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# The effects of the Hand in Hand: Empowering Teachers(HAND: ET) programme on teacher burnout in Slovenia. Do experience and baseline emotional competencies matter?

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**Abstract**
As burnout affects teachers' health and well-being, as well as their teaching understanding interventions beneficial for prevention is crucial. In this study, we explored possible predictors of the decrease in the dimensions of burnout (emotional exhaustion, physical fatigue, cognitive weariness) after the HAND: ET intervention. We used following predictors: teachers' experience (professional experience and previous experience of activities supporting emotional competencies) and baseline emotional competencies (self-awareness (operationalised as mindfulness), and self-management (operationalised as emotional self-efficacy)). We used data gathered from the Shirom−Melamed Burnout Questionnaire, the Mindful Attention Awareness Scale, the Emotional Self-Efficacy Scale, and a set of demographic questions in a Slovene sample of in-service teachers ($N = 185$). Teachers' experiences were not significant predictors of a decrease in any of the dimension of burnout, while baseline emotional competencies, were significant predictors of emotional exhaustion. The findings support the universal nature of the HAND: ET intervention as well as the importance of continuous support for teachers' emotional competencies.

**Keywords** Burnout · Intervention · Experiences · Emotional competencies · HAND:ET

## The effects of the Hand in Hand: empowering teachers programme (HAND: ET) on teacher burnout in Slovenia. Do experiences and baseline emotional competencies matter?

Burnout refers to the continuous depletion of an individual's energetic coping resources after chronic exposure to occupational and work-related stress (Shirom, 2003). It is experienced as emotional, cognitive, and physical exhaustion (Schaufeli & Greenglass, 2001), with the emotional exhaustion (depleted emotional and psychological resources) at its core (Maslach & Leiter, 2016). As teaching is an emotionally demanding job linked to frequent episodes of work-related stress and burnout (Jennings & Greenberg, 2009; McCarthy et al., 2016) it was at the frontline of burnout research long before the COVID-19 pandemic (Maslach & Leiter, 2016), though COVID-19 and the subsequent introduction of remote schooling posed an additional challenge for teachers (Kush et al., 2022). Understanding the interventions that are beneficial for burnout prevention is important, especially given that burnout not only affects teachers' health and well-being, but also their teaching, the classroom climate, and their students' well-being (Durlak et al., 2015; Schonert-Reichl, 2017). For instance, stress and burnout affect processes crucial for successful teaching and learning, such as attention (MacKenzie et al., 2007), decision-making (Shanafelt et al., 2003), and the quality of relationships (Durtschi et al., 2017). Sociodemographic characteristics such as gender, age, and experience also play a role in burnout, with females and younger and less experienced teachers all reporting higher levels of burnout (Maslach et al., 2001).

Social and emotional challenges contribute significantly to burnout. When teachers perceive high social and emotional demands and low social and emotional resources that leads to burnout (McCarthy et al., 2016). Therefore, over the

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past few decades, the most prevalent interventions have been social and emotional, though students rather than teachers have been targeted; it is only recently that researchers have identified the important role teachers' social and emotional competencies play in their and their students' well-being (de Carvalho et al., 2017; Jennings et al., 2017; Kozina, 2020, 2024). Oliveira et al. (2021a) in their metanalyses of social and emotional learning interventions and their effects on the in-service teachers' burnout levels, concluded that social and emotional learning interventions—especially those supporting emotional competencies—contributed positively to the prevention of burnout. By contrast, interventions focusing on teachers' professional performance (e.g., classroom management and interactions, including sensitivity to their students' needs) had no significant effect indicating the promotion of emotional resources, and consequently decrease in emotional distress and emotional exhaustion, is the key (Oliveira et al., 2021a).

In addition to the interventions discussed in Oliveira et al. (2021a) metanalyses, the Hand in Hand: Empowering Teachers (HAND: ET) intervention has yielded promising results in in-service teachers' burnout prevention (Kozina, 2024). This is a universal teacher-targeted group-based intervention that has been developed, implemented, and evaluated across five European countries (Austria, Croatia, Portugal, Slovenia, and Sweden). It aims to support teachers' social and emotional competencies and diversity awareness in a set of 6 full-day onsite and 5 online meetings spread across the school year. Several of the characteristics important for the success of such interventions (Gulamhussein, 2013; Iancu et al., 2018) were taken into account in its development, namely, dosage (58 h in total, that is, above the recommended 14 h), duration (long-term, over a school year), cross-session trainings (online meetings in between on-site trainings), and heterogeneity (teachers from different levels and different schools in the same intervention groups). Apart from teachers, principals and school counsellors were also included in a shorter version of intervention. The content encompasses social and emotional competencies (self-awareness, self-management, social awareness, relationship skills, and responsible decision-making; Collaborative for Academic, Social, and Emotional Learning [CASEL], 2003) and diversity awareness (intersectionality, critical consciousness, and social justice). To support social and emotional competencies and diversity awareness several tools were used: mindfulness, empathic curiosity and reflections. The expected outcomes are based on models that focus on interconnectedness of the processes in schools with a focus on the teachers: the prosocial classroom model (Jennings & Greenberg, 2009), the theory of change model (Roeser, 2016), and the Harvey and Evans model (Harvey et al., 2012). The expected outcomes are both, direct (improved social and emotional competencies and greater diversity awareness) and indirect (positive relationships in the classrooms and in the schools).

The HAND: ET intervention has been evaluated (summatively and formatively) using quantitative and qualitative measures in a randomized control group experiment design (Roczen et al., 2024; Rožman et al., 2024). The qualitative summative evaluation showed positive effects on targeted social and emotional competencies and diversity awareness in each country (Roczen et al., 2024), while the quantitative summative evaluation showed positive effects in several domains, especially emotional competencies, but with a good deal of variability (Rožman et al., 2024). In Slovenia, participants reported significant improvement compared with the control group in their overall well-being ($d = 0.53$); all dimensions of burnout, that is, physical fatigue ($d = -0.58$), cognitive weariness ($d = -0.47$) and emotional exhaustion ($d = -0.49$), and cognitive strain ($d = -0.44$); and diversity awareness, that is, egalitarian beliefs ($d = 0.32$) and openness/flexibility ($d = 0.26$). The most consistent improvement was decreased burnout. In response to Oliveira et al. (2021b), who stressed the need for more in-depth research to test and expand knowledge regarding the possible predictors of interventions for in-service teachers' impacts on teachers' outcomes, we investigated the issue of possible predictors of the significant decrease in all dimensions of teachers' burnout following the HAND: ET intervention. There are several characteristics that might have, according to the literature (Iancu et al., 2018; Oliviera et al., 2021a; Oliviera et al., 2021b), affected the decrease in burnout.

As the HAND: ET intervention is group-based, group composition and the trainers could have contributed to the effect. Implementation of HAND: ET has involved moving on a fine line between adaptation and fidelity (Lund Nielsen et al., 2019). Even though the contextualisation and adaptation were emphasized, efforts have been made to align it across countries and groups as far as possible to assure fidelity. Anyon (2016) identified the three principal factors that impact fidelity: (a) compatibility of intervention with trainers' beliefs; (b) organizational capacity (e.g., the ability to integrate the intervention into existing structures and routines); and (c) the intervention's supporting system. In the case of HAND: ET, several steps supported the fidelity. Firstly, the trainers, who worked in pairs (for additional support), were considered a key ingredient. They helped create a safe and supportive environment in which support for social and emotional competencies and diversity awareness was possible. As part of the preparation phase, every trainer underwent the *train-the-trainers* protocol, which involved 6 days of training and an 8-week online course in mindfulness-based stress reduction (Oskarsson & Gøtzsche, 2024). This shaped the trainers' beliefs and aligned them with

the aims of the intervention. In the implementation phase, participants were randomly assigned to a control or intervention group. Participants in the intervention group were later on randomly assigned to specific intervention groups. Teachers from different schools were included in each group with two to three from the same school. This at the same time assured diversity across intervention groups and allow familiarity and support. Secondly, a detailed HAND: ET manual was developed with descriptions and timeframes for all the activities (e.g., core and optional activities according to the needs of specific groups (Dahlström & Gøtzsche, 2024). The manual, which paid due attention to adaptation and fidelity, provided a clear structure and examples of how HAND: ET could be incorporated into the school calendar. Thirdly, the trainers were supervised and supported throughout the implementation phase.

Research on the factors contributing to the success of interventions has among others (dosage, duration, cross session trainings) stressed the importance of content tailored to teaching levels (Gulamhussein, 2013; Iancu et al., 2018). The HAND: ET is a universal intervention and not tailored to a specific career stage or type of school. So far, research shows that teaching experience has not played a significant role in the success of interventions (Oliveira et al., 2021b), unlike high-quality programmes, and engagement (Roeser, 2016). These preconditions have been met in the HAND: ET intervention, which is an upgrade of the original Hand in Hand intervention (HAND) that was recognised as one of the 10 most important European Union projects designed to assist in teachers' and school leaders' career paths (Wisniewski & El-Nemr, 2019). Following the successful implementation of HAND in Slovenia, the engagement of participants in the present study was high. An additional indicator of teachers' engagement was previous experience of activities similar to those used in the intervention (i.e., ones that promoted emotional competencies, such as *inner*, mediation-based, and *outer*, yoga-based, techniques).

### The Present Study

As studies predominantly focus on the effects of interventions, our study goes a step further and explores possible predictors of the identified significant effects of the HAND: ET intervention on the level of burnout in Slovene in-service teachers in order to better understand the mechanisms contributing to the decrease in burnout. The difference in the dimensions of burnout pre- and post-measurement was the principal outcome of interest. To differentiate the roles played by the selected predictors in each dimension of burnout, we used hierarchical regression analysis, with different intervention groups entered as control variables in each of the regression models, followed by experiences, then baseline emotional competencies.

Based on all the measures taken to assure fidelity of implementation across trainers and groups (i.e., *train-the-trainers* protocol, the random assignment of teachers to their groups), we expected that the latter would not play a significant role in decreasing burnout levels following the HAND: ET intervention. We then examined whether experience, operationalised as years of teaching and previous experience with inner and outer activities (i.e., mediation or similar and yoga or similar), played a role. According to the literature (Oliviera et al., 2021b), teaching experience should not have contributed significantly to pre- and post-measurement differences in burnout dimensions. In Oliveira et al. (2021b), mindfulness techniques did not predict the effect of social and emotional learning interventions on in-service teachers' outcomes, so we expected likewise. Finally, we included the baseline emotional competencies and self-awareness (operationalised as mindfulness) and self-management (operationalised as emotional self-efficacy) in our analysis. As interventions tend to have a more significant impact on groups that possess less of the targeted competencies (Zbukvic et al., 2024), we expected that the effects would be largest amongst teachers reporting lower levels of mindfulness and emotional self-efficacy.

The predictive power of previous experience of mindfulness-based exercises and baseline emotional competencies as possible predictors of burnout intervention effects have been under-researched; these predictors need to be identified if we are to adjust interventions to teachers' baseline emotional competencies and experience.

## Method

### Participants

We used data from a Slovene teachers' sample of HAND: ET project. The sample consisted of 185 teachers (174 female, 11 male) 1st–9th grade in-service teachers, $M_{age} = 42.55$, $SD_{age} = 7.45$, $M_{years\ of\ experience} = 15.46$, $SD_{years\ of\ experience} = 8.70$, from 20 basic schools (for pupils aged 6 to 15) in Slovenia. Ninety-two were randomly assigned to the control condition (85 females, 7 males, $M_{age} = 41.12$, $SD_{age} = 7.25$, $M_{years\ of\ experience} = 15.08$, $SD_{years\ of\ experience} = 9.06$), and 93 in the intervention condition (89 females, 4 males, $M_{age} = 42.33$, $SD_{age} = 7.56$, $M_{years\ of\ experience} = 15.85$, $SD_{years\ of\ experience} = 8.36$).

## Instruments

### Burnout

The Shirom-Melamed Burnout Questionnaire (SMBQ) is used to assess burnout across five dimensions, three of which we employed in the present study: physical fatigue (six items, including "I had no energy for going to work in the morning"), cognitive weariness (five items, including "My thinking process was slow"), and emotional exhaustion (three items, including "I am not capable of investing emotionally in the students."). Participants responded on a 7-point scale (1 = *never/almost never*; 2 = *very infrequently*; 3 = *quite infrequently*; 4 = *sometimes*; 5 = *quite frequently*; 6 = *very frequently*; and 7 = *always/almost always*). The original scales were translated into Slovenian using a back-translation approach. Internal consistency was adequate for all three dimensions (physical fatigue, 0.953; cognitive weariness, 0.934; and emotional exhaustion, 0.931). The structural validity was adequate for all three dimensions (physical fatigue: $\chi2(17) = 8195.344$, $p < .001$, CFI = 0.999, RMSEA = 0.065, 90% CI [0.006–0.115], SRMR = 0.006; cognitive weariness: $\chi2(10) = 17657.277$, $p < .001$, CFI = 1.000, RMSEA = 0.000, 90% CI [0.000–0.095], SRMR = 0.001; emotional exhaustion: $\chi2(3) = 12862.611$, $p < .001$, CFI = 1.000, RMSEA = 0.000, 90% CI [0.000–0.095], SRMR = 0.000).

### Mindfulness

The Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003) assesses dispositional mindfulness as a state of mind in which the respondent's attention only observes what is happening in the present moment. It focuses on the core characteristics of mindfulness, namely open and receptive awareness, based on 15 items (e.g., "I break or spill things because of carelessness, not paying attention, or thinking of something else") and a 6-point scale (1 = *almost never*; 2 = *very infrequently*; 3 = *somewhat infrequently*; 4 = *somewhat frequently*; 5 = *very frequently*; and 6 = *almost always*). The original scales were translated into Slovenian using a back-translation approach. The internal consistency of the scale ($a = 0.889$) as well as structural validity ($\chi2(84) = 285.652$, $p < .001$, CFI = 0.964, RMSEA = 0.095 90% CI [0.083–0.108], SRMR = 0.043) was adequate.

### Emotional self-efficacy

The Emotional Self-Efficacy Scale (Muris, 2001) measures self-management. The scale is a part of the Self-Efficacy Questionnaire for Children (SEQ-C) and consists of eight items evaluating the ability to regulate unpleasant emotions. Participants reported how well they were coping with given situations during the pandemic (1 = *not at all* to 5 = *very well*). The reliability and validity of the instrument have been well-documented for children and adolescents (Tan & Chellappan, 2018). The instrument also been used with adults (Vieluf et al., 2020). The scale was translated into Slovenian using a back-translation approach. The internal consistency of the scale ($\alpha = 0.848$) as well as structural validity ($\chi2(17) = 41.011$, $p < .001$, CFI = 0.997, RMSEA = 0.073 90% CI [0.045–0.102], SRMR = 0.017) was adequate.

### Experience

We asked participants, "How many years of work experience do you have as a teacher?" To measure their inner experiences (i.e., meditation-based), we asked, "Have you ever meditated or engaged in similar inner exercises?" The possible answers were as follows: 1 = "I have never meditated or engaged in similar inner exercises before and I am not interested in trying any"; 2 = "I have never meditated or engaged in similar inner exercises before, but I would like to try"; 3 = "I have meditated or engaged in similar inner exercises before, but they are not right for me; 4 = "I have meditated or engaged in similar inner exercises before and I enjoy them, but I don't practice on a regular basis"; and 5 = "I meditate or practice similar inner exercises on a regular basis." Similarly, regarding outer experiences, that is, those associated with the body (such as yoga), we asked participants, "Have you ever done yoga or similar bodily exercises?" The possible answers were as follows: 1 = "I have never done yoga or similar body exercises before and I am not interested in trying any"; 2 = "I have never done yoga or similar body exercises before, but I would like to try"; 3 = "I have done yoga or similar body exercises before, but they're not right for me"; 4 = "I have done yoga or similar body exercises before and I like them, but I don't practice on a regular basis"; and 5 = "I practice yoga or similar body exercises on a regular basis."

## Procedure

The HAND: ET intervention focuses on in-service teachers (and their principals and school counsellors), supporting their social and emotional competencies and diversity awareness and is a part of HAND: ET ("HAND IN HAND: Empowering teachers across Europe to deal with social, emotional and diversity related career challenges") project. We prepared and distributed invitation leaflets for all (1st–9th grade) basic schools in Slovenia; 39 expressed an interest. Informed consent forms and detailed HAND: ET intervention descriptions were forwarded. The final sample, which encompassed 28 schools, was sent out to HAND: ET partner

in charge of randomisation and selection of the 20 schools, which were then participating in either the experimental or control condition. The upper limit was set for the number of schools as well as for the number of the school staff participating in the HAND: ET intervention, which enabled us to implement the HAND: ET intervention with fidelity needed. At the school level the number of schools was set to 10 for the intervention group and 10 for the control group, at the level of school staff, the number of teachers was limited to 10 per school, with class teachers favoured, and the number of school leaders and cousellors were limited to three per school. All participants gave informed consent. This design enabled us to test the effectiveness of the intervention, that is, to compare the changes in the same competencies before (pre-test) and after the intervention (post-test) amongst a group of teachers (and other school staff) who took part (the experimental group) and a group of teachers (and other school staff) who did not participate (the control group). In September 2022, participants completed a battery of questionnaires tapping into social, emotional, diversity awareness, and sociodemographic information using online tools before entering the HAND: ET intervention. The same battery was completed at the end of the intervention (in June 2023). The participants received an attendance certificate after completing the HAND: ET intervention that can be used in advancing their careers. As the study is part of a larger European research project, it has undergone ethical committee approval in several universities (e.g., the University of Lisbon and Mid Sweden University). The HAND: ET project was pre-registered (including the study design, the desired sample size, constructs measured, hypothesized effects and planned analyses) at the Open Science Framework (OSF). The platform supports collaboration and facilitates the sharing of research materials, data, and outcomes. The analysis of the current study is registered as part of additional exploratory analyses.

## Data Analysis

The proposed hypotheses were tested using hierarchical regression (using SPSS, v. 29 0.2.0.). Burnout dimensions, in particular, the difference between pre- and post-assessment in each dimension, were analysed separately. When entering predictor variables into the regression model, the control variable was entered in the first step (i.e., group), experience was entered in the second step, and emotional competencies were entered in the last step.

## Results

Table 1. presents the descriptive statistics and correlations and Tables 2 and 3, and 4 display the results of our regression analysis of the effects of the intervention on the different dimensions of burnout. The constructs were correlated in the predicted direction. Experience of inner and outer exercises, mindfulness, emotional self-efficacy, and all three dimensions of burnout were positively correlated, with the correlation between cognitive weariness and physical fatigue being the strongest.

The hierarchical regression analysis (with the different dimensions of burnout as dependent variables) was conducted in three steps. First, a control variable (group) was entered (Model 1). Secondly, teaching experience and experience of inner and outer activities were entered (Model 2). Thirdly, emotional competencies at baseline were entered (mindfulness and emotional self-efficacy; Model 3).

A regression analysis was conducted with differences in physical fatigue as the dependent variable. The control variable entered in the first step did not account for a significant portion of variance in predicting a decrease (Table 2). The same applied to experience and emotional competencies.

**Table 1** Means, standard deviations, and correlations for experience, emotional competencies, and differences in burnout dimensions

| | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| **Experience** | | | | | | | | | |
| 1. Years of teaching experience | 15.22 | 8.76 | - | | | | | | |
| 2. Experience with inner exercises | 2.94 | 1.06 | −0.13* | - | | | | | |
| 3. Experience with outer exercises | 2.98 | 1.19 | 0.13* | 0.43** | - | | | | |
| **Emotional competencies** | | | | | | | | | |
| 4. Mindfulness | 2.92 | 0.70 | 0.18** | 0.09 | 0.08 | - | | | |
| 5. Emotional self-efficacy | 3.22 | 0.62 | 0.21** | 0.01 | 0.02 | −0.46** | - | | |
| **Differences in burnout** | | | | | | | | | |
| 6. Physical fatigue | 0.06 | 1.15 | 0.08 | −0.02 | −0.02 | −0.10 | 0.01 | | |
| 7. Cognitive weariness | 0.07 | 1.11 | 0.09 | 0.04 | −0.03 | 0.05 | −0.00 | 0.69** | |
| 8. Emotional exhaustion | 0.07 | 1.23 | 0.02 | 0.07 | −0.02 | −0.14 | 0.00 | 0.41** | 0.85** |

Note. The concepts are measured on a scale from 1-5, 1-6 or 1-7; the exception is the difference in burnout measured as an average difference between post- and pre-scores for each dimension and years of teaching experience, measured in years. Higher scores reflect a greater extent of the measured variable or a greater difference between post- and pre-scores, as with the burnout scales. In the case of mindfulness, higher scores represent lower levels of mindfulness. All variables were normally distributed (skewness and kurtosis between −2 and 2). $^{*}p<.10$ ** $p<.05$

**Table 2** Hierarchical multiple regression for variables predicting changes in physical fatigue

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| | *B* | β | *B* | β | *B* | β |
| **Step 1: Control** | | | | | | |
| **Group** | -0.08 | -0.08 | -0.10 | -0.10 | -0.09 | -0.09 |
| $\Delta R^2$ | | 0.01 | | | | |
| **Step 2: Experience** | | | | | | |
| Years of teaching experience | | | -0.02 | -0.14 | -0.02 | -0.14 |
| Experience of inner exercises | | | 0.02 | 0.02 | 0.00 | -0.00 |
| Experience of outer exercises | | | -0.06 | -0.06 | -0.03 | -0.04 |
| $\Delta R^2$ | | | | 0.02 | | |
| **Step 3: Emotional competencies** | | | | | | |
| Mindfulness | | | | | -0.30 | -0.20 |
| Emotional self-efficacy | | | | | -0.21 | -0.93 |
| $\Delta R^2$ | | | | | | 0.03 |
| Total $R^2$ | 0.01 | | 0.03 | | 0.06 | |
| $F$ for $\Delta R^2$ | 0.55 | | 0.63 | | 1.32 | |

Note. $^{*}p<.10$, $^{**}p<.05$

**Table 3** Hierarchical multiple regression for variables predicting changes in cognitive weariness

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| | *B* | β | *B* | β | *B* | β |
| **Step 1: Control** | | | | | | |
| **Group** | −0.13 | −0.14 | −0.15 | −0.16 | −0.15 | −0.16 |
| $\Delta R^2$ | | 0.02 | | | | |
| **Step 2: Experience** | | | | | | |
| Year of teaching experience | | | −0.02 | −0.16 | −0.02 | −0.17 |
| Experience with inner exercises | | | 0.24 | 0.21* | 0.23 | 0.20* |
| Experience with outer exercises | | | −0.05 | −0.05 | −0.03 | −0.03 |
| $\Delta R^2$ | | | | 0.06 | | |
| **Step 3: Emotional competencies** | | | | | | |
| Mindfulness | | | | | −0.16 | −0.11 |
| Emotional self-efficacy | | | | | −0.04 | −0.02 |
| $\Delta R^2$ | | | | | | 0.06 |
| Total $R^2$ | 0.02 | | 0.08 | | 0.10 | |
| $F$ for $\Delta R^2$ | 1.709 | | 1.920 | | 0.441 | |

Note. $^{*}p<.10$, $^{**}p<.05$

**Table 4** Hierarchical multiple regression for variables predicting changes in emotional exhaustion

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| | *B* | β | *B* | β | *B* | β |
| **Step 1: Control** | | | | | | |
| **Group** | −0.10 | −0.10 | −0.11 | −0.10 | −0.10 | −0.10 |
| $\Delta R^2$ | | 0.01 | | | | |
| **Step 2: Experience** | | | | | | |
| Year of teaching experience | | | 0.01 | 0.01 | 0.02 | −0.01 |
| Experience with inner exercises | | | 0.32 | 0.18 | 0.19 | 0.14 |
| Experience with outer exercises | | | −0.13 | −0.12 | −0.09 | −0.08 |
| $\Delta R^2$ | | | | 0.04 | | |
| **Step 3: Emotional competencies** | | | | | | |
| Mindfulness | | | | | −0.47 | −0.28** |
| Emotional self-efficacy | | | | | −0.38 | −0.19 |
| $\Delta R^2$ | | | | | | 0.06 |
| Total $R^2$ | 0.01 | | 0.05 | | 0.11 | |
| $F$ for $\Delta R^2$ | 0.78 | | 1.04 | | 2.73† | |

Note. $^{*}p<.10$, $^{**}p<.05$

Secondly, a regression analysis was conducted with the difference in cognitive weariness as the dependent variable. The control variable entered in Step 1 did not account for a significant portion of variance in predicting a decrease in cognitive weariness (Table 3). Experience of mindfulness was a marginally significant predictor of the decrease in cognitive weariness ($p < .10$). Participants reporting more experience of inner exercises also reported a greater decline in cognitive weariness. The emotional competencies entered in Step 3 did not contribute significantly to the regression model.

As with the other two dimensions of burnout, the control variable did not significantly predict differences in emotional exhaustion (Table 4). The same applied to the experiences entered in Step 2. In Step 3, mindfulness significantly predicted differences between post- and pre-measurements for emotional exhaustion. When participants reported higher levels of mindfulness at baseline, the decrease in emotional exhaustion after the intervention was larger.

Overall, the variance in all three regression models was relatively low (6% for physical fatigue and cognitive weariness and 11% for emotional exhaustion). Given that the effect sizes in psychological research ordinarily range from 1 to 3% (Aguinis et al., 2005), the present results may be practically significant.

## Discussion

We identified and analysed possible predictors of the effects of the HAND: ET intervention on the physical, cognitive, and emotional dimensions of burnout in a sample of Slovene in-service teachers. The findings of a randomised control experiment showed a significant decrease in burnout levels compared with the control group (Rožman et al., 2024), whereas the target of our study was the degree of burnout after the intervention and the predictors thereof.

We aligned the different intervention groups as far as possible (fidelity) while considering the particular needs of their members (adaptation). We checked whether randomly assigning participants to a certain intervention group contributed to a decrease in burnout levels post-intervention. The results showed that this variable was not a significant predictor of the decrease in any burnout dimension, suggesting that our efforts made to assure implementation fidelity (i.e., the long-term need to support trainers' social and emotional competencies and diversity awareness, the structured manual, aligning trainers before every training session, and regular supervision) were successful. The findings (which highlight the important role trainers play in social and emotional learning interventions) confirm those of previous studies (Durlak et al., 2015).

We also examined the role teaching experience and previous experience of activities that promoted emotional competencies (i.e., inner and outer) played in reducing burnout. The results showed that teaching experience did not play a significant role. By contrast, previous experience of inner (i.e., meditation-based) activities was a marginally significant predictor of a decline in cognitive weariness. For the other two dimensions (physical fatigue and emotional exhaustion), this predictor was not significant. The more experience participants had with inner activities, the more their levels of cognitive weariness decreased after the intervention. These experiences might have predicted higher engagement in the intervention, as well as a greater tendency to continue these types of activities between the HAND: ET trainings, thus contributing to the larger effect. Studies have shown that practising inner activities promotes emotional competencies (Vøllestad et al., 2012) and helps one to focus on the present moment, thereby leading to lower levels of cognitive stress (Kabat-Zinn, 2003).

Further on, we analysed the role of baseline emotional competencies, self-awareness and self-management, for the decrease in burnout. The level of baseline self-awareness, operationalised as mindfulness, was a significant predictor of differences in emotional exhaustion. Higher baseline self-awareness predicted larger decreases in emotional exhaustion after intervention. This did not apply to physical fatigue and cognitive weariness. Although all three dimensions decreased after intervention, a decline in emotional exhaustion was the only one associated with previous baseline emotional competencies. This finding is significant because emotional exhaustion lies at the core of burnout (Maslach & Leiter, 1996), especially in the teaching profession. Olivera et al. (2021a) concluded that emotional (rather than social) competencies contribute to positive effects and a decrease in burnout. We expected that the larger effects in burnout decrease would be found amongst participants with low baseline emotional competencies; larger effects are expected in targeted interventions characterized by a low level of targeted competencies and not in universal interventions, which is not the case with emotional competencies and burnout prevention. Higher baseline emotional competencies might, however, motivate one to make further progress; the need to improve one's competencies is affected by the nature of the motivation to do so (Ryan & Deci, 2008).

Our findings contribute to the understanding of possible predictors in the success of social and emotional learning interventions by indicating that teachers that have higher emotional competencies, higher self-awareness, benefit, in terms of emotional exhaustion, from the intervention more. Several practical guidelines can be drawn. Firstly, the need for ongoing long-term support for emotional competencies is evident. We need long-term support for social

and emotional learning in professional development programmes continuing from pre-service education. Longer-lasting interventions (from pre- to in-service) should be promoted. Oliveira et al. (2021b) suggested that duration may play a more significant role than dosage in intervention efficacy. If teachers are supported emotionally in the pre-service stage (using systemic and in-curricula integrated approaches to reinforce their social and emotional competencies such as social and emotional learning courses), they may be more likely to benefit from continuing professional development in the in-service stage. Further on, to embed social and emotional learning into daily instruction at the pre-service level, teacher educators require structured support within the educational system. This is not yet the case in Slovenia. In Slovenia, only 20% of teachers reported that they were able to develop their social and emotional competencies and diversity awareness in their pre-service education (Štremfel, 2024). Our findings further on highlight the importance of introducing activities between intervention sessions, confirming our decision (and following Gulamhussein's [2013] suggestion) to implement cross-session training in short online sessions. We would also suggest in future adding a homework component for all in-between sessions (face-to-face and online) in order to support emotional competencies even more.

Despite its contribution in disentangling the predictors that could influence burnout intervention effects, the present study has several limitations, for example, the size and convenience of the sample and the self-report nature of the data (which may have led to common method bias). As social and emotional competencies are by definition relational, the inclusion of other measures (such as student reports) would be beneficial in future research. Notwithstanding, the sample was sufficiently large to ensure statistical power, that is, 5–10 cases per variable (Nunnally et al., 1967). Future researchers might upscale the HAND: ET intervention, expanding the range of possible predictors (e.g., by recruiting more male participants) on representative samples and taking an international perspective. For instance, due to predominantly female sample gender could not be explored in the current sample. Potential predictors to investigate might include factors at the teacher level, such as career stage and work-life balance, as well as school-level elements like classroom climate, school atmosphere, and administrative support. Moreover, given the importance of motivation and engagement in social and emotional learning interventions, future research should aim to assess these interventions on non-self-selected participant groups. Last but not least, a follow-up study to confirm (or otherwise) our findings would also contribute to a greater understanding of whether the HAND: ET intervention might be beneficial over the longer term.

## Conclusions

This study confirms the universal applicability of the HAND: ET intervention in a Slovene context. We would recommend its further use, especially given the increased levels of stress amongst in-service teachers in Slovenia (Organisation for Economic Co-operation and Development, 2019). The need to support educators is growing each day as the shortage of teachers becomes more acute. Many are leaving the profession because of work-related stress and burnout (Madigan & Kim, 2021), so developing teachers' social and emotional competencies and diversity awareness may be part of the solution. It is important to note, however, that systemic policy and organisational support is also needed. Burnout-focused interventions are scarce (Oliveira et al., 2021a), so this shortfall must be addressed. Finally, we recommend that future models be based on a holistic approach at the same time supporting internal and external resources for teachers.

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**Data availability** The data that support the findings of this study are open access available at www.handinhand.si.

## Declarations

**Ethical statement** The author(s) declare that they have no competing or potential conflicts of interest. The research design and data collection followed the ethical guidelines of the Slovenian Psychological Association and was approved by the Ethical Committee of the University of Lisbon and Mid Sweden University). All participants gave informed consent.



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