



# ENHANCING STUDENTS' Well-Being with Psychological Flexibility and Organized Study Skills Training

Kristiina Rähä  
Centre for University Teaching and Learning (HYPE)  
University of Helsinki, Finland  
Nina Katajaviuri  
Centre for University Teaching and Learning (HYPE)  
University of Helsinki, Finland  
Kimmo Vehkalahti  
Centre for Social Data Science  
University of Helsinki, Finland  
Henna Asikainen  
Centre for University Teaching and Learning (HYPE)  
University of Helsinki, Finland

## BACKGROUND

As there are increasing, and long-effecting problems with higher education students' mental health, the development of effective well-being enhancing interventions is important. Previous studies suggest that Acceptance and Commitment Therapy (ACT) interventions have the potential to promote student well-being in the university context (e.g. Asikainen et al., 2019; Räsänen et al. 2016; Viskovich & Pakenham, 2018), and that learning and practicing organizational skills increase students' time-management abilities (Häfner et al., 2014; Rytönen et al., 2012). More knowledge is needed on how ACT and study skills training combining interventions affect students' well-being.

## INTERVENTION

The intervention was conducted as an optional online course (3 ECTS) that was offered for the students at the University of Helsinki. The course lasted eight weeks and was organized two times in autumn 2019. The participants of the first course formed the intervention group (n=38) and the participants of the second course the control group (n=36). During the course, students responded to questionnaires and participated in and heart rate variability (HRV) measurements (intervention group n=19, control group n=23) at the beginning and the end of the intervention. The HRV measurements included three 24h measurements each. The course included five weeks of ACT-based exercises that were conducted with an online program called "Shift Your Stress" (headsted.fi). The students also did time-management and study skills training, completed weekly reflective peer-evaluated reports, and wrote a learning report of their experiences.

## THE PRESENT STUDY

The purpose of this study was to determine the effects of the intervention on student well-being and organized study skills. The research question was: What are the effects of the intervention on students' psychological flexibility, perceived stress, study-related burnout risk, organized study skills, and HRV?

The questionnaires were Perceived Stress Scale (PSS) (Cohen, Kamarck & Mermelstein, 1983), School Burnout Inventory (SBI-9) (Salmela-Aro et al., 2009), Work-related Acceptance and Action Questionnaire (WAAQ) (Bond, Joda & Guenole, 2013), adapted for university

context (Asikainen et al. 2018), and HowULearn (Parpala & Lindblom-Ylänne, 2012), questions which concerned organized studying (Entwistle & McCune, 2004). The HRV measurements were performed using Bodyguard 2 (Firstbeat Technologies Ltd, Jyväskylä, Finland).

## RESULTS

The results of the **repeated measures t-test** (Table 1.) showed that there was a statistically significant increase in the intervention groups psychological flexibility and organized study skills means, and a decrease in the perceived stress and study-related burnout risk means.

Table 1. Repeated measures t-test

		Intervention group (n=38)				Control group (n=36)			
		Mean	sd	t	p	Mean	sd	t	p
Psych. flexibility	1st	3.13	.69	-3.27	.002*	.53	2.91	.88	.13
	2nd	3.41	.78			2.90	.92		
Perceived stress	1st	14.59	6.50	2.57	.015*	.42	17.42	8.56	-.51
	2nd	13.00	6.34			17.83	7.46		
Burnout risk	1st	3.11	.98	2.68	.011*	.44	3.34	1.01	-.88
	2nd	2.81	1.03			3.44	1.06		
Exhaustion	1st	3.11	1.04	1.89	.067	.31	3.63	1.04	-.93
	2nd	2.84	1.04			3.73	1.04		
Cynicism	1st	2.65	1.28	1.98	.055	.32	2.57	1.49	-.31
	2nd	2.32	1.26			2.62	1.51		
Inadequacy	1st	3.80	1.36	1.79	.081	.29	3.93	1.35	-.97
	2nd	3.49	1.32			4.07	1.35		
Organized study skills	1st	2.99	.91	-3.93	**.001	.64	3.08	.79	.75
	2nd	3.44	.88			2.99	.83		

Table 2. Repeated measures ANOVA between-subjects effects (group)

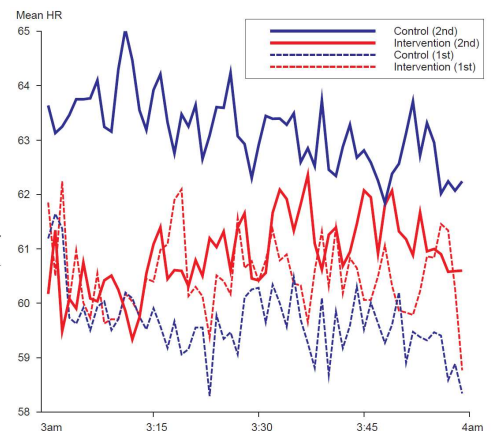
	df	F	p	$\eta^2$
Psychological flexibility	1,72	3,96	.050*	.05
Perceived stress	1,71	5,58	.021*	.07
Burnout risk	1,72	3,69	.059	.05
Exhaustion	1,72	9,42	.003*	.12
Cynicism	1,72	0,15	.704	<.001
Inadequacy	1,72	1,49	.23	.02
Organized study skills	1,72	.90	.345	.01

The changes were further examined by **repeated measurements analysis of variance (ANOVA)**, that showed that the differences between the groups were statistically significant regarding psychological flexibility, perceived stress and exhaustion (Table 2.). The largest effect size ( $\eta^2=.12$ ) was found on exhaustion.

The variable chosen for the preliminary results of the HRV data was artifact corrected heart rate (HR) (Saalasti et al., 2004). The mean HR of the intervention groups students' during workdays sleep (between 3-4 am) was 60.51 (SE=.69) before (1st) and 60.90 (SE=.68) after the intervention (2nd). The mean HR of the

control group was 59.66 (SE=0.63) at the first (1st) and 63.17 (SE=.66) at the second measurement (2nd) (Figure 1).

Figure 1. The mean heart rate curves (between 3-4 am) of the intervention and control groups at 1st and 2nd measurements



## DISCUSSION

Students' perceived stress and burnout risk decreased after participating in the intervention as their psychological flexibility and organized study skills increased. Opposite changes were observed in the control group. The mean HR stayed the same in the intervention group and increased in the control group. The results indicate that ACT and study skills training combining intervention is a promising way to enhance students' well-being. The results of the HRV are further studied. Further knowledge is also needed on the individual level changes and the longitudinal changes in students' well-being and study skills after the intervention.

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