



Long-term mental health effects of mindfulness training: 4-year follow-up of an RCT in medical and psychology students

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AMA
CMA
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Faculty/Presenter Disclosure

Faculty: **Reidar Tyssen**

Relationships with commercial interests:

None



Background I

Both individual and organizational interventions are effective (West et al 2016, Panagioti et al 2017)

Mindfulness is also effective (Lomas et al 2018)

Long-term follow-ups are lacking

Psychological mechanisms are less explored

Background II

Previous published reports on this RCT:

de Vibe et al, BMC Med Educ 2013

de Vibe et al, Mindfulness 2015

Halland et al, Coll Stud J 2015

de Vibe et al, PLoS ONE 2018

**Solhaug et al, Mindfulness
(accepted 2019)**

de Vibe et al. *BMC Medical Education* 2013, **13**:107
<http://www.biomedcentral.com/1472-6920/13/107>



RESEARCH ARTICLE

Open Access

Mindfulness training for stress management: a randomised controlled study of medical and psychology students

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RESEARCH ARTICLE

Six-year positive effects of a mindfulness-based intervention on mindfulness, coping and well-being in medical and psychology students; Results from a randomized controlled trial

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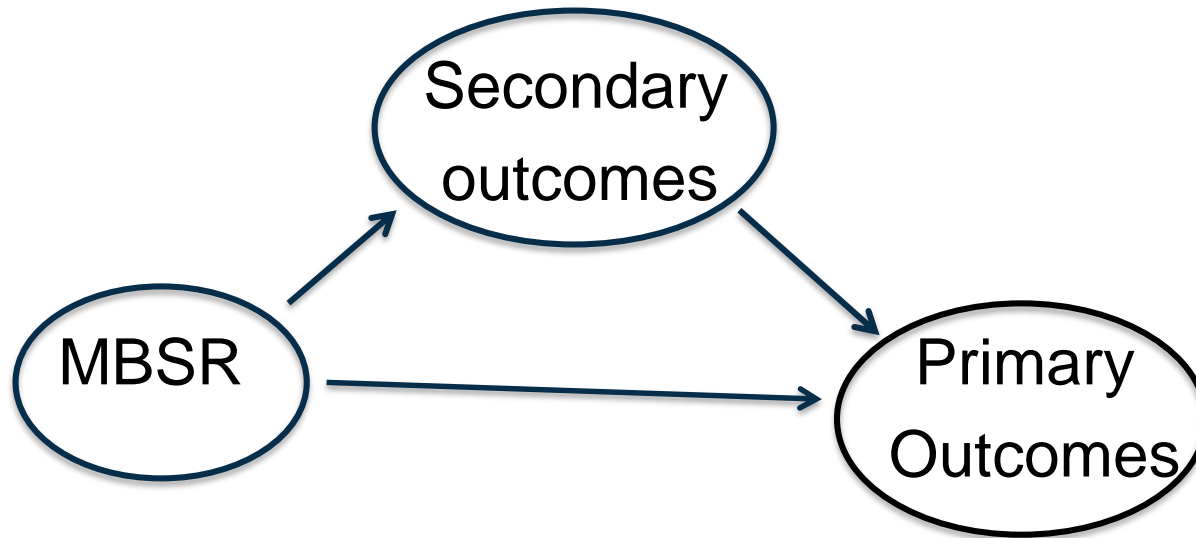
Objectives

To study long-term effects on...

- 1) ...*mental distress and well-being* (**primary outcomes**) of a 7-week Mindfulness Based Stress Reduction (MBSR) program
- 2) ...*ways of coping, mindfulness* (**secondary outcomes**)
- 3) the role of *meditation practice*



Model 4ys





Methods/approach

- Two-site RCT (Oslo and Tromsø)
- N= 288 students (medical and psychology)
- MBSR Intervention group (N=144)
Control group (N=144)
- Follow-up:
 - Baseline (T0), Post intervention: 1 month (T1), 2ys (T2), and 4ys (T3)



MBSR Intervention

7 weeks: 6 sessions x 1.5 hour

1 session x 6 hours

6 groups with 15 to 25 students

Booster sessions: 1.5 hour semi-annually

- 1) Simple physical and mental exercises
- 2) Teaching about mindfulness, stress, coping
- 3) Group process
- 4) CDs with daily 0.5 hour exercises



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Variables

Primary outcomes:

Mental distress: GHQ-12

Subjective well-being: 4 items (Life satisfaction)

Secondary outcomes:

Coping (Ways of Coping Check List) – Avoidant / Active
Mindfulness (Five Facet Mindfulness Questionnaire)

Frequency and duration of meditation practice

Statistics

Mixed model repeated measures (4 ys)

- Takes into account dependency of the individual measures
- Utilize better longitudinal data (missings)

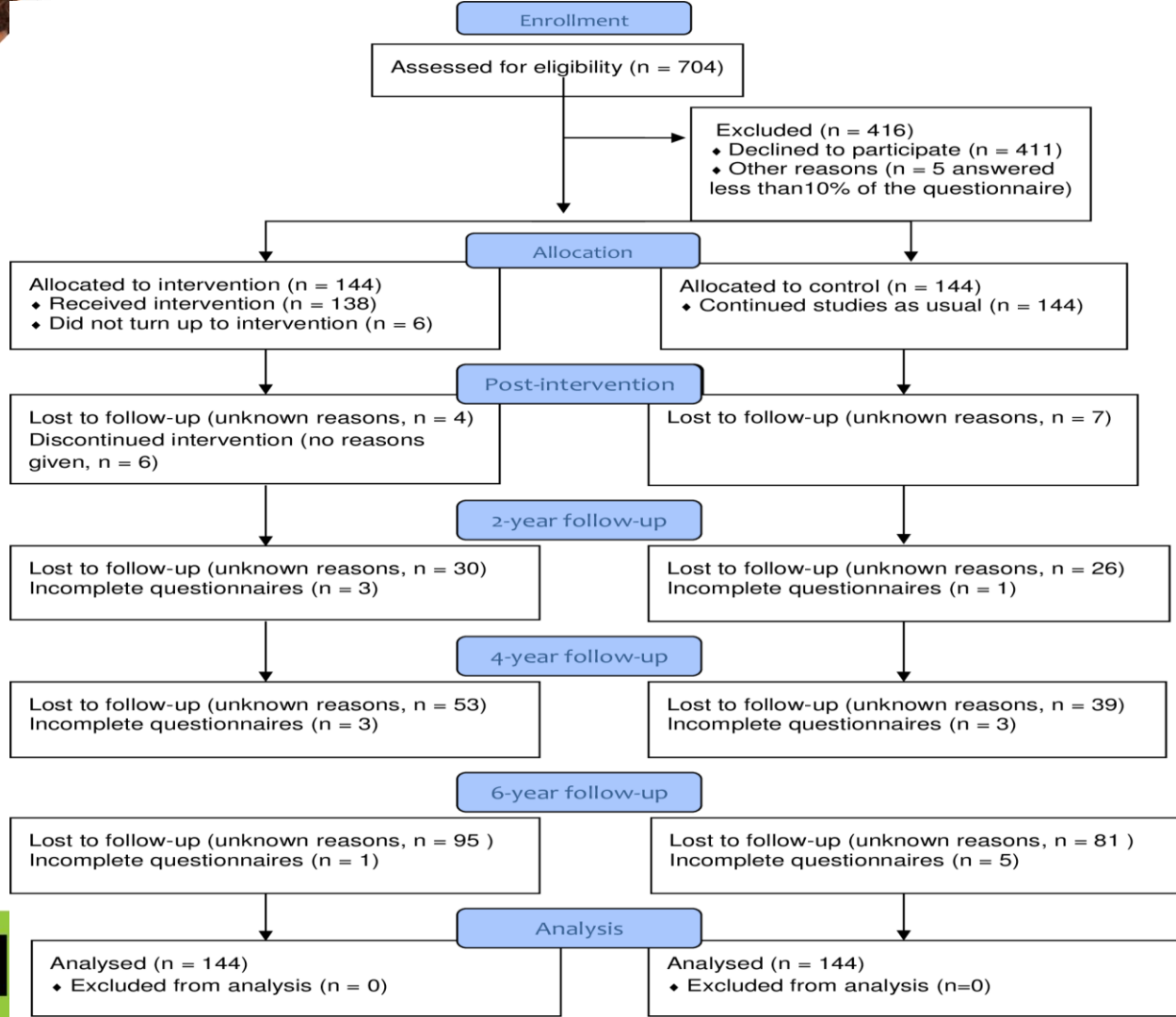
fixed effects

random effects

covariance matrix

«Long file» of data

Time x group interaction – effect over time



(From de Vibe et al 2018)





Results 4-year follow-up

Primary outcomes:

Reduced mental distress (GHQ-12)* : $p < 0.001$

Cohen's d : 0.73* (1m) , 0.32 (2ys) , 0.24 (4ys)

Increased subjective well-being

0.46* , 0.13 , 0.13

* *female students*

Results 4-year follow-up

Secondary outcomes:

Problem focused (Active) coping

Cohen's d : 0.30 (1m) , 0.32 (2ys) , 0.42 (4ys)

Avoidance coping

0.18 , 0.21 , 0.23

Mindfulness

(«non-reactivity») 0.29 , 0.14 , 0.24

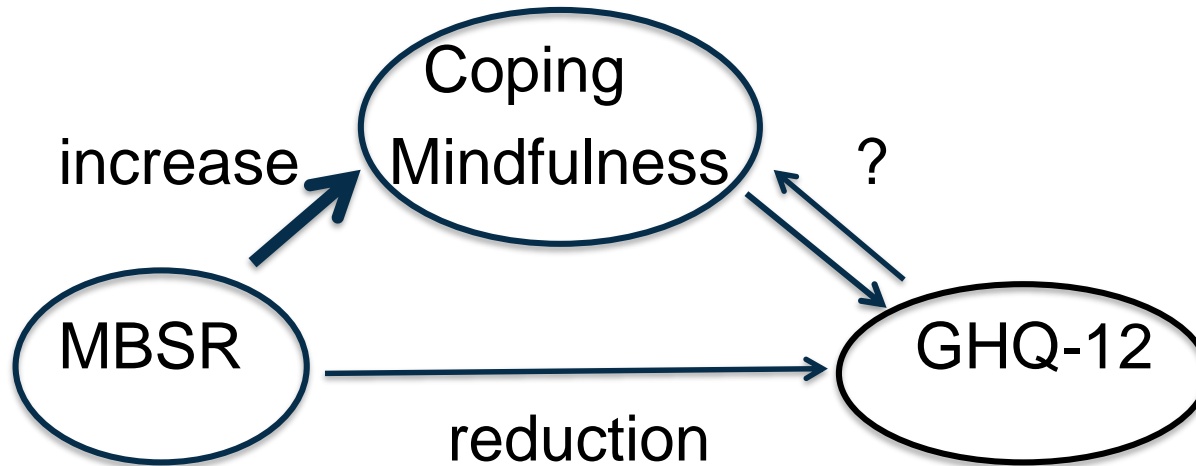


Results 4-year follow-up

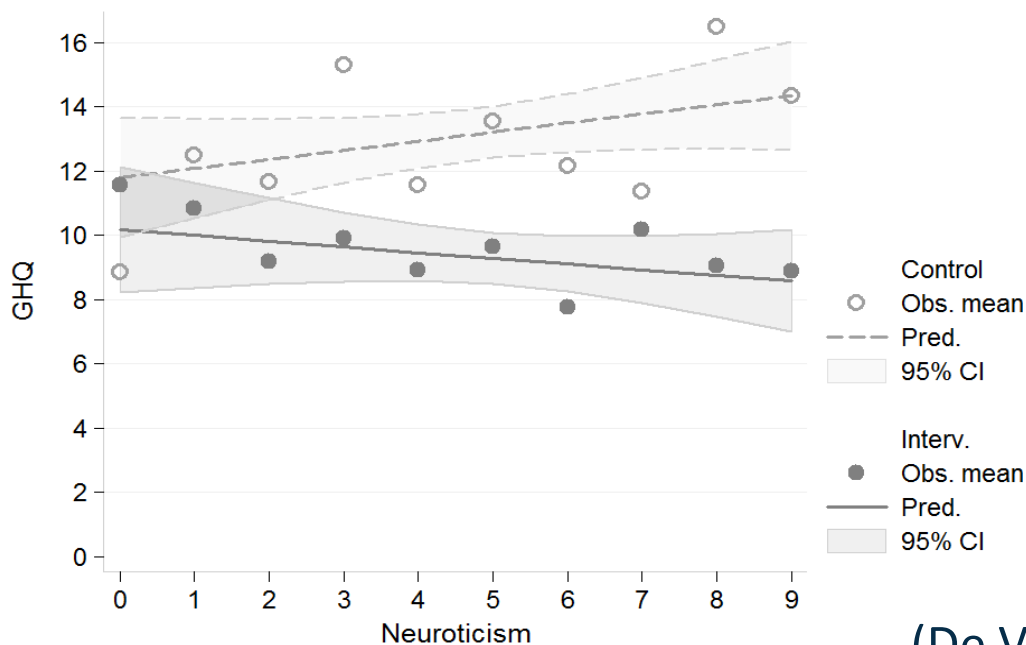
Meditation practice predicted long-term mindfulness scores at 1m and 4ys
(frequency: $p < 0.001$ & duration: $p < 0.05$)

Mindfulness (Dispositional) and Coping **mediated** the effects on mental distress (GHQ-12)
- though, reversed mediation was also observed

Model 4ys



Other findings from the RCT: Effect moderation by personality

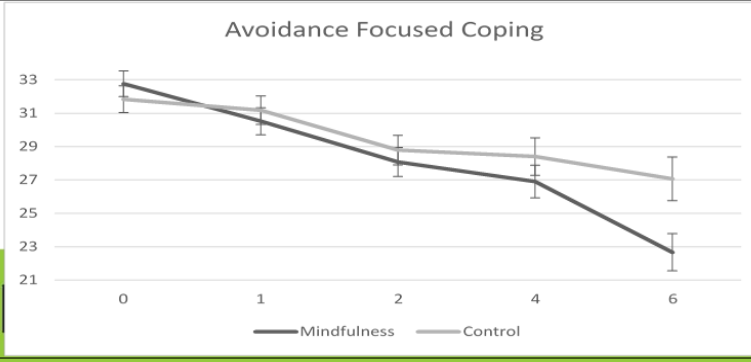
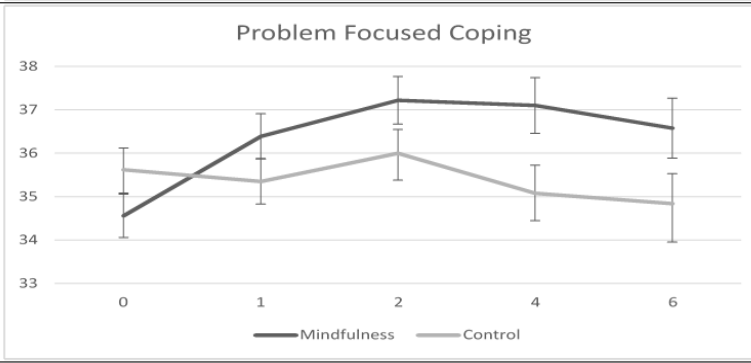
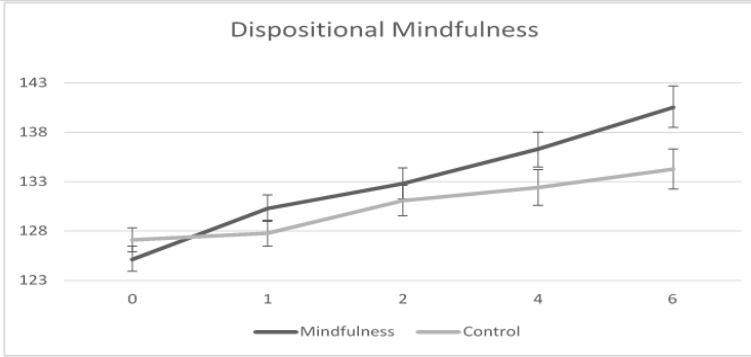


(De Vibe et al 2015)



6-year longitudinal effects on the secondary outcomes

(de Vibe et al 2018)



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Limitations

- Participants were self-selected – predominantly white
- Selection bias of gender at baseline?
- Lack of active control group with instructor
- Effect sizes were small to medium



Conclusions 4-year study

Sustained effect on mental distress during 2 ys
among **female students**

Enduring effects on **secondary outcomes** over 4 ys
- *mindfulness*
- *problem focused (active) coping*

Secondary outcomes *may* be important **effect mechanisms** of mindfulness training

