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HOW TO DEVELOP TEACHERS' WELL-BEING?

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ABSTRACT

The well-being of teachers is one key to students' and education's success. As an innovative solution, we hold a training program for educators using design thinking based on the "Designing Your Life" program that can be familiar with engineering educators' mindsets. We adopted it for the Hungarian circumstances and made one pilot program and one real program with the self-applying teachers at the Budapest University of Technology and Economics. We surveyed teachers' well-being with the PERMA Profiler at the beginning of the program and one month after the program in both samples and had in total of 41 answers (n=23). Based on the results, such programs can help to enhance teachers' well-being, and in this way, universities can offer a better emotional climate and prevent teachers' and students' burnout.

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1 INTRODUCTION

Nowadays, higher education is even more of a service and has to be competitive. Based on findings of organizational psychology, companies are more performative with happier and satisfied employees. This paper shows an exciting staff development program designed for engineering educators.

1.1 Well-being of Educators

Well-being is a popular concept nowadays. The well-being of university teachers is a crucial point of the efficiency of education itself, the educators' academic success, relationships between colleagues, and teacher-student interactions (Rahm, Heise, 2019; Ballantyne, Retell, 2020; Smetackova et al., 2019).

There are many positive psychological approaches to well-being, but the PERMA framework is widely accepted among psychologists and scientists, and based on empirical evidence, it seems to be the most appropriate to operationalize it in a workplace context (Donaldson et al., 2022; Linton et al., 2016). The original model was developed by Seligman (2002), who said that to reach the state of well-being, we have to fulfill 5 different components related to a flourishing life (Seligman, 2011). The five pillars need to come together:

- Positive emotions: this hedonic component of well-being includes positive emotions such as hope, fun, satisfaction, happiness, and commitment (Seligman, 2011).
- Engagement: focuses on activities of daily living and having a high level of interest in these activities (Seligman, 2011). This can feel in workplace settings and means that our goals are in line with our abilities, and we feel the intrinsic motivation as a gate to flow experience (Nakamura, Csikszentmihalyi, 2014).
- Relationships: the feeling of being cared for by others and developing relationships based on trust and authenticity, being valued by loved ones, integrating with society, and being satisfied with their social network (Khaw, Kern, 2014).
- Meaning: makes the life worth living. The individual directs their life towards a purpose they think is directed towards a greater purpose than themselves to continue their life (Steger, 2018).
- Accomplishment: it can take many forms, from workplace to personal development. This makes progress and increases success in different areas of life in line with personal goals (Seligman, 2011).
- Other factors can also be considered by well-being: physical health, presence of negative emotions, feelings of happiness, and loneliness. With these factors we got a holistic model (Butler, Kern, 2016).

1.2 Designing Your Life Program

Our Designing your life Program (DYLF) is based on Burnett and Evans's "Designing your life" and "Designing your work life" methodologies (Burnett, Evans, 2016; 2018; 2020). Regarding the authors' idea, a well-designed life is the key to a well-lived life and well-being. The idea came up first as a class at Stanford University designed for design students. In this approach, they used techniques that fit designers' mindsets, which means it is suitable for people who like to solve problems. Design thinking-based life coaching programs have gained popularity worldwide, with organizations combining design principles and coaching techniques to help individuals navigate personal and professional challenges. Several design thinking-focused life coaching

programs in Europe have emerged, such as the "Design Your Life" workshops offered by renowned design consultancy firms like IDEO. These programs encourage participants to apply design thinking methodologies to their personal lives, fostering creativity and problem-solving skills.

Within BME, courses with a similar theme are available to students, but they focus more on starting a career. Our DYLF program helps those not at the beginning of their career and have work experience.

Now, the program built 5 phases, and we completed the basic program with some extra elements, like time management, work-life balance, stress management, and self-branding. The phases were:

- State analysis: it reviews the current life situations and the most critical areas of life.
- Making a personal compass: describe the most important personal values of the work-life and life.
- Sketching plans: design 5-year-long plans with different conditions. It helps to reframe the problems and determine the most appropriate questions.
- Prototype: defining some major short-term projects from the plans is very important to design prototypes. With prototypes (for example, interviewing somebody with experience in the field of the short-term project), participants gain experience, and they can make better decisions with less risk in their life plans.
- Real projects: after the prototyping phase, they can determine project plans (Burnett, Evans, 2016; 2018; 2020).

Some concrete tasks are listed in Table 1.

1.3 Research Questions

Based on our 15 years of experience and the literature review, by preparing a more extensive staff development program, we link specific tasks of the DYLF program to the elements of PERMA, as shown in Table 1. Furthermore, finally, the question emerged whether the Designing Your Life Program is adequate and appropriate enough to enhance engineering educators' well-being. This paper gives a brief insight into the pilot program.

Table 1. How DYLF program elements (Burnett, Evans, 2016; 2018; 2020) promote PERMA factors (Seligman, 2011, Butler, Kern, 2016)

PERMA factors	DYLF task	Expected outcomes
Positive emotions	good times diary	more openness and self-acceptance
Engagement	work and life attitude	change of focus, higher level of motivation, finding intrinsic motivation
Relationships	index of supporters	ask for feedback, new relationships, and better communication skills
Meaning	Odyssey plan	finding deeper and more complex meaning
Accomplishment	prototype testing plan	smart goals, better planning, measurable results, tools for self-development

Health	gas tank	importance of me-time, higher level of self-awareness, better physical health
Negative emotions	concrete action plan	focus on one's strengths, self-compassion
Happiness	anti-job description	diversity, new inspirations
Loneliness	index of supporters	networking, courage to show oneself to others

2 METHODOLOGY

2.1 Adaptation of the Program

This research aims to identify how practical the Hungarian application of “Designing Your Life” was among teachers at the Budapest University of Technology and Economics.

The program went with 2 co-trainers who developed a 5+1 session workshop based on the engineering educators' needs. We applied the original methodology to our course, but generally, we thought that the idea of design thinking fits engineering and economics educators' mindsets.

The main changes to the original program were:

- one short motivational session before the program starts to explore the unique needs of teachers;
- offline sessions in groups of 8-12;
- each topic was the focus of different sessions;
- one personal or online closing coaching session by one-by-one.

2.2 Measurement

We used the PERMA Profiler to explore the group members' well-being and changes (Butler, Kern, 2016). This tool separately measures the five pillars of well-being (positive emotions, engagement, relationships, meaning, and accomplishment) and four subdimensions: happiness, loneliness, negative affect, and health. This extended scale consists of 23 items.

We asked the participants to complete the test via an online form at the beginning of the program and several months after the closing session. In the follow-up questionnaire, we again used the PERMA Profiler and asked for their subjective feedback about the program's effectiveness and personal development. We make the same process for both groups. In Figure 1., we show the research timeline, and in Table 2., we offer the sample sizes.

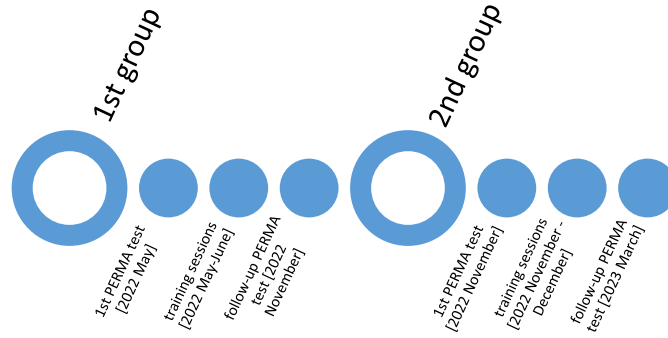


Figure 1. Timeline of the research project

Table 2. Sample sizes

	n of participants	n of 1 st measure	n of 2 nd measure
Sample 1 (1 st group)	11	11	9
Sample 2 (2 nd group)	12	12	11

Each participant was a Ph.D. student or post-doc staff member of the Budapest University of Technology and Economics, aged 22-30, both men and women. They came from different university faculties, such as mechanical engineering, chemistry, architecture, informatics, electrical engineering, and economic sciences.

During the motivational interview, the participants named their problems, such as burnout, work-life imbalance, poor career opportunities, and emotional exhaustion, that they want to work with this program. They did not participate in other similar programs, either at the university (this workplace did not offer any) or on their own.

3 RESULTS

3.1 PERMA Scores

Based on Butler and Kern's scoring key, we used the IBM SPSS Statistics 25 software to analyze our data. In Table 3. we show the descriptive data of the first measurement and the ranges of the scores (Butler, Kern, 2016).

Table 3. Descriptives of the 1st PERMA measurement (n=23)

	Mean	Std. deviation	Min. -max.	Score ranges
Positive emotions	18,9565	4,21554	7-26	3-30
Engagement	19,0435	4,85684	10-26	3-30
Relationships	22,1304	3,81748	14-28	3-30
Meaning	21,9565	4,49725	9-28	3-30
Accomplishment	22,9130	3,20388	13-27	3-30
Health	20,2174	5,59997	9-29	3-30
Negative emotions	17,3913	3,84636	8-25	3-30
Happiness	6,8696	1,45553	3-9	1-10
Loneliness	4,4783	2,19233	2-9	1-10

The scores are in the low-moderate range, so we can see that the teachers' well-being is not high at the beginning. Their emotional life is weak, poor in positive and negative emotions, they are moderately happy and do not feel too much engagement, and they are unsatisfied with their health. More robust pillars of well-being are meaning and accomplishment, meaning they find their work challenging (maybe too much) and can see the purpose in a long time. Their strongest pillar of well-being is relationships, but we do not know whether they think about relationships with students, colleagues, or other connections outside of the university.

In Figure 2. we show the changes between the two measurements. After the Designing Your Life workshop sessions, we see a positive shift in 8 scales between the 9 subscales. In 7 scales, this is a 0,5-2 point high shift, which means 1-7% change, and we can see the same decrease range in case of negative emotions. The only scale where there was no positive change is loneliness.

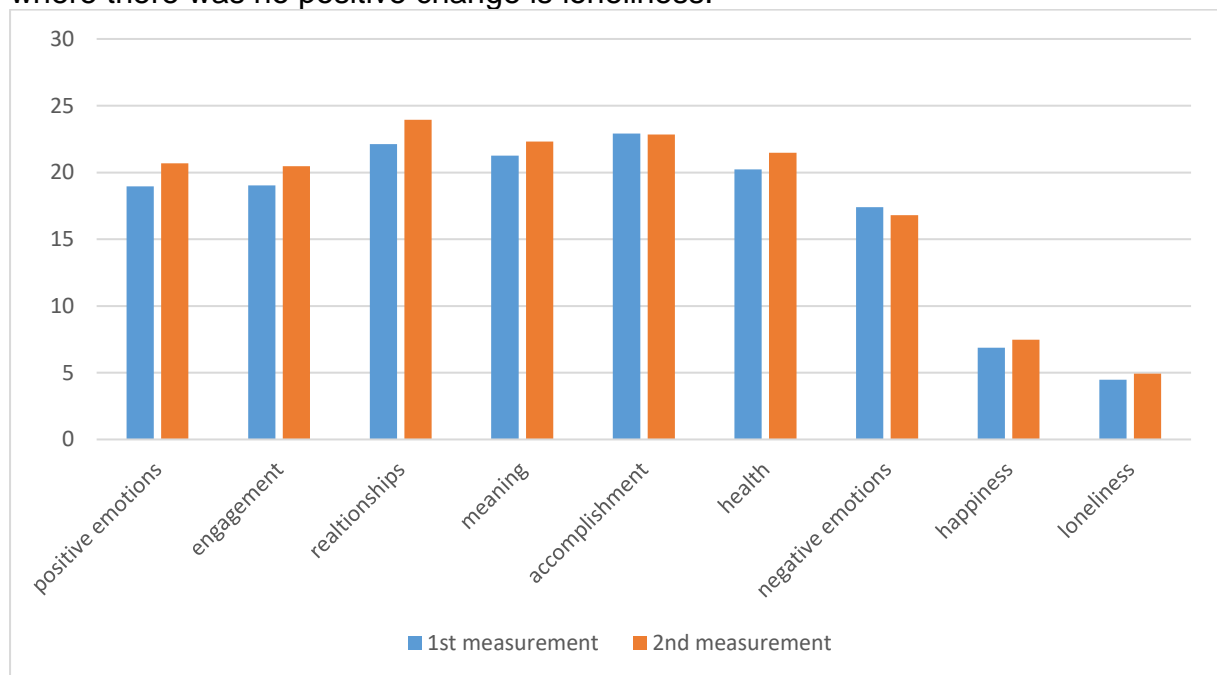


Figure 2. Timeline of the research project

We used Friedman's two-way variance analysis to analyze the difference between the 2 measurements. This said that the distribution of the PERMA pillars changed. We see higher maximum scores on scales of positive emotions, engagement, relationships, health, and happiness and lower maximums on scales of negative emotions and loneliness.

We could not find any significant difference by comparing the means of the scales with the nonparametric Mann-Whitney test. We see the positive tendency of whether the sub-sample sizes are too big to show statistical significance. We can see more than 1 point shift in the scales of relationships (1,8), positive emotions (1,7), engagement (1,4), and health (1,3).

If we analyze the two training groups separately with the Mann-Whitney test, we can find one significant difference in the case of the 2nd group. Generally, by the 2nd group, each scale has higher points at the beginning and the follow-up measure. On the scale of the relations, the statistics show a difference in the distribution on the .006 significance level, which means a shift of almost 4 points (from 22.4 to 26.2).

3.2 Qualitative results

Whether we accept the closing one-by-one coaching session as qualitative feedback about the program's effectiveness, the participants found the training useful and they were pleased to their decision to participate on the course. We didn't record these sessions because they were really personal but asked the participants whether we could use their experiences and answers anonymously.

In the subjective part of the follow-up questionnaire, a few months after the sessions, participants referred to our expected outcomes shown in Table 1. in their own words, as shown in Figure 3.

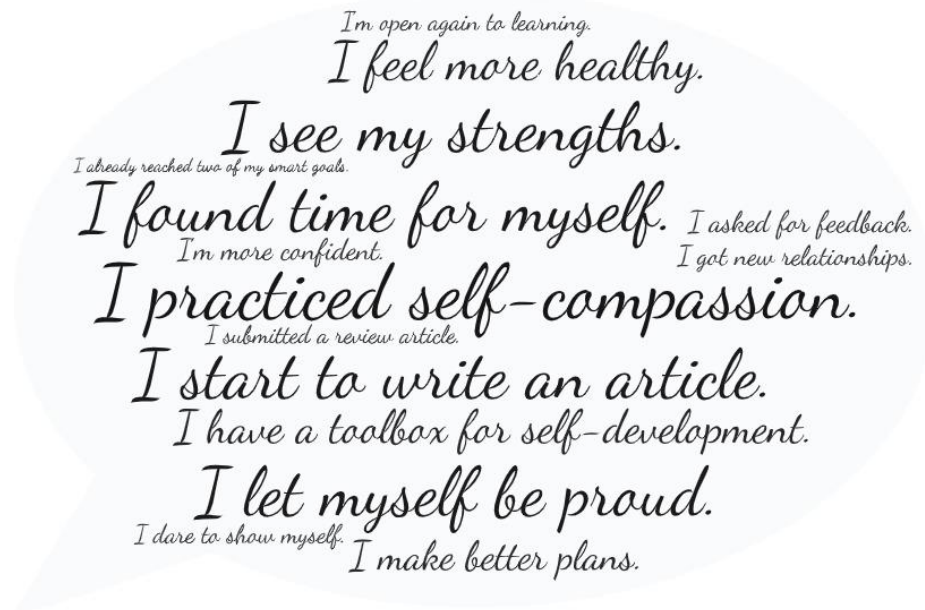


Figure 3. Subjective experiences from the follow-up questionnaire (higher font size means that more participants had the same impression)

4 SUMMARY

Based on the statistical analysis, the results of the PERMA profiler are perspective. Even on this tiny dataset, we can see the statistically significant positive effect at the second measurement. As relationships are essential for well-being (Seligman, 2002; Seligman, 2011; Khaw, Kern, 2014) and the program has its' effect on the relationship scale, we can say that the Designing your life program seems to be appropriate for engineering university teachers.

During the workshops, the participants got feedback and social support from their peers. This new network can prevent burnout and gives them positive emotional experiences. Participants became braver to show themselves and ask for feedback while practicing the learned skills and using the program's tools daily. Another message of the workshop for teachers is that the university cares about them. So the new relationships and belonging to the university brand have a joint positive effect.

On the other hand, at the end of the course, the participants had concrete plans for the following months. They got tools to use in their daily life and planning to be more accurate and flexible simultaneously. These tools and plans can lead them through the difficulties of academic carrier building so that they can set more appropriate achievements. Planning their own life seems to be a difficult task even for engineers

too. They learned that it is very important to spend time with themselves, observe and reflect on their inner world.

Thirdly, the design of the workshops is familiar to engineers' thinking, and with these small changes, we adapted it to our university's circumstances. This personalizing helps to hold more appropriate training based on participants' needs. These changes must be based on the shared knowledge and values of the staff. Moreover, it strengthens the common positive feelings of a collective.

To generalize our conclusion, we must repeat the measurement on a more extensive dataset, and in that case, we should measure and control more starting and outcome variables. However, each program dedicated to increasing well-being seems useful in universities during these turbulently changing times.

In the case of higher education or especially engineering education, we focus on learning materials, teaching methodology, and students' characteristics, but we have no eyes on the staff itself. This study aimed to show that only one, appropriately designed program can enhance educators' well-being, leading to more satisfied employees and a better level of service.

Even with the limitation of the ecological validity of this study, the attitude of such a process is refreshing in higher education. Engineering educators seem to be more familiar with design thinking linked with some positive psychological spirit than a specific soft skill development training program.

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