



**Mindfulness-based stabilization of primary school children:
a longitudinal partial cluster-randomized trial on the effect
of mindfulness training on classroom climate**

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Solingen – An ordinary German town



State	North Rhine-Westphalia
Admin. region	Düsseldorf
District	Independent city
Area	
• Total	89.54 km ² (34.57 sq mi)
• Elevation	53-276 m (-853 ft)
Population	
• Total	158,803
• Density	1,800/km ² (4,600/sq mi)



Project process

Solingen has 21 primary schools. All of them participated, either in the randomized arm or in the non-randomized arm.

Due to their literacy skills, only 3rd and 4th grade pupils took part in the study.

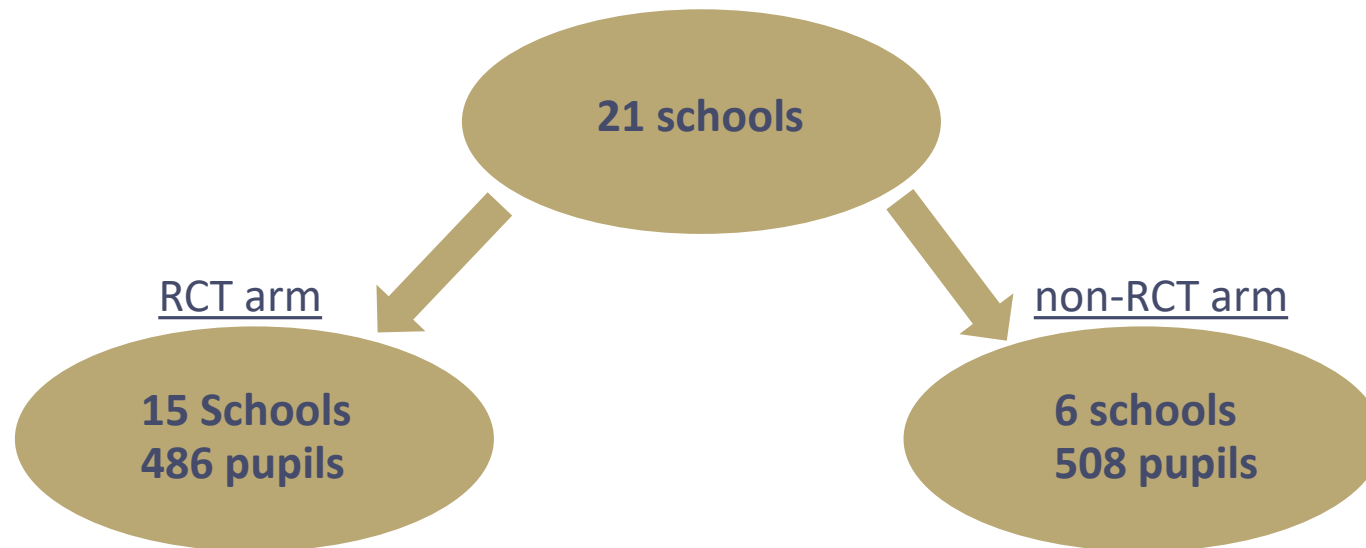
Study phases:

Preferred choice arm: Non-randomized and non-controlled study arm. In this study arm, teachers were offered to start the intervention immediately and not to be possibly randomized to the waiting group. The schools of the teachers who opted for this option were no longer admitted to randomization.

Main study: Cluster randomized and controlled study. All left schools were cluster randomized into a group that started the intervention immediately and a waiting group that started half a school year later.



Project process



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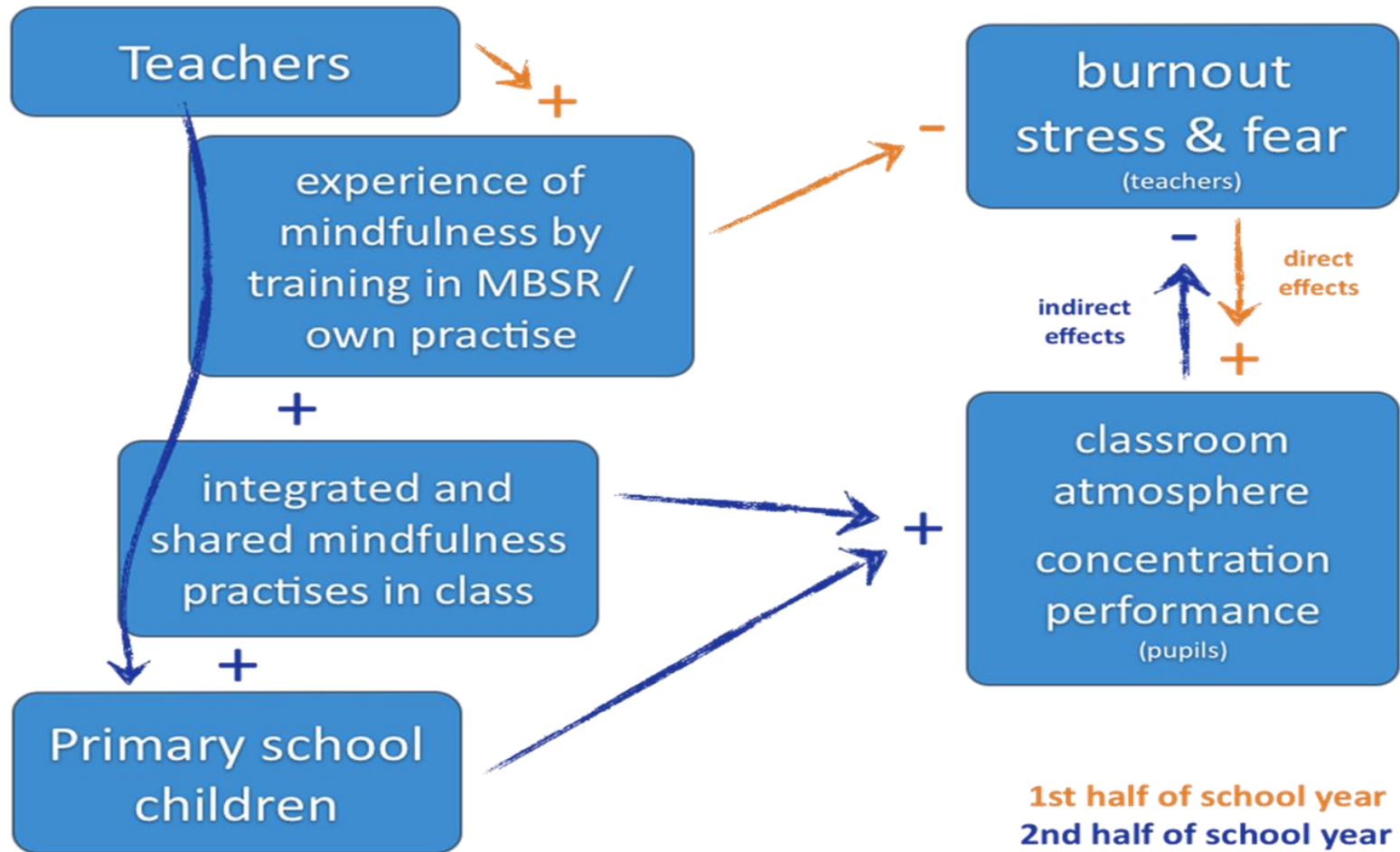
Intervention:

Phase 1 (1st half of school year): Teachers are trained in mindfulness. The course is based on the standardized MBSR program and has been adapted to the time constraints of each school.

Phase 2 (2nd half of school year): Teachers implement learned elements of mindfulness in their lessons and practice regularly with their students.



Hypotheses concerning direct and indirect effects and possible interdependencies of participants and phases of intervention



Outcomes

Tests:

Primary outcome

- FEES 3-4: assessment of emotional and social school experiences of primary school children (3rd and 4th grade)

Secondary outcomes

- d2-Test: standardized concentration and attention test
- KIDSCREEN-10: assessment of the health-related quality of life and well-being of children and adolescents



Results non-RCT arm – social climate

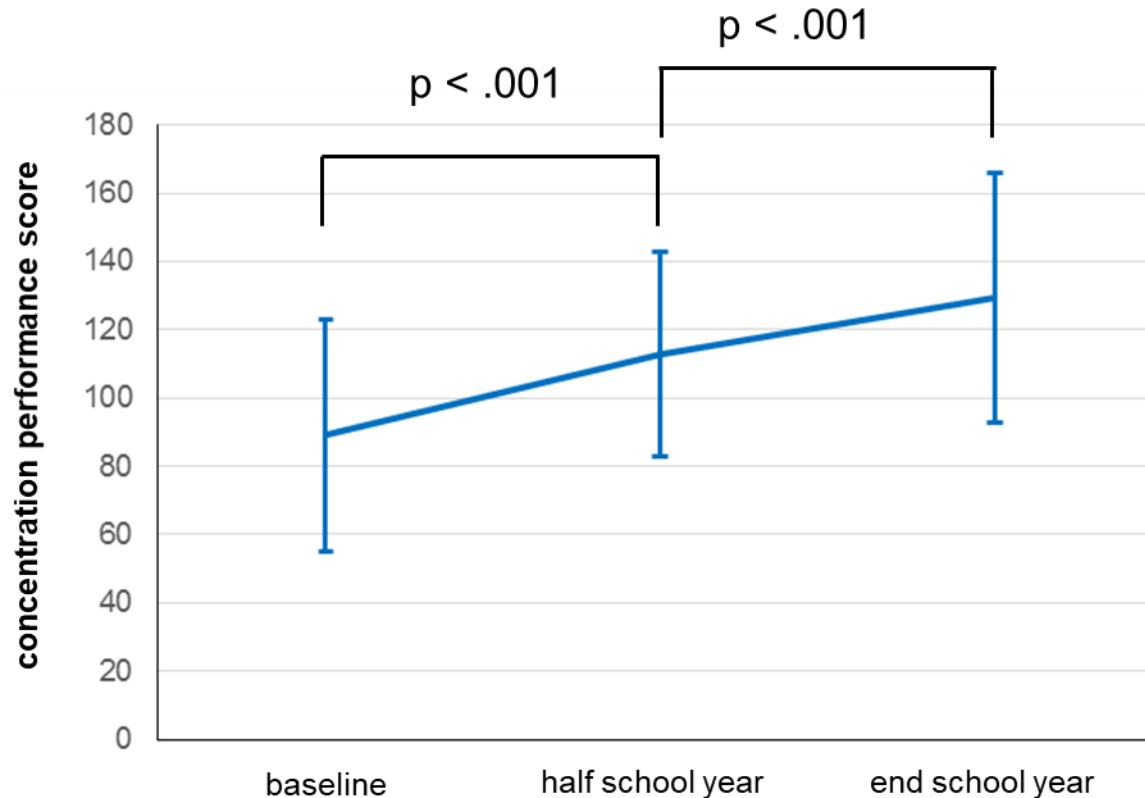
FEES 3-4 – further scales	T0	T1	T2	p
Classroom climate (n=403)	23.62±5.51	24.21±5.64	24.52±5.54	.002
Social integration (n=408)	25.14±5.77	25.88±5.87	26.34±5.81	< .001
Self-concept (n=388)	34.02±6.61	35.54±7.25	35.60±6.79	< .001
Sense of being accepted (n=368)	31.98±6.45	32.82±6.23	32.15±6.75	.006
Attitude towards school (n=379))	30.69±10.53	31.02±11.04	29.57±11.01	< .001
Willingness to work (n=390)	31.77±5.52	32.15±6.04	31.63±6.03	.135
Joy of learning (n=390)	27.78±7.80	28.62±8.20	26.93±8.45	< .001

statistical test: repeated measures ANOVA



Results non-RCT arm – concentration performance

d2 - concentration performance test



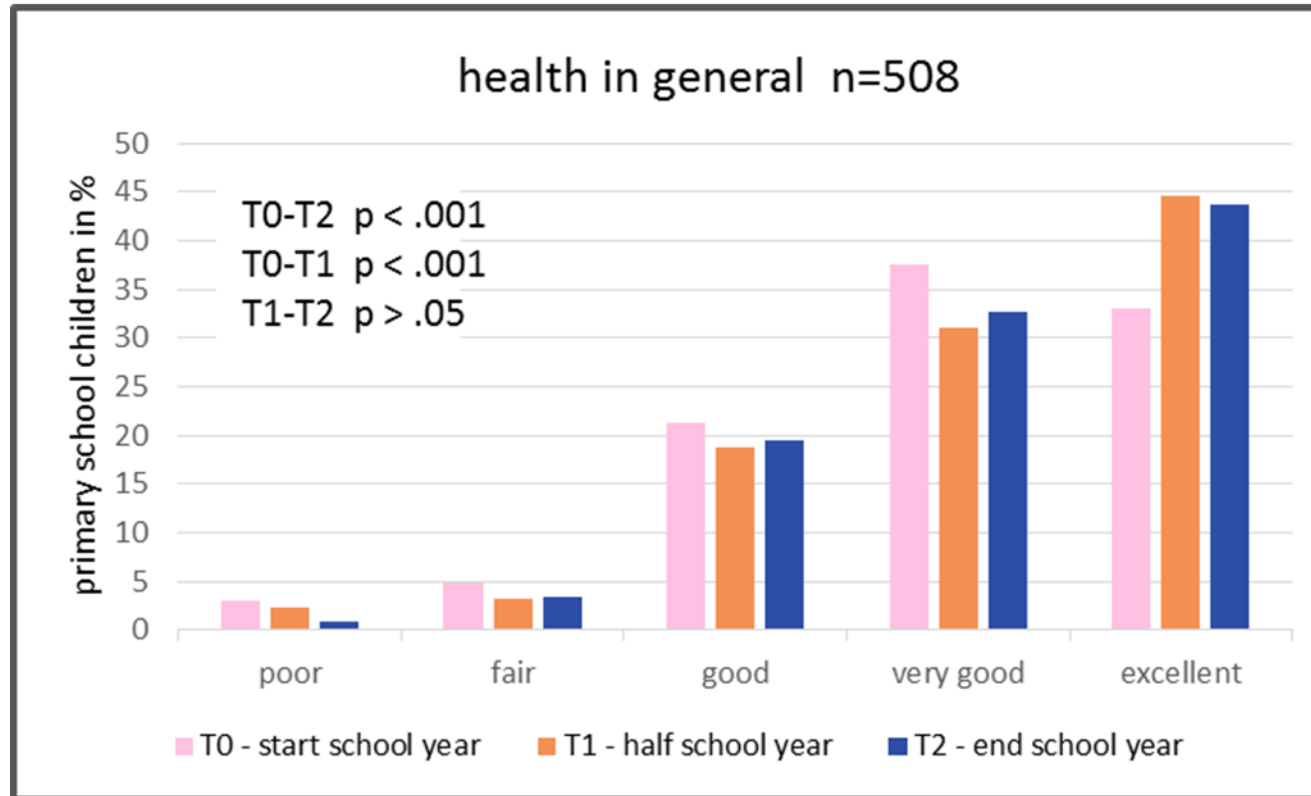
At the end of the study the concentration performance scores are significantly higher among students participating in the pilot study compared to a representative norm sample!

statistical test: repeated measures ANOVA



Results non-RCT arm – quality of life

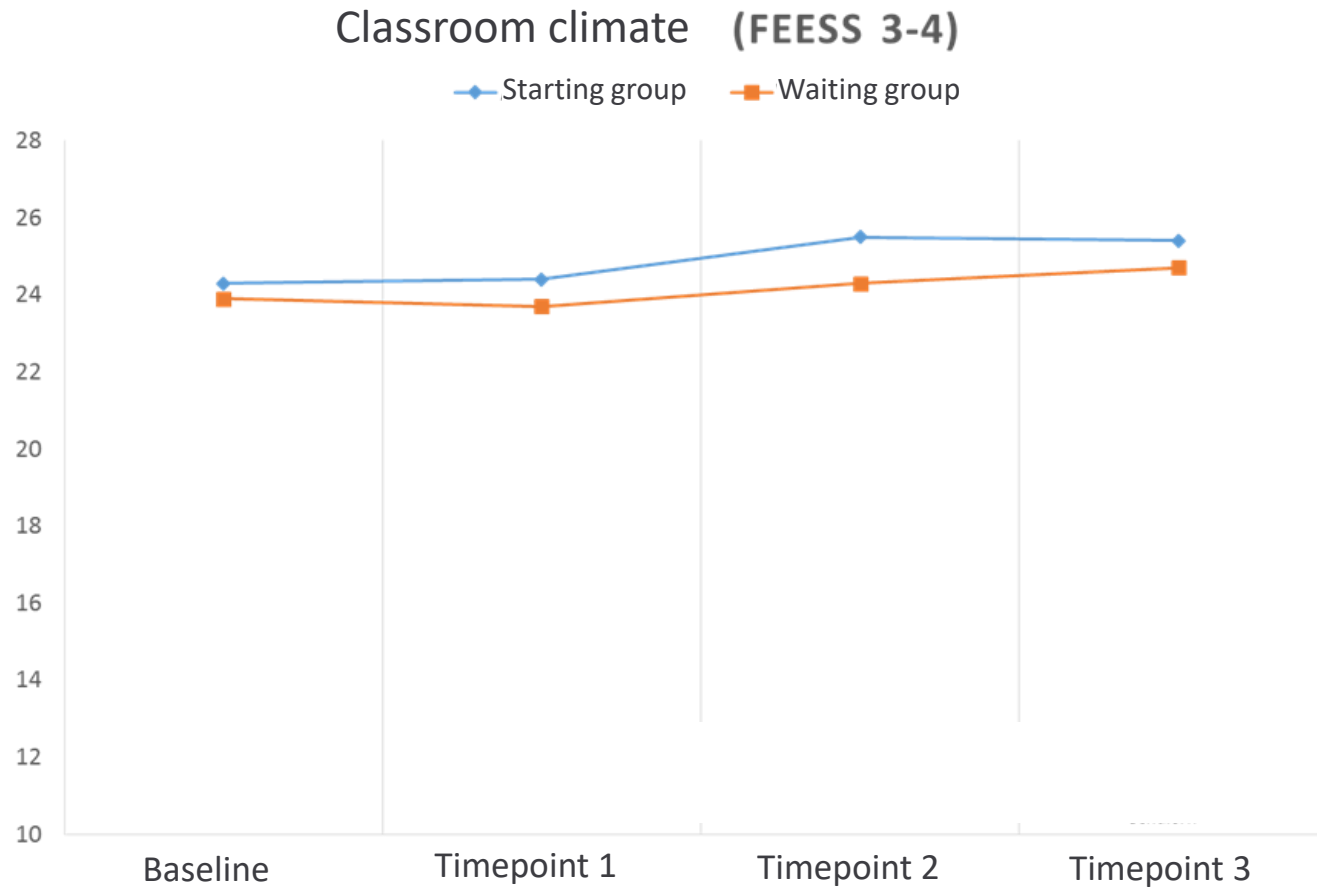
General health perception – KIDSCREEN-10



statistical test: Chi² - test



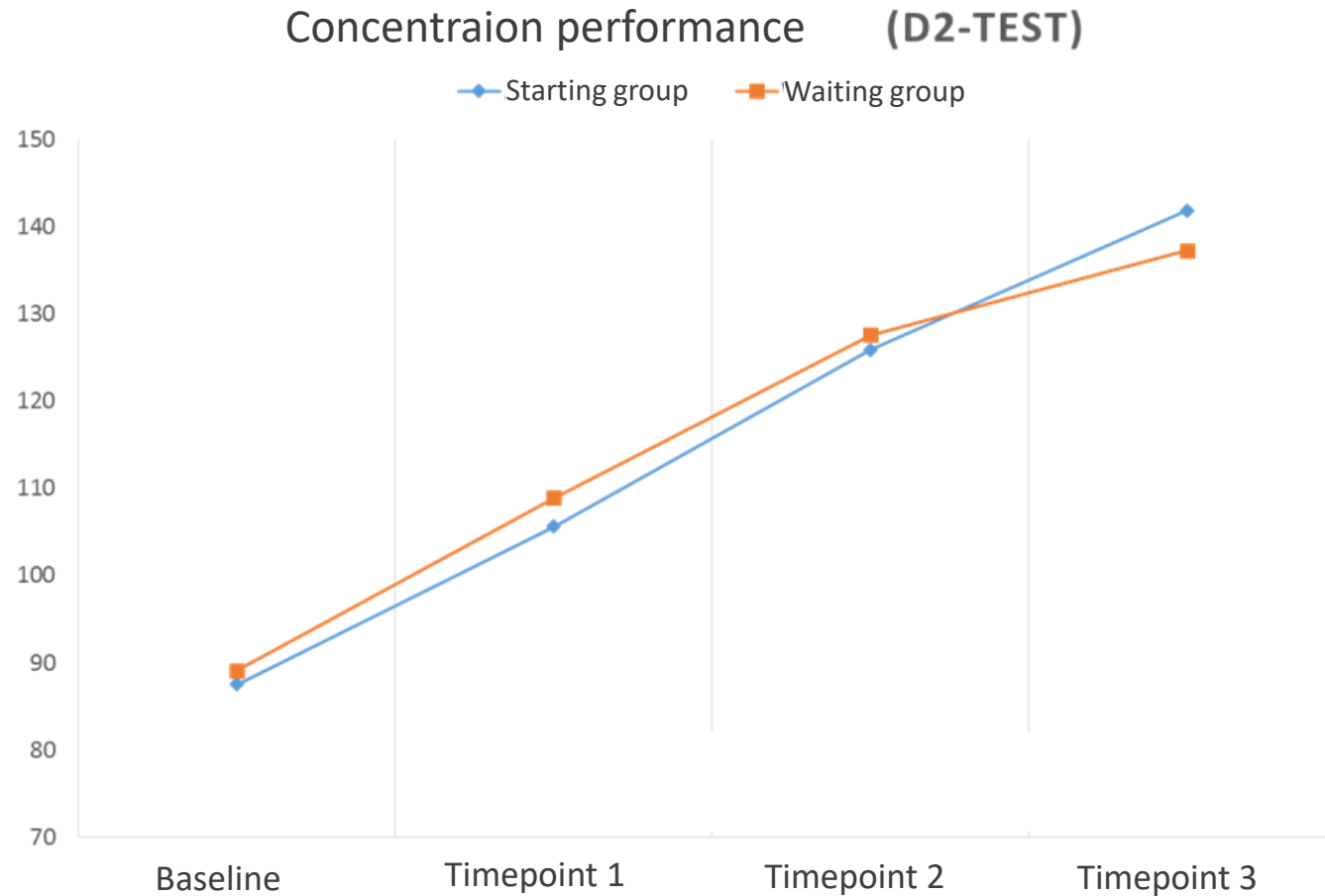
Results RCT arm – social climate



No statistically significant differences between both groups were observed!



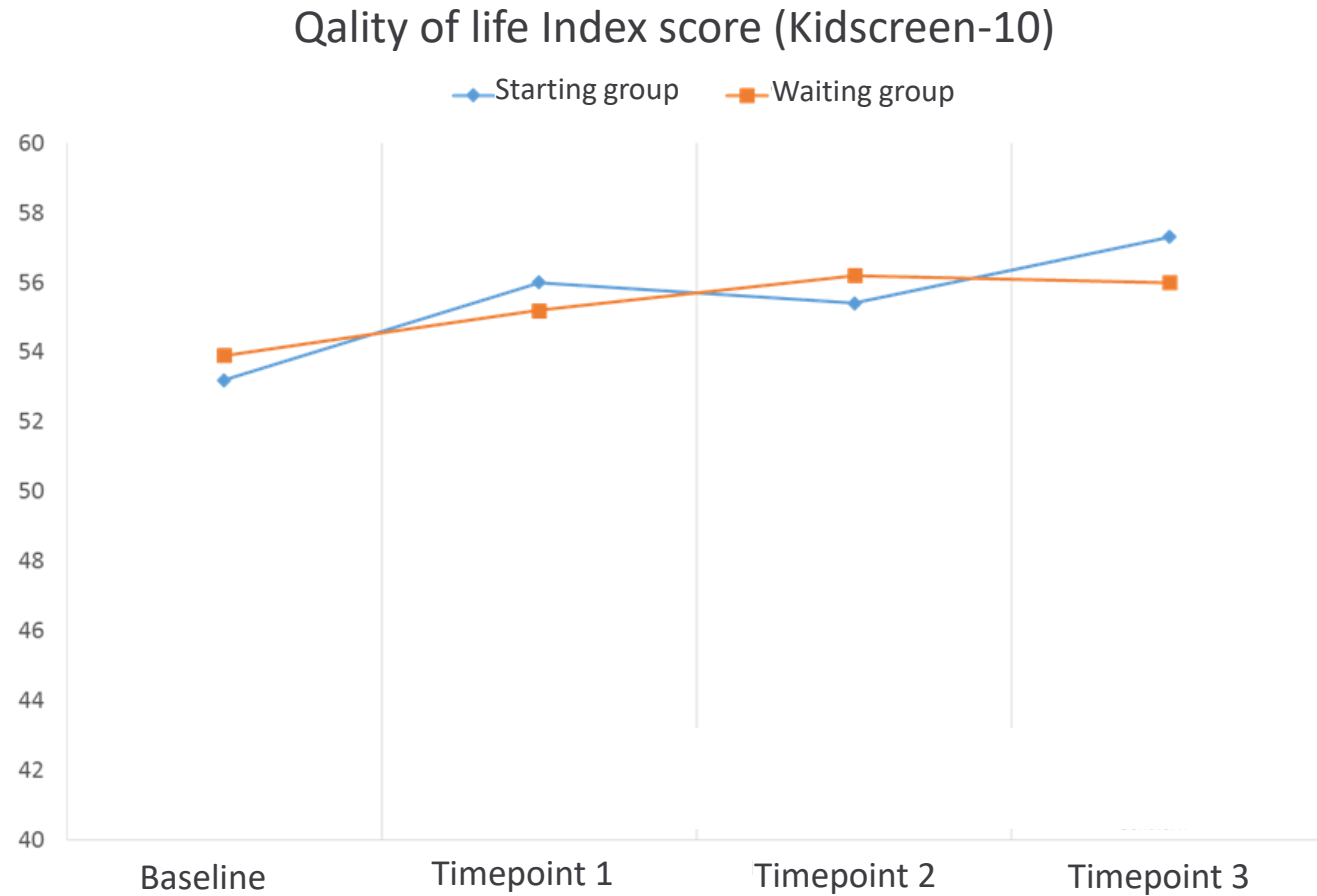
Results RCT arm – concentration performance



No statistically significant differences between both groups were observed!



Results RCT arm – quality of life



No statistically significant differences between both groups were observed!



Next Steps

1. We will statistically compare whether there are differences between the preferred choice cohort and the waiting list arm.
2. If these differences are statistically significant we compare the preferred choice cohort and the starting arm.



Conclusions at this point

- The study suggests that teachers' introduction of mindfulness positively impacts social interaction and students' overall sense of health.
- However, due to the lack of significant group differences in most outcomes, it can be concluded that integrating mindfulness practices in the classroom does not significantly enhance the overall maturation and learning effects of children at this age.





Thank you for your attention!

I look forward to your questions.

