHINE self-conductive exercises could be considered usable without the need for constant

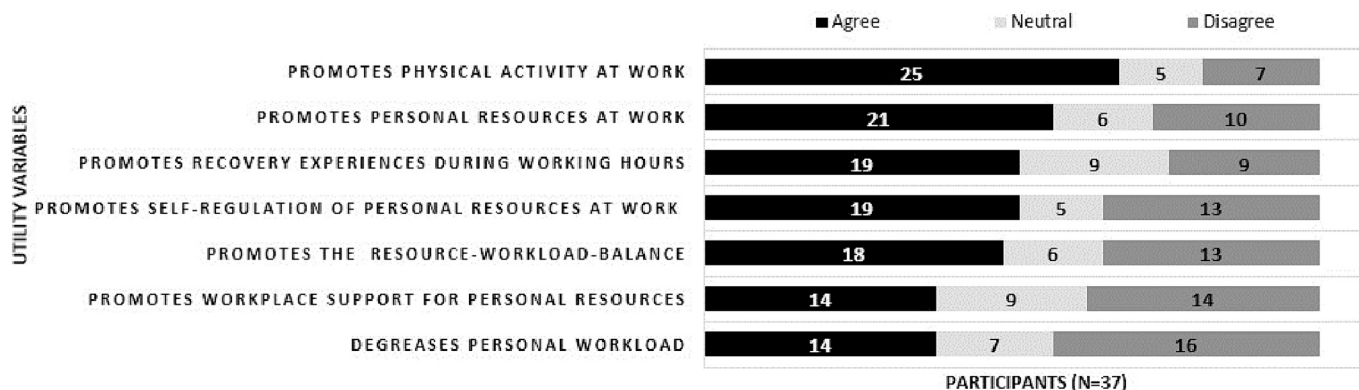


Fig. 2. The utility of SHINE.

Table 3
Associations between the three demographic factors and the usability and utility.

Background variables	Usability		Utility of the SHINE components			
	(SUS total)		physical activity	recovery	self-regulation	workplace support
	P	Mean (SD)	P	P	P	P
		Md (IQR)	Md (IQR)	Md (IQR)	Md (IQR)	Md (IQR)
Age in years	0.756		0.058	0.192	0.830	0.238
<40		77.1 (22.99)	4.0 (0.00)	3.5 (1.00)	3.5 (1.75)	2.0 (1.50)
40–50		76.9 (9.64)	4.0 (0.00)	4.0 (0.25)	4.0 (2.00)	3.0 (1.25)
>50		75.5 (15.73)	3.0 (2.00)	3.0 (1.50)	3.00 (2.00)	3.0 (2.00)
Work experience in years	0.145		0.007	0.020	0.064	0.539
<5		76.8 (16.92)	4.0 (0.00)**	4.0 (0.00)*	4.0 (0.00)	4.0 (1.75)
5–15		79.3 (14.16)	4.0 (1.00)	3.0 (1.50)	3.0 (2.00)	3.0 (2.00)
15<		68.8 (10)	3.0 (1.25)**	2.5 (1.25)*	3.0 (2.00)	3.0 (1.25)
Remote working status	0.962		0.085	0.197	0.556	1.000
Weekly		75.4 (15.16)	4.0 (0.00)	4.0 (1.00)	4.0 (2.00)	3.0 (2.00)
Less than weekly		77.9 (13.62)	3.5 (1.75)	3.0 (1.75)	3.0 (2.00)	3.0 (2.00)
SHINE usage profile	0.224		0.882	0.792	0.092	0.353
Active		78.2 (13.13)	4.0 (1.00)	3.5 (2.00)	4.0 (1.75)	3.0 (2.00)
(3–5 workdays/week)						
Less active		72.1 (17.1)	4.0 (1.00)	4.0 (1.00)	2.0 (1.50)	2.0 (2.00)
(1–2 workdays/week)						

Usability (sus-score total ranging from 0 to 100); Utility (ranging 1–5, 5 = excellent utility, 1 = very poor utility). SD = standard deviation; Md = median; IQR = interquartile range value; p-value: *p < 0.05, **p < 0.01, (two-tailed).

facilitators. However, more investigation is required on the question of how inner motivation and support can be sustained in the working community, where there has seen lacking workplace support in previous studies among nurse educators (Rinne et al., 2022; Singh et al., 2020; Vauhkonen et al., 2023).

Consequently, there is need to support occupational well-being of nurse educators, especially managing mental workload factors during working hours (Rinne et al., 2022). There could be possibilities to engage occupational health services as a supportive party to promoting daily occupational well-being actions as a sustainable part of the workday (Rinne et al., 2022). The usage success of the intervention can be seen in the intervention’s usage profile which shows that the participants were mainly active and had mostly positive experiences as found also in previous studies (Baker, 2010; Stegen and Wankier, 2018).

SHINE was experienced as useful concerning the functioning of the three key components, physical activity, recovery experiences and self-regulation of personal resources. The self-reflection and being aware of the occupational well-being actions at work, were both seen as important utility issues, corresponding with the previous research of digital occupational well-being intervention during working hours (Macdonald et al., 2020). In addition, the promotion of outdoor activities was mentioned as being a useful part of SHINE, as there is evidence that the effects of nature are an important occupational well-being factor (Sianoja et al., 2018). SHINE was found to be a useful break promoter by allowing and guiding occupational well-being supportive breaks. This benefits nurse educators’ resources and their physical activity, also seen preventing health risks related to prolonged sitting times in previous study (Main et al., 2017). The background of the educators could affect the experiences of the utility of the intervention, as the study found associations between the experienced utility and early career educators (work experience less than five years). These early career educators might benefit more from SHINE at the beginning of their career.

It has been shown in previous studies that digital interventions are most beneficial and successful when they are firmly embedded in the work environment (Howarth et al., 2018). In addition, better usage results have been found when managers support the adoption of the intervention (Blake et al., 2019). This issue was partly met in this study where workplace managers supported this intervention during working hours. However, confirming previous findings (Macdonald et al., 2020) there is a need to further develop the workplace support due to the barriers of high workloads, backlog situations, and the lack of a peaceful work environment. This might explain why the experienced utility for

the promotion of the resource-workload-balance was not found as useful as intended. This barrier is an essential development requirement for this intervention. Therefore, it is suggested that the workplace support should be developed as part of a detailed description of the implementation strategy. The timing of the SHINE evaluation was Spring 2022, when educators commonly have the most demanding period. Consequently, it has been tested in an authentic situation demonstrating the barriers related to workload issues. Nurse educators had positive experiences indicating their inner motivation to conduct occupational well-being interventions and their high engagement in SHINE.

5.1. Study limitations and implications for future research

The study has limitations. Due to the small sample size the generalisability of the results should be made with caution. There were no views expressed by the managers of the nurse educators, which could have enriched the data and provided more insight into the workplace support needed. This aspect could be investigated in future research. One key component, workplace support for personal resources promoting activities at work, lacked the strict fidelity measurements important in process evaluation studies. This means that the support given in the two participating nursing schools may have differed creating uncertainty as regards the meaningfulness to the organisation of the intervention’s success. There is a need to assess the motivation and readiness of organisations in promoting occupational well-being actions and what organisational factors are associated with the worker’s motivation to self-conduct these exercises.

6. Conclusions

The evaluation of SHINE showed that the digital delivery during working hours was a usable and useful method to integrate occupational well-being activities into the working life of nurse educators. It was also demonstrated that the intervention could be implemented without the need for constant facilitators. There is a need to further develop the workplace support and its evaluation by adding fidelity measurements. SHINE was experienced as being most useful among early career nurse educators, consequently it could be beneficial as part of their orientation programme. SHINE needs more development to overcome the usability and utility barriers related to workload issues.

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CRedit authorship contribution statement

Jenni Rinne: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Helena Leino-Kilpi:** Writing – review & editing, Writing – original draft, Supervision, Conceptualization. **Sanna Koskinen:** Writing – review & editing, Writing – original draft, Formal analysis. **Terhi Saaranen:** Writing – review & editing, Writing – original draft, Conceptualization. **Miko Pasanen:** Writing – review & editing, Methodology, Formal analysis, Data curation. **Anneli Vauhkonen:** Writing – review & editing, Methodology, Conceptualization. **Leena Salminen:** Writing – review & editing, Writing – original draft, Supervision, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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