v1: 13 July 2024

Research Article

# Training Teachers to Become Mental Health Promoters: Impact on Their Well-Being

Preprinted: 7 March 2024
Peer-approved: 13 July 2024



Qeios, Vol. 6 (2024)
ISSN: 2632-3834

**Gina Tomé[1], Paulo Gomes[2], Inês Camacho[3], Margarida Gaspar de Matos[3]**

1. Universidade de Lisboa, Portugal; 2. Sport Lisboa e Benfica, Lisbon, Portugal; 3. Universidade Catolica Portuguesa, Portugal

**Teachers are identified as a risk group for developing mental health problems. This fact seems worrying because it is known that young people spend a lot of time in school, and apparently, the teachers' mental health problems can affect the students' mental health and well-being. This study aimed at analysing the impact of training teachers to become mental health promoters on their own mental health and well-being. A total of 276 teachers who work in schools in the Portuguese mainland participated in the ES'COOL training. Two evaluation moments were carried out: the initial evaluation - one week before the beginning of the training, and the final evaluation - one week after the end of the training.**
**Results show that in addition to the skills worked on during the training, the teachers' well-being and mental health also improved at the end of the training. The variable that proved to be the most important for the promotion of teachers' well-being was that they started the training with more positive affect and greater life satisfaction.**

**Corresponding author:** Gina Tomé, ginatome@sapo.pt

## Introduction

Teachers are reported to be at an increased risk of mental health disorders compared to other occupations, which can lead to sustained physical and mental health problems[1][2]. Teachers have an essential role in adolescents' development. According to Hattie[3], among the factors that help students' learning is proximity and trust with teachers. If teachers do not create a close relationship with their students, they will likely not be able to develop their own relationships and interactions with their peers, creating also a negative feeling for the school environment and broader community.

Ekornes[4] conducted a study to verify which factors at the individual and organizational levels relate to differences in teachers' reported negative emotions, perceived responsibility, and competence in student mental health promotion. The author reported that teacher stress emerges chiefly from a mismatch between feeling responsible for and being able to help students with mental health problems. Finally, the findings reveal significantly higher levels of perceived responsibility and negative emotions among female teachers[4].

 doi.org/10.32388/M8XODT.2 

The impact that teachers' mental health problems can have on students is a subject that has relevance among professionals, since it can influence the whole process of learning and also the students' well-being. According to Harding et al. [5], a positive teacher-student relationship is also likely to be important for teacher well-being, and a better teacher-student relationship is associated with better student well-being and with lower student psychological distress. The results of this study suggest that improving teacher well-being may lead to better student well-being via more supportive relationships[5].

Tomé et al.[6] found that the relationship with teachers was the variable with the greatest effect on school satisfaction among Portuguese adolescents. On the other hand, satisfaction with school appears positively associated with life satisfaction and happiness, and negatively with social alienation, unhealthy psychological symptoms, and concerns. Thus, the correlation becomes more obvious - adolescents who are more satisfied with school are more satisfied with life in general and happier in their own skin.

So apparently, effective support for teachers' mental health is particularly important given the potential impact of poor teacher mental health on pupil well-being, pupil attainment, and teacher-pupil relationships[7]. One of the main goals of education is that students have the skills to communicate, deal with their emotions, and solve their problems. Teachers are essential professionals in responding to young people with possible mental health difficulties and who have social, emotional, or behavioral problems in the classroom. Health and education policies increasingly position teachers as vital agents in connecting mental health services with affected youth[8][9][10].

The whole school community has an essential role in promoting the mental health of both young people and teachers. The implementation of school-based intervention programs in the mental health area, with long-term follow-up, effective monitoring of the quality of its implementation, and in line with adequate training of the intervention team in which the whole school community participates, appears to be effective in preventing mental health issues among teachers and students[11]. Tomé et al.[9] found that teachers' skills and knowledge in mental health are important for the prevention of young people's mental health issues and that teacher training in this area also increased their subjective well-being.

Socio-emotional skills and the well-being of the teachers themselves are crucial for the development of skills in young people. Teachers who have more socio-emotional skills will have a more significant impact on the development of their students' skills[10].

This study aimed at analysing the impact of teacher training on their mental health and well-being.

# Method

## *Participants*

The sample was constituted by 276 teachers who worked in schools in mainland Portugal and who participated in the ES´COOL training. Of the 276 teachers, 11.6% were males and 88.4% were females, with an average age of 47.9 (*SD* = 7.2; Min -27; Max- 68) and an average of 21.4 years (*SD* = 8; Min- 0; Max- 41) of service.

Of the teachers who completed the ES´COOL training, 72.8% were graduates, 19.9% had a Master's Degree, 2.5% a Ph.D., and 1.4% a Bachelor Degree (see Table 1).

| | *N* | % | *M* | *SD* | *Range.* |
|---|---|---|---|---|---|
| **Sample** | | | | | |
| First cycle teacher | 36 | 13 | | | |
| Teachers ($5^{th}$ to $12^{th}$ grade) | 173 | 62.7 | | | |
| Kindergarten teachers | 17 | 6.2 | | | |
| Special education teachers | 35 | 12.7 | | | |
| Psychologists and other specialists | 15 | 5.4 | | | |
| **Gender** | | | | | |
| Male | 32 | 11.6 | | | |
| Female | 244 | 88.4 | | | |
| **Age** | 276 | - | 47.9 | 7.2 | 27-68 |
| **Educational Level** | | | | | |
| Bachelor Degree | 4 | 1.4 | | | |
| Graduate | 201 | 72.8 | | | |
| Master | 55 | 19.9 | | | |
| PhD | 7 | 2.5 | | | |
| Other | 9 | 3.3 | | | |
| **Professional Situation** | | | | | |
| Permanent | 192 | 69.6 | | | |
| Temporary | 55 | 19.9 | | | |
| Other | 29 | 10.5 | | | |
| **Years of Service** | 275 | - | 21.45 | 8 | 0-41 |
| **Years of service in the current school** | 276 | - | 8.3 | 8.7 | 0-35 |

**Table 1.** *Demographic characteristics of the participants*

Eighty-six projects were developed by teachers, with the supervision of the trainers of the project ES´COOL. Of the 86 projects, 26 were related to well-being, 17 to mental health, 9 to behaviors and indiscipline, 8 to the prevention of risk behaviors, 8 related to promoting positive relationships, 7 to personal and social skills, 8 projects related to school skills, 2 to the promotion of the relationship between family and school, and 1 related to racial discrimination.

About 17.4% of the teachers reported that they had already had mental health training.


doi.org/10.32388/M8XODT.2

### *Measures and variables*

The questionnaire "ES'COOL - SURVEY MENTAL HEALTH IN SCHOOL CONTEXT (Teacher Version)" consists of demographic issues, the "Scale of Mental Health Knowledge and Attitudes in a School Context – ES`COOL" which was adapted from the "Self-Perception Scale of Risk Behaviors"[12] and from questions adapted from the Health Behavior in School-Aged Children Questionnaire - HBSC / OMS[13]. Scales were also used to evaluate: life satisfaction, professional satisfaction, problem-solving, leadership ability, social environment and interpersonal relations in school, and skills and knowledge in mental health.

The "Scale of Mental Health Knowledge and Attitudes in a School Context – ES ´COOL" is a questionnaire consisting of 29 items, whose answers are given according to a 5-point Likert intensity scale. The subject should indicate the degree of agreement or disagreement, in which 1 = "Strongly disagree", 3 = "I do not disagree or agree", and 5 = "Strongly agree". The analysis of the "Scale of Mental Health Knowledge and Attitudes in a School Context – ES´COOL" was carried out taking into account the Behaviour Change Wheel Model (BCW)[8].

Life satisfaction, professional satisfaction, problem-solving, leadership ability, social environment and interpersonal relations in school, and skills and knowledge in mental health were measured with the scale of Cantril (1965), graphically represented as a ladder, where step "10" corresponds to "best possible" and step "0" represents "the worst possible".

Happiness was assessed using the self-report Subjective Happiness Scale (SHS[14]). The happiness scale is a 4-item subjective happiness scale that measures overall happiness. It is derived from a 7-point Likert scale ranging from 1 to 7, in which 1 = not a very happy person and 7 = a very happy person. A composite score for global subjective happiness is obtained by averaging the responses to all four items on the subjective happiness scale. The possible score range is from 1 to 7, with higher scores reflecting greater happiness.

The affective dimension was measured via the Positive and Negative Affect Schedule - PANAS[15]. The PANAS is a questionnaire consisting of 20 items, whose answers are given according to a 5-point Likert intensity scale in which, through a series of feelings or emotions, the subject should indicate the degree of agreement or disagreement (1 = "Very slightly or not at all", 3 = "Moderately", and 5 = "Extremely"). The items are divided into two sub-scales, representing two mood states or two affective dimensions: Positive Affect (PA) and Negative Affect (NA). While PA reflects feelings of enthusiasm, activity, and alertness, i.e., a state of energy, complete concentration, and pleasure in the tasks performed (10 items - Example: "Interested"), NA represents a general dimension of aversive feelings (10 items - Example: "Afflicted"). Low values in Positive Affect mean sadness and lethargy, and low values in Negative Affect mean calm and serenity[15].

## Procedures

The main goal of "ES´COOL" is to promote adolescents' mental health through capacity building of school teachers and school staff. The program aims at the development of personal and social skills and includes the prevention of anxiety and depression symptoms, the promotion of resiliency, and self-regulation in adolescents. The ES'COOL training was implemented with teachers from primary and secondary schools (from $1^{st}$ to $12^{th}$ grade), kindergarten, and special education teachers, covering schools from all the regions of Portugal. There have

been training groups all over Portugal, namely in the North, Center, Lisbon, and Algarve regions.

The first assessment of the study was conducted one week before the start of the training, while the second one was carried out two weeks after the ES´COOL training. Data collection was performed through an online survey, using the Limesurvey platform.

Thereby, it aimed at verifying the real impact of the training among the participants, namely the level of their knowledge about mental health and their skills to develop the promotion of well-being and healthy lifestyle projects in their schools.

The training program consists of 40 hours, distributed as 20 hours of theoretical, formal, in-person sessions, and 20 "non-face-to-face" hours of practical sessions. The theoretical part addressed several topics, such as promoting skills, promoting mental health, self-regulation, resilience, active listening, leadership, and entrepreneurship. In the practical part, the participants developed and implemented projects with the technical supervision and evaluation from the ES ´COOL technicians. The distance learning modules were carried out through the New Communication Technologies, mainly via Skype, with sessions between the trainees and trainers. Another method used to conduct the supervision of the work and projects was the use of a forum created on the project site, where all teachers involved in the ES'COOL project can share experiences, doubts, solutions, projects, or ideas among themselves and with the supervisors.

The training was planned as follows:

Module 1 – Mental Health in School; Module 2 – Project Methodology; Module 3 – Project Design; Module 4 – Project Presentation; Module 5 – Techniques and Strategies for Project Development; Module 6 – Project Implementation in Schools.

## Data analysis

Data were analysed through the statistics program SPSS 24. Descriptive analysis followed by bivariate analysis was carried out, and finally, multiple linear regression models were used.

## Results

For the subscales of mental health knowledge and attitudes, the following values of internal consistency were found: Emotional Capability $\alpha$=.80, Problem Solving Capability $\alpha$=.69, Motivation $\alpha$=.72, and Opportunity $\alpha$=.70. For the subscales of the PANAS questionnaire, it was found that: Positive Affect $\alpha$=.89 and Negative Affect $\alpha$=.84. For the Alienation subscales, it was found that: Demotivation $\alpha$=.69, Instability $\alpha$=.51, and Isolation $\alpha$=.76. For the happiness scale, the internal consistency values found were $\alpha$=.75, for self-efficacy $\alpha$=.78, and for future expectations $\alpha$=.77 (see Table 2).

| | Factor | Items | N | *M* | *SD* | Cronbach |
|---|---|---|---|---|---|---|
| Mental Health Knowledge and Attitudes | Emotional Capability | 5 | 268 | 18,5 | 2,8 | .80 |
| | Problem Solving Capability | 5 | 268 | 21,1 | 2,2 | .69 |
| | Motivation | 4 | 268 | 17,6 | 1,9 | .72 |
| | Opportunit | 4 | 268 | 14,1 | 2,3 | .70 |
| PANAS | Positive Affects | 10 | 275 | 35,7 | 5,5 | .89 |
| | Negative Affect | 10 | 275 | 16,1 | 5,2 | .84 |
| Alienation | Demotivation | 5 | 182 | 11,4 | 2,4 | .69 |
| | Instability | 3 | 182 | 8,7 | 1,6 | .51 |
| | Isolation | 2 | 182 | 4,3 | 1,6 | .76 |
| | Happiness | 4 | 274 | 20,9 | 3,6 | .75 |
| | Self-efficacy | 4 | 182 | 15,3 | 2,1 | .78 |
| | Future expectations | 9 | 182 | 33,7 | 4,8 | .77 |

**Table 2.** *Internal consistency of the scales*

Regarding the results observed in the T-Student test, it was found that after training, there was an increase in most of the variables analyzed: Mental Health Knowledge and Attitudes Scale: emotional capability (*M* = 19.6, *SD* = 2.8), problem-solving capability (*M* = 21.7, *SD* = 2.3), motivation (*M* = 18, *SD* = 1.9), opportunity (*M* = 15.2, *SD* = 2.3); PANAS scale: positive affects (*M* = 37.4, *SD* = 5.2); happiness (*M* = 21.7, *SD* = 3.6), professional satisfaction (*M* = 6.7, *SD* = 1.6), social environment and interpersonal relations in school (*M* = 7.7, *SD* = 1.3), self-efficacy (*M* = 15.8, *SD* = 1.9), mental health literacy (*M* = 7.3, *SD* = 1.4), problem management (*M* = 7.7, *SD* = 1.3), leadership ability (*M* = 7.3, *SD* = 1.4), and life satisfaction (*M* = 7.5, *SD* = 1.3). In the demotivation subscale (i.e., alienation scale), values decreased after training (*M* = 10.5, *SD* = 2.2).


doi.org/10.32388/M8XODT.2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Emotional Capability** | **Initial (N=276)** | | **Final (N=276)** | | | |
| **Mental Health Knowledge and Attitudes** | | M | DP | M | SD | t | *p* |
| | | 18.6 | 2.7 | **19.6** | 2.8 | -7.183 | .000 |
| | Problem Solving Capability | Initial (N=276) | | Final (N=276) | | | |
| | | M | DP | M | SD | t | *p* |
| | | 21.2 | 2.3 | **21.7** | 2.3 | -4.549 | .000 |
| | Motivation | Initial (N=276) | | Final (N=276) | | | |
| | | M | DP | M | SD | t | *p* |
| | | 17.5 | 1.9 | **18** | 1.9 | -4.656 | .000 |
| | Opportunity | Initial (N=276) | | Final (N=276) | | | |
| | | M | DP | M | SD | t | *p* |
| | | 14.4 | 2.3 | **15.2** | 2.3 | -5.595 | .000 |
| **PANAS** | Positive Affect | Initial (N=275) | | Final (N=275) | | | |
| | | M | DP | M | SD | t | *p* |
| | | 35.7 | 5.4 | **37.4** | 5.2 | -5.862 | .000 |
| | Negative Affect | Initial (N=275) | | Final (N=275) | | | |
| | | M | DP | M | SD | t | *p* |
| | | 16.1 | 5.2 | 15.9 | 4.9 | .817 | .415 |
| **Alienation** | | Initial (N=182) | | Final (N=182) | | | |
| | Demotivation | M | DP | M | SD | t | *p* |
| | | **11.4** | 2.4 | 10.5 | 2.2 | 4.733 | .000 |
| | | Initial (N=182) | | Final (N=182) | | | |
| | Instability | M | DP | M | SD | t | *p* |
| | | 8.7 | 1.6 | 8.8 | 1.7 | -.558 | .578 |
| | | Initial (N=182) | | Final (N=182) | | | |
| | Isolation | M | DP | M | SD | t | *p* |
| | | 4.3 | 1.6 | 4.4 | 1.6 | -.269 | .788 |
| | Happiness | Initial (N=274) | | Final (N=274) | | | |
| | | M | DP | M | SD | t | *p* |
| | | 20.9 | 3.6 | **21.7** | 3,6 | -4.689 | .000 |


doi.org/10.32388/M8XODT.2

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Professional Satisfaction | Initial (N=274) | | Final (N=274) | | | |
| | | | | M | DP | M | SD | t | *p* |
| | | | | 6.6 | 1.8 | **6.7** | 1.6 | -3.971 | .000 |
| | | | Social Environment and Interpersonal relations in school | Initial (N=274) | | Final (N=274) | | | |
| | | | | M | DP | M | SD | t | *p* |
| | | | | 7.1 | 1.5 | **7.7** | 1,3 | -6.808 | .000 |
| | | | Future expectations | Initial (N=182) | | Final (N=182) | | | |
| | | | | M | DP | M | SD | t | *p* |
| | | | | 33.7 | 4.8 | 34.2 | 4.7 | -1.402 | .163 |
| | | | Self-efficacy | Initial (N=182) | | Final (N=182) | | | |
| | | | | M | DP | M | SD | t | *p* |
| | | | | 15.3 | 2.1 | **15.8** | 1.9 | -3.957 | .000 |
| | | | Mental Health Literacy | Initial (N=274) | | Final (N=274) | | | |
| | | | | M | DP | M | SD | t | *p* |
| | | | | 5.2 | 1.7 | **7.3** | 1.4 | -18.485 | .000 |
| | | | Problem management | Initial (N=274) | | Final (N=274) | | | |
| | | | | M | DP | M | SD | t | *p* |
| | | | | 7 | 1.4 | **7.7** | 1.3 | -8.742 | .000 |
| | | | Leadership ability | Initial (N=276) | | Final (N=276) | | | |
| | | | | M | DP | M | SD | t | *p* |
| | | | | 6.5 | 1.5 | **7.3** | 1.4 | -9.954 | .000 |
| | | | Life Satisfaction | Initial (N=274) | | Final (N=274) | | | |
| | | | | M | DP | M | SD | t | *p* |
| | | | | 7.2 | 1.4 | **7.5** | 1.3 | -4.302 | .000 |

**Table 3.** *Pre and post evaluations comparisons using t-Student (paired samples)*

To understand the predictive effect of the variables used in this study on teachers' well-being and mental health, multiple linear regression analyses were conducted. In each of the models, statistically significant variables were included in the T-test analysis with a significance level greater than $p \leq .05$. In each model, the initial variable corresponding to the same final variable was controlled, so that its weight did not influence the values found in the model.


doi.org/10.32388/M8XODT.2

The regression equation for the model of Happiness (final) explained 31% of the variance ($R^2$=.310). In this model, the explanation of Happiness (final) was obtained through the problem-solving capability (initial) ($\beta$=.267, $p$=.004), positive affects (initial) ($\beta$=.175, $p$=.018), and life satisfaction (initial) ($\beta$=.283, $p$=.001).

The model of life satisfaction (final) explained 22% of the variance ($R^2$=.217). In this model, the explanation of life satisfaction (final) was obtained through professional satisfaction (initial) ($\beta$=.282, $p$=.001) and problem management (initial) ($\beta$=.192, $p$=.039).

The model of positive affects (final) explained 8% of the variance ($R^2$=.083). In this model, the explanation of positive affects (final) was obtained through mental health literacy (initial) ($\beta$=.-218, $p$=.017).

The model of self-efficacy (final) explained 23% of the variance ($R^2$=.228). In this model, the explanation of self-efficacy (final) was obtained through life satisfaction (initial) ($\beta$=.244, $p$=.008) and positive affects (initial) ($\beta$=.327, $p$=.000).

Finally, the model of demotivation (final) explained 30% of the variance ($R^2$=.300). In this model, the explanation of demotivation (final) was obtained through self-efficacy (initial) ($\beta$=-.215, $p$=.006), mental health literacy (initial) ($\beta$=.213, $p$=.009), and positive affects (initial) ($\beta$=-.335, $p$=.000).

| | Variable included | *b* | *t* | *p* | $R^2_a$ | *F(model fit)** |
|---|---|---|---|---|---|---|
| **Happiness (Final)*** (*Model controlled by the Happiness - Initial) | Emotional Capability (Initial) | -.110 | -1.244 | .118 | .310 | 7.261 |
| | Problem Solving Capability (Initial) | .267 | 2.890 | **.004** | | |
| | Motivation (Initial) | -.047 | -.593 | .554 | | |
| | Opportunity (Initial) | -.007 | -.105 | .917 | | |
| | Demotivation (Initial) | -.029 | -.409 | .683 | | |
| | Positive Affect (Initial) | .175 | 2.381 | **.018** | | |
| | Mental Health Literacy (Initial) | -.096 | -1.218 | .225 | | |
| | Life Satisfaction (Initial) | .283 | 3.477 | **.001** | | |
| | Professional Satisfaction (Initial) | .049 | .614 | .540 | | |
| | Social Environment and Interpersonal relations in school (Initial) | -.050 | -.651 | .516 | | |
| | Problem management (Initial) | .147 | 1.678 | .095 | | |
| | Leadership ability (Initial) | .027 | .342 | .733 | | |
| | Self-efficacy (Initial) | .080 | 1.008 | .315 | | |
| **Life Satisfaction (Final)*** * Model controlled by Life Satisfaction (Initial) | **Variable included** | ***b*** | ***t*** | ***p*** | $R^2_a$ | ***F(model fit)**** |
| | Emotional Capability (Initial) | -.153 | -1.625 | .106 | .217 | 4.865 |
| | Problem Solving Capability (Initial) | .051 | .503 | .615 | | |
| | Motivation (Initial) | .050 | .596 | .552 | | |
| | Opportunity (Initial) | -.026 | -.369 | .698 | | |
| | Demotivation (Initial) | -.049 | -.647 | .519 | | |
| | Positive Affects (Initial) | .021 | .264 | .792 | | |
| | Mental Health Literacy (Initial) | .013 | .161 | .873 | | |
| | Happiness (Initial) | .167 | 1.915 | .057 | | |
| | Professional Satisfaction (Initial) | .282 | 3.512 | **.001** | | |
| | Social Environment and Interpersonal relations in school (Initial) | -.034 | -.417 | .677 | | |
| | Problem management (Initial) | .192 | 2.076 | **.039** | | |
| | Leadership ability (Initial) | -.078 | -.905 | .367 | | |


doi.org/10.32388/M8XODT.2

| | Variable included | *b* | *t* | *p* | $R^2_a$ | *F(model fit)** |
|---|---|---|---|---|---|---|
| | Self-efficacy (Initial) | .097 | 1.155 | .250 | | |
| Positive Affect (Final)* * Model controlled by Positive Affect (Initial) | **Variable included** | ***b*** | ***t*** | ***p*** | $R^2_a$ | ***F(model fit)**** |
| | Emotional Capability (Initial) | -.027 | -.260 | .796 | .083 | 2.262 |
| | Problem Solving Capability (Initial) | -.010 | -.091 | .928 | | |
| | Motivation (Initial) | .047 | .511 | .610 | | |
| | Opportunity (Initial) | .045 | .570 | .569 | | |
| | Demotivation (Initial) | -.043 | -.520 | .604 | | |
| | Life satisfaction (Initial) | -.056 | -.568 | .571 | | |
| | Mental Health Literacy (Initial) | -.218 | -2.405 | **.017** | | |
| | Happiness (Initial) | .100 | 1.028 | .305 | | |
| | Professional Satisfaction (Initial) | .113 | 1.235 | .219 | | |
| | Social Environment and Interpersonal relations in school (Initial) | .006 | .072 | .943 | | |
| | Problem management (Initial) | .096 | .923 | .357 | | |
| | Leadership ability (Initial) | .142 | 1.560 | .121 | | |
| | Self-efficacy (Initial) | .130 | 1.411 | .160 | | |
| Self-efficacy (Final)* * Model controlled by Self-efficacy (Initial) | **Variable included** | ***b*** | ***t*** | ***p*** | $R^2_a$ | ***F(model fit)**** |
| | Emotional Capability (Initial) | .068 | .726 | .469 | .228 | 5.107 |
| | Problem Solving Capability (Initial) | .175 | 1.728 | .086 | | |
| | Motivation (Initial) | -.127 | -1.495 | .137 | | |
| | Opportunity (Initial) | .067 | .916 | .361 | | |
| | Demotivation (Initial) | -.045 | -.596 | .552 | | |
| | Life satisfaction (Initial) | .244 | 2.692 | **.008** | | |
| | Mental Health Literacy (Initial) | -.008 | -.093 | .926 | | |
| | Happiness (Initial) | -.025 | -.267 | .790 | | |
| | Professional Satisfaction (Initial) | -.108 | -1.284 | .201 | | |
| | Social Environment and Interpersonal relations in school (Initial) | -.094 | -1.140 | .256 | | |


doi.org/10.32388/M8XODT.2

| | Variable included | *b* | *t* | *p* | $R^2_a$ | *F(model fit)** |
|---|---|---|---|---|---|---|
| | Problem management (Initial) | .066 | .693 | .926 | | |
| | Leadership ability (Initial) | .031 | .366 | .715 | | |
| | Positive Affects (Initial) | .327 | 4.029 | **.000** | | |
| Demotivation (Final)* * Model controlled by Demotivation (Initial) | **Variable included** | ***b*** | ***t*** | ***p*** | $R^2_a$ | ***F(model fit)**** |
| | Emotional Capability (Initial) | -.026 | -.300 | .765 | .300 | 6.972 |
| | Problem Solving Capability (Initial) | -.081 | -.840 | .402 | | |
| | Motivation (Initial) | .068 | .819 | .414 | | |
| | Opportunity (Initial) | .041 | .590 | .556 | | |
| | Self-efficacy (Initial) | -.215 | -2.784 | **.006** | | |
| | Life satisfaction (Initial) | .068 | .770 | .442 | | |
| | Mental Health Literacy (Initial) | .213 | 2.638 | **.009** | | |
| | Happiness (Initial) | -.010 | -.109 | .913 | | |
| | Professional Satisfaction (Initial) | -.048 | -.589 | .557 | | |
| | Social Environment and Interpersonal relations in school (Initial) | 0036 | .451 | .653 | | |
| | Problem management (Initial) | -.117 | -1.247 | .214 | | |
| | Leadership ability (Initial) | -.164 | -1.966 | .051 | | |
| | Positive Affects (Initial) | -.335 | -4.321 | **.000** | | |

**Table 4.** *Linear Regression (Enter Method)*

## Discussion

Teachers are identified as a risk group for developing mental health problems[1] [2]. This fact seems worrying because it is known that young people spend a lot of time in school, and apparently, teachers' mental health problems can affect students' mental health and well-being[5]. Effective support for teachers' mental health is particularly important given the potential impact of poor teacher mental health on pupil well-being, pupil attainment, and teacher-pupil relationships[7].

Considering this topic, this study aimed at analysing the impact of teacher training in the area of mental health promotion on teachers' mental health and well-being.


doi.org/10.32388/M8XODT.2

The ESCOOL training goal is to promote adolescents' mental health through capacity building of school teachers and school staff. The program aims at the teachers' development of personal and social skills[8]. The importance of teacher training was visible in the final results, not only in acquiring the training skills worked on but also in promoting teachers' well-being and mental health.

Results show that in addition to the skills worked on during the training, the teachers' well-being and mental health also improved at the end of the training. The variable that proved to be the most important for the promotion of teachers' well-being was that they started the training with more positive affect and greater life satisfaction. These variables revealed a greater influence on most of the other variables associated with well-being and mental health.

An interesting fact was that mental health literacy negatively influences some aspects of teachers' well-being, especially positive affect and motivation. This result should be further developed in future studies; however, it can reveal that starting the training with a greater perception of knowledge in the area of the training itself can be a demotivating factor and negatively influence the final results. Perhaps it is necessary to explain the training objectives more precisely to teachers, avoiding this demotivation.

Regarding the influence of the skills worked on during the training on the teacher's well-being and mental health, it was observed that the competence to resolve and deal with problems is the competence with the greatest influence on some aspects of well-being, revealing an area extremely important to work on in teacher training.

Apparently, to promote teachers' well-being and mental health, the most important thing is not to work on the skills, but to keep them motivated and confident, especially as teachers' well-being also influences adolescents' well-being[4][5].

Therefore, dissatisfied and unmotivated teachers are at greater risk of developing mental health problems and influencing other problems in the school context[1]. We are experiencing an unexpected situation with the COVID-19 pandemic; more than ever, it is important to be aware of the impact on teachers' mental health and well-being in the school context. It is becoming increasingly important to develop work in schools where the whole community is involved, in addition to focusing on teachers' training and young people not only on promoting skills but also on their own well-being and mental health[9].

With the new challenges and the rapid development of the 21st century, teachers handle a number of challenges, such as new requirements for socio-emotional skills, rapid technological development, and the increasing cultural and social diversity of young people. The development of their socio-emotional skills, well-being, and mental health is essential to face the challenges posed by schools in the 21st century[10].

The pandemic situation brought about by Covid-19, with its various situations of confinement and states of emergency, added new challenges to education systems. More than ever, teachers' resilience, problem-solving skills, and socio-emotional skills are needed. To respond to these challenges, a highly competent teaching workforce is needed, which currently faces many difficulties. Therefore, effective, sustainable, and coordinated approaches are needed to train competent teachers.

## Statements and Declarations

### *Ethics*

Informed consent was obtained from all individual participants included in the study, and ES'COOL followed all the rules for research outlined in the Declaration of Helsinki and was approved by the Ethics Committee of the Medical Center of Lisbon. Confidentiality was ensured, and data access was restricted to the research team members.

### *Data Availability*

The raw data supporting the conclusions of this article are available from the authors without undue reservation. Inquiries should be directed to the corresponding author.

### *Author Contributions*

Conceptualization, G.T. and M.G.d.M.; methodology, G.T., P.G., I.C.; software, P.G.; validation, G.T., P.G., I.C.; formal analysis, P.G.; investigation, G.T., P.G., I.C.; resources, G.T., M.G.d.M.; data curation, P.G.; writing—original draft preparation, G.T.; writing—review and editing, G.T., P.G., I.C., M.G.d.M.; visualization, P.G.; supervision, G.T., M.G.d.M.; project administration, G.T.

## References


1. a, b, c *Naghieh A, Montgomery P, Cp B, Thompson M, Jl A (2015). "Organisational i nterventions for improving wellbeing and reducing work-related stress in teacher s (Review) SUMMARY OF FINDINGS FOR THE MAIN COMPARISON." Cochrane D atabase of Systematic Reviews.* ***4****:10–13. doi:10.1002/14651858.CD010306.pub2.*
2. a, b *Kidger J, Brockman R, Tilling K, Campbell R, Ford T, Araya R, King M, Gunnell D (2016). "Teachers' wellbeing and depressive symptoms, and associated risk fact ors: A large cross sectional study in English secondary schools." Journal of Affectiv e Disorders.* ***192****:76–82. doi:10.1016/j.jad.2015.11.054.*
3. ^ *Hattie J (2009). Visible learning: A synthesis of over 800 meta-analyses relating to achievement. London: Routledge.*
4. a, b, c *Ekornes S (2017). "Teacher Stress Related to Student Mental Health Promoti on: The Match between Perceived Demands and Competence to Help Students wi th Mental Health Problems." Scandinavian Journal of Educational Research.* ***61*** *(3):333.*
5. a, b, c, d *Harding S, Morris R, Gunnell D, Ford T, Hollingworth W, Tilling K, Evans R, Bell S, Grey J, Brockman R, Campbell R, Araya R, Murphy S, Kidger J (2019). "Is tea chers' mental health and wellbeing associated with students' mental health and wellbeing?" Journal of Affective Disorders.* ***242****:180–187. doi:10.1016/j.jad.2018.08.0 80.*
6. ^ *Tomé G, Matos MG, Camacho I, Gomes P (2019). "Promoting Wellbeing and Men tal Health in Adolescents." Cientific Journal of Neurology.* ***1****(1):2-7.*
7. a, b *Titheradge D, Hayes R, Longdon B, Allen K, Price A, Hansford L, Nye E, Ukoum unne OC, Byford S, Norwich B, Fletcher M, Logan S, Ford T (2019). "Psychological distress among primary school teachers: a comparison with clinical and populati on samples." Public Health.* ***166****:53–56. doi:10.1016/j.puhe.2018.09.022.*

8. a, b, c *Tomé G, Matos MG, Camacho I, Gomes P, Reis M, Branquinho C (2018). "Mental Health Promotion in School Context – Validation of the ES'COOL Scale for Teachers." Journal of Psychiatry and Behavioral Sciences. **2**:1009.*
9. a, b, c *Tomé G, Gomes P, Camacho I, Ramiro L, Matos MG (2021a submitted). "Teachers' training: impact on mental health, knowledge and skills." Psicologia Educativa.*
10. a, b, c *Kozina A (Ed.) (2020). Social, emotional and intercultural competencies for inclusive school environments across Europe - Relationships matter. Berlin: Available at: https://www.verlagdrkovac.de/volltexte/11406/11406 Kozina%20ED%20-%20Social%20emotional%20and%20intercultural%20competencies%20for%20inclusive%20school%20environments%20across%20Europe.pdf.*
11. ^ *Tomé G, Almeida A, Ramiro L, Gaspar T, Matos MG (2021). "Intervention in schools promoting mental health and well-being: a systematic review." Global Journal of Community Psychology Practice. **12**(1):1–23. https://www.gjcpp.org/en/article.php?issue=38&article=228.*
12. ^ *Cruz J (2016). "Leadership Styles of Teachers and Risk Behaviors of Adolescent Students." Thesis prepared for the degree of Doctor in Educational Sciences in the Specialty of Health Education. Faculty of Human Motricity.*
13. ^ *Matos M, Simões C, Camacho I, Reis M (2015). "The Health of Portuguese Adolescents in Times of Recession." HBSC 2014. Lisbon: CMDT/ DGS/ FMH/.*
14. ^ *Lyubomirsky S, Lepper HS (1999). "A measure of subjective happiness: Preliminary reliability and construct validation." Social Indicators Research. **46**(2):137–155.*
15. a, b *Watson D, Clark LA, Tellegen A (1988). "Development and validation of brief measures of positive and negative affect: the PANAS scales." Journal of Personality and Social Psychology. **54**(6):1063-1070.*

## Declarations

**Funding:** No specific funding was received for this work.
**Potential competing interests:** No potential competing interests to declare.