



De rol van beweging in traumabehandeling

Eline Voorendonk

31 mei 2023

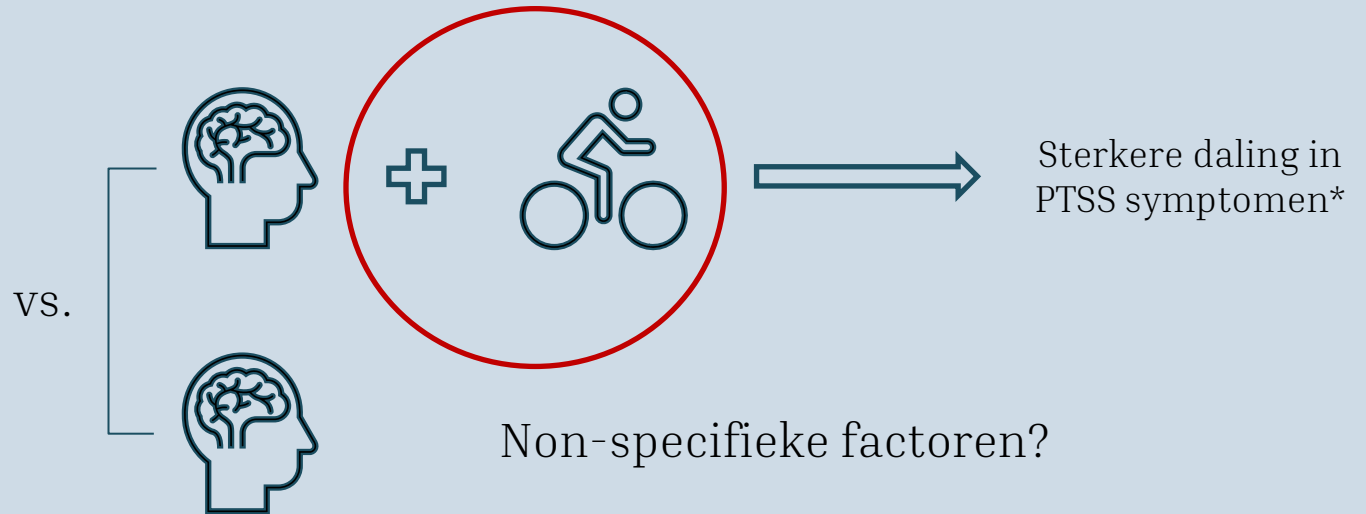
Inhoud

1. De toevoeging van beweging aan intensieve traumagerichte behandelingen voor patiënten met PTSS
2. Inzoomen:
 - De volgorde effecten van beweging en exposure
3. Discussie
 - Future directions

1. De toevoeging van beweging aan intensieve traumagerichte behandelingen voor patiënten met PTSS

Achtergrond

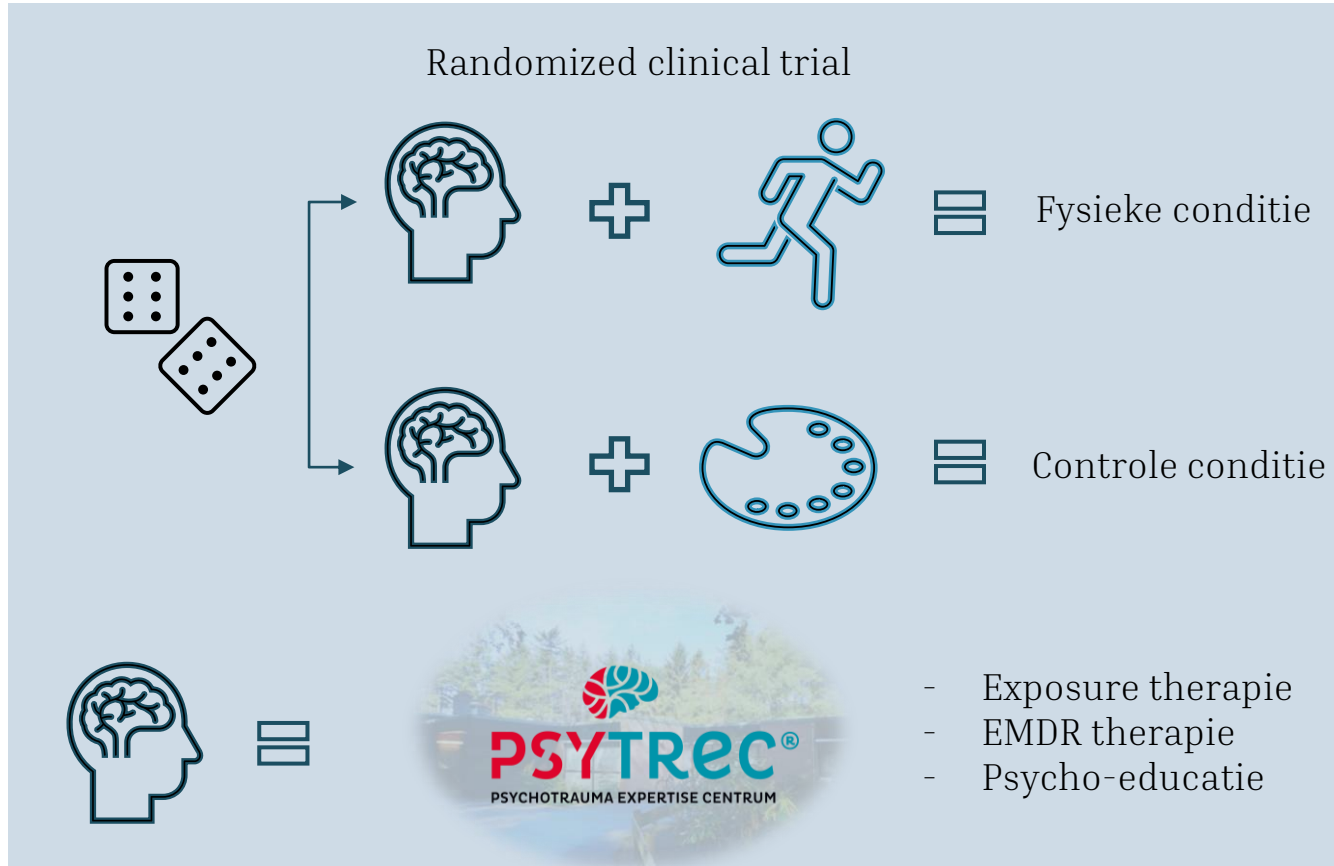
Intensieve traumagerichte behandelingen



*e.g., Davis, et al., 2021
Rosenbaum, et al., 2015



Design



Fysieke conditie



Controle conditie



Methode



Fitbit Charge 4



Borg's Rating Scale of Perceived Exertion; RPE

Perceived Exertion	Borg score
Very, very light	6
Very light	7
Light	8
Very light	9
Light	10
Slightly heavy	11
Light	12
Slightly heavy	13
Light	14
Heavy	15
Very heavy	16
Very heavy	17
Very heavy	18
Very heavy	19
Very heavy	20

Materialen

Primaire uitkomstmaat: PTSS symptomen

Pre-treatment

Post-treatment

6 months follow-up

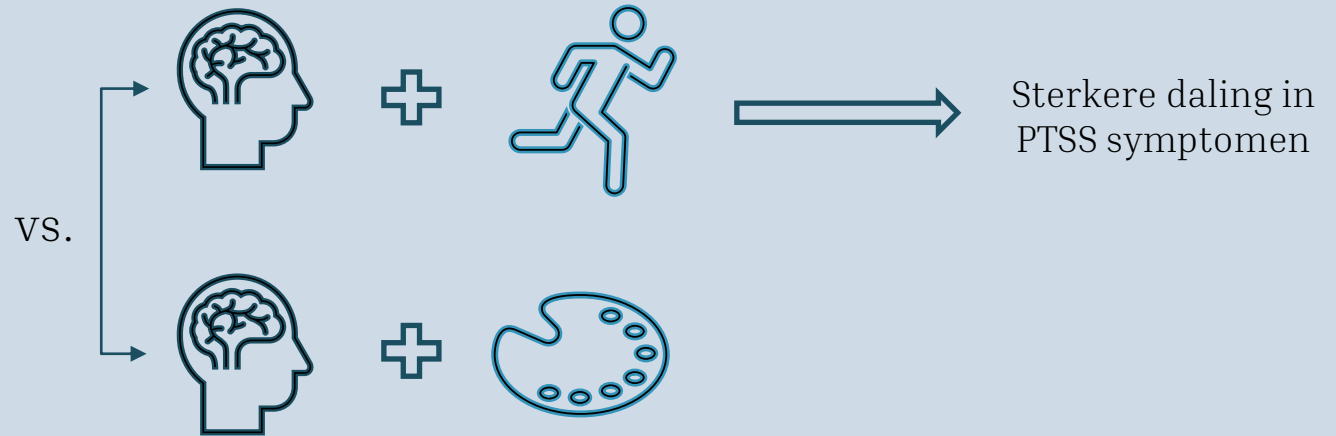


KIP-5



PCL-5

Hypothese



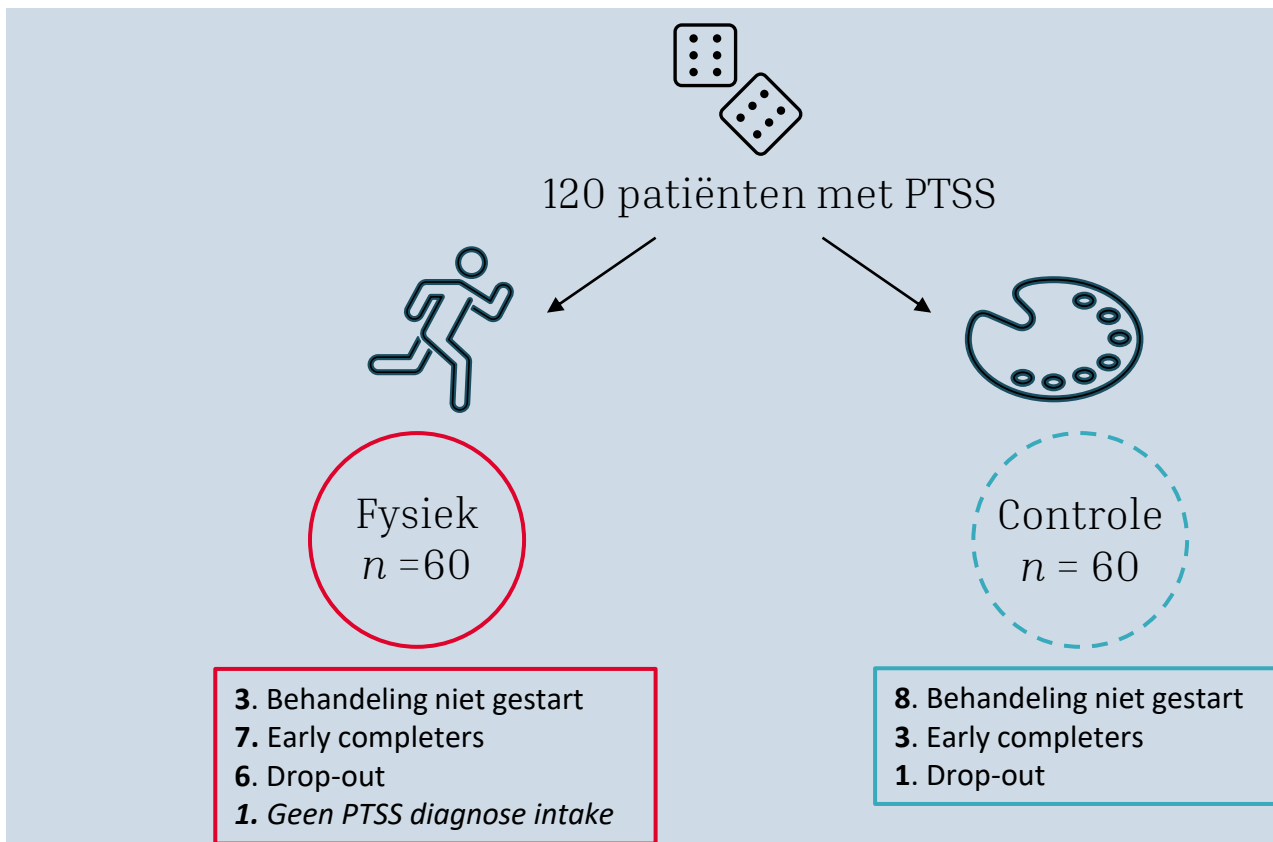
Materialen

Secondaire uitkomstmaten:

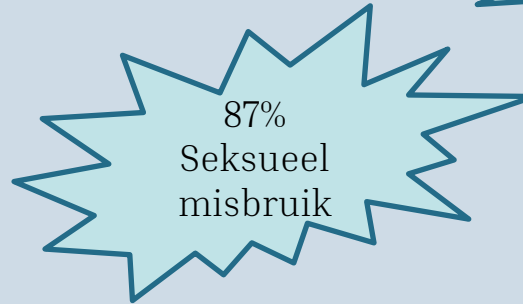
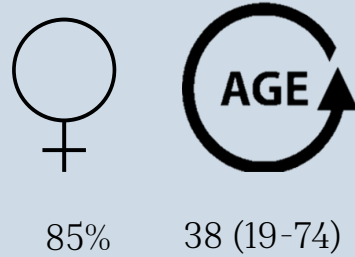
1. Slaap (ISI)
2. Depressieve symptomen (QIDS-SR)
3. Emotie-regulatie problemen (DERS)
4. Dissociatieve symptomen (DES-II)
5. Anxiety Sensitivity (ASI)
6. Kwaliteit van leven (MANSA)
7. Fysieke activiteit level (IPAQ-SF)
8. Algemene somatische klachten (SCL-90 somatisatie)
9. Complexe PTSS symptomen (ITQ)



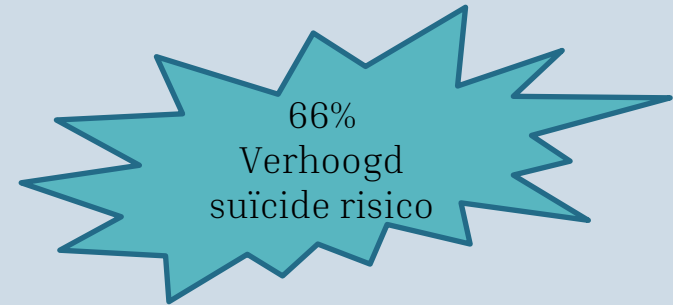
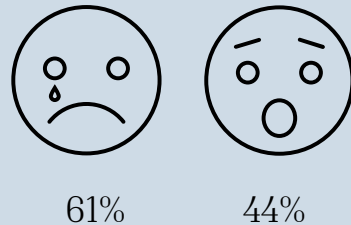
Steekproef



Steekproef



Comorbide stoornissen



Resultaten



Fysiek

Controle

Middelmatige intensiteit

Inactiviteit

Cohen's d

107.83 (7.99)

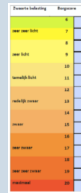
81.97 (7.71)

3.29

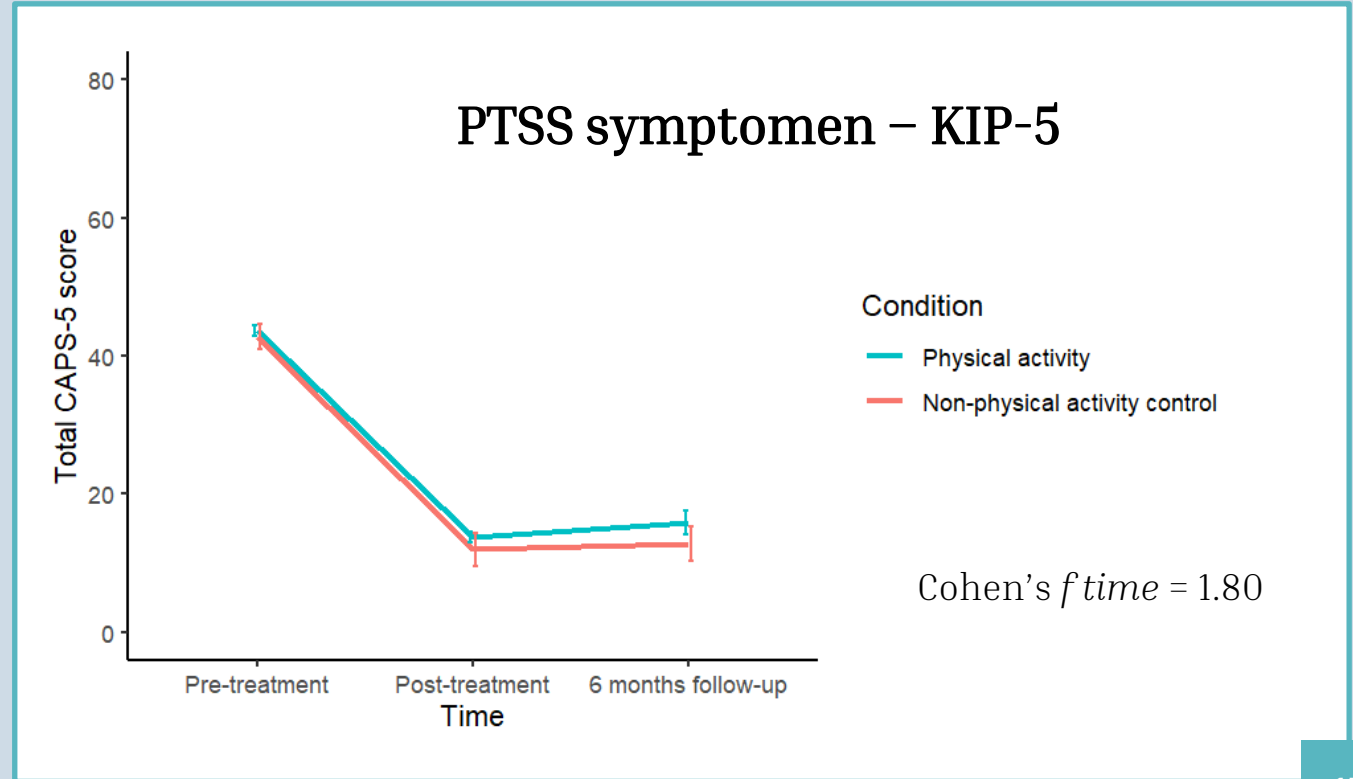
11.53 (0.82)

7.05 (1.08)

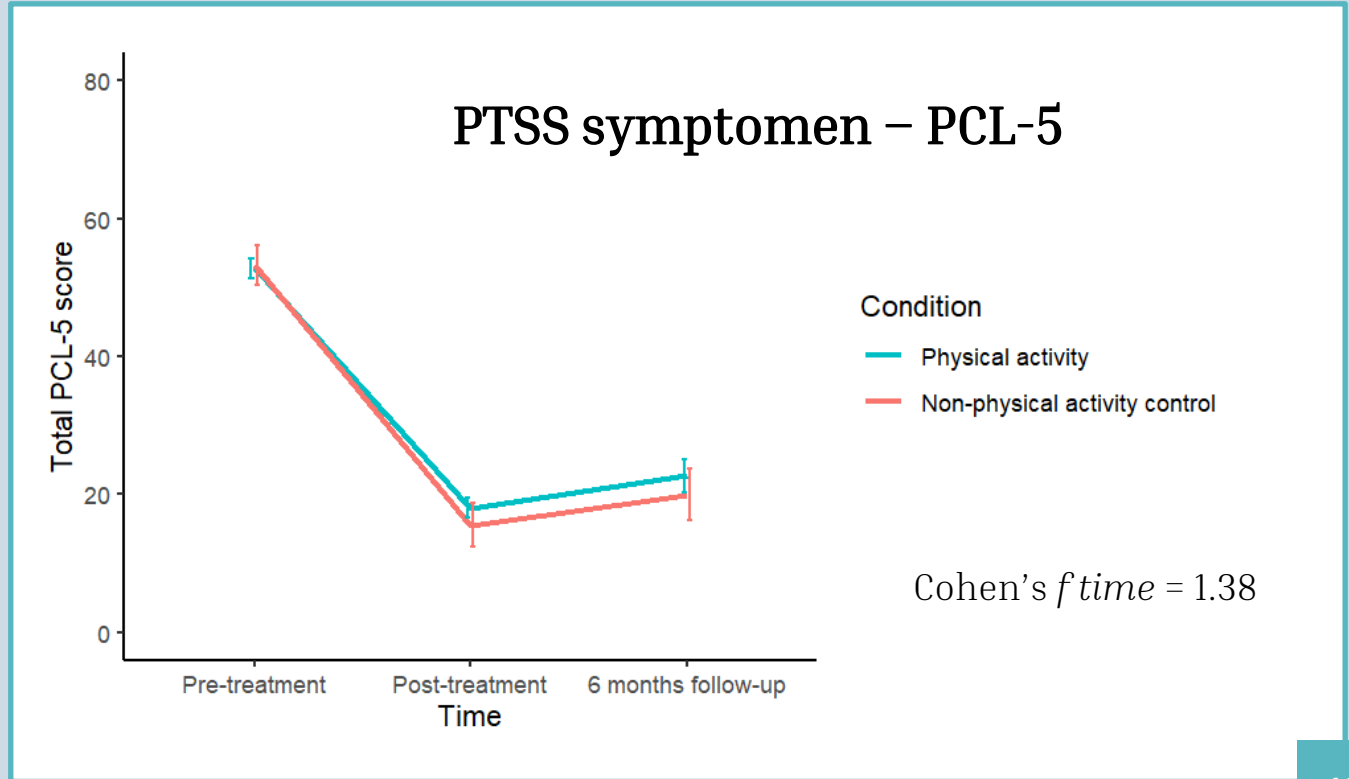
4.71



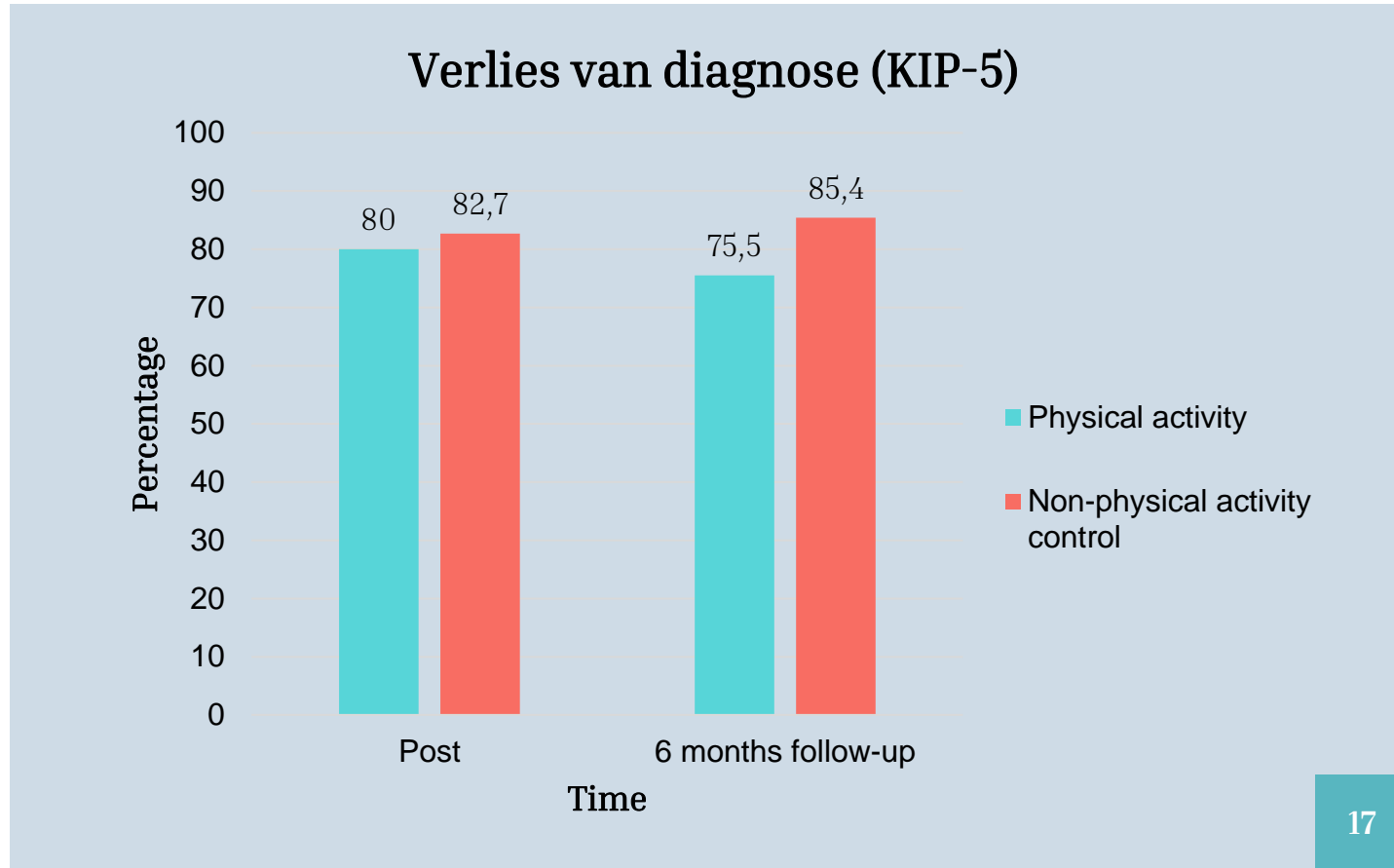
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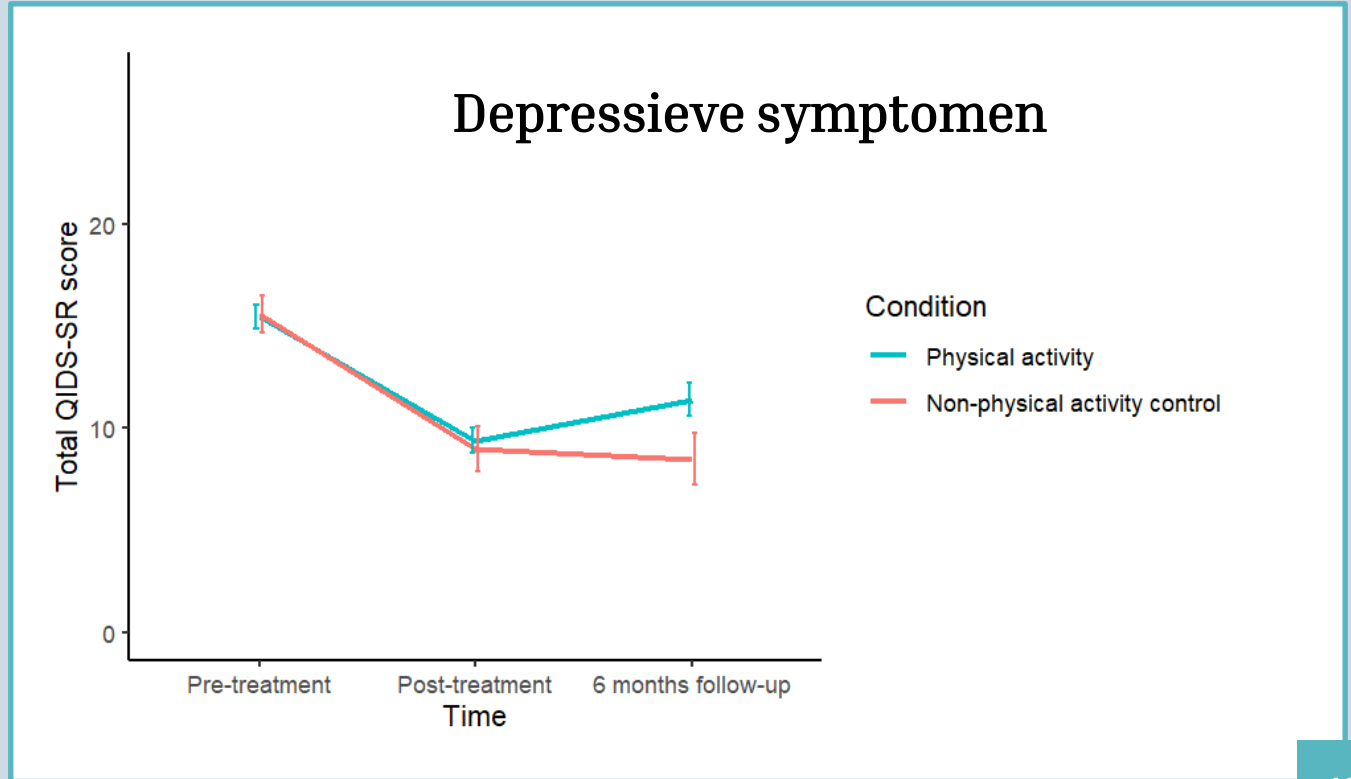
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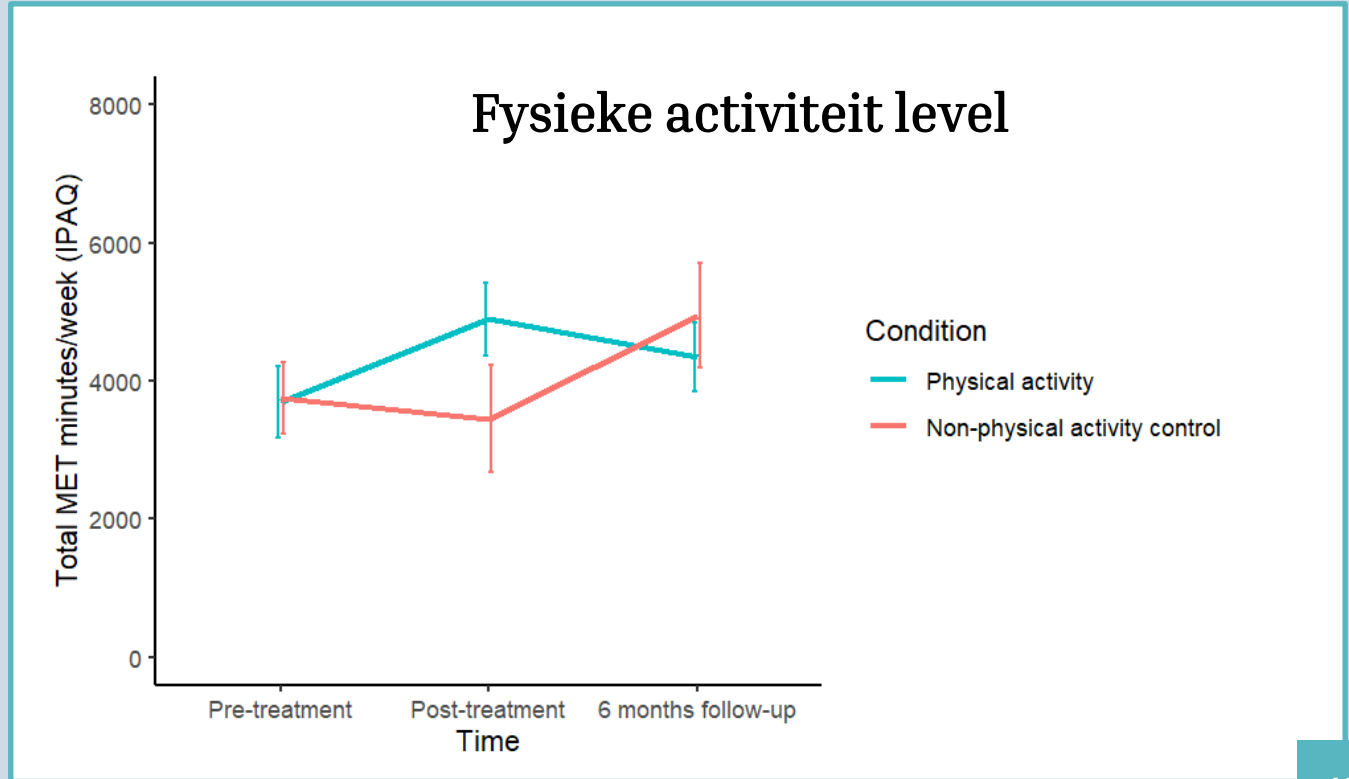
Resultaten



Resultaten



Resultaten



Resultaten



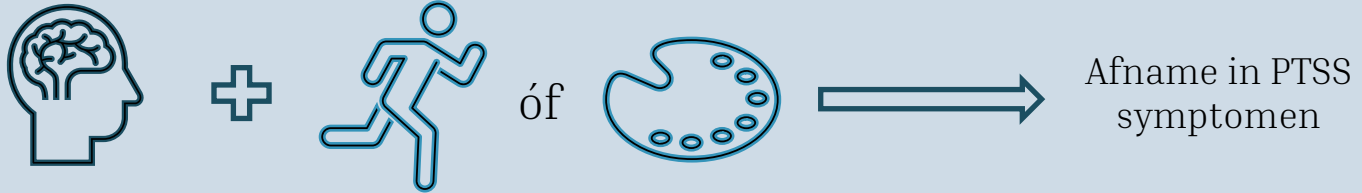
Voorkeuren



60% vs. 40%

Voorkeursconditie → geen invloed op effectiviteit

Conclusie



Discussie

*e.g., Nordbrandt et al., 2020, YOUNGH-McCaughan et al., 2022, Philippot et al., 2022

**e.g., Rodak et al., 2018



- Recente studies*
- Non-specifieke factoren

Alternatieve verklaringen:

- Té effectieve intensieve behandeling - ‘plafondeffect’
- Effecten van creatieve taken?*
- Té intensief en/of té kort?
- Volgorde fysieke sessies?
- PMT?

Klinische praktijk

Meer onderzoek is nodig!

“



“Dankzij de APPART studie met bijbehorende sportsessies ben ik meer gaan bewegen, heb ik gemerkt dat ik dat ook aan kan en meer bewegen is onderdeel geworden van mijn nieuwe leven.”



“De uitdaging van stilzitten i.p.v. in beweging zijn heeft voor mij bijgedragen aan het daadwerkelijk stilstaan bij wat ik ervaarde. Ik doorbrak hiermee en hierdoor vermijdingsgedrag.”



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STUDY PROTOCOL

 OPEN ACCESS  Check for updates

Augmenting PTSD treatment with physical activity: study protocol of the APPART study (Augmentation for PTSD with Physical Activity in a Randomized Trial)

E.M. Voorendonk ^{a,b}, S.A. Sanches ^c, M.S. Tollenaar ^d, A. De Jongh ^{a,e,f,g} and A. Van Minnen ^{a,b}

2. Inzoomen: De volgorde effecten van beweging en exposure

Leervermogen bij extinctieleren versterken

- Door te bewegen?
 - Brain-derived neurotrophic factor



Maar wanneer beweeg je dan?



Maar wanneer beweeg je dan?

eerst



daarna



Dierstudies

Alleen effect gevonden
als fysieke conditie **na** de
exposure kwam
(e.g., Roquet & Monfils, 2018)



Ons onderzoek..

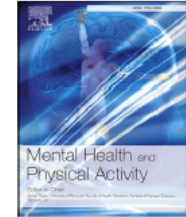


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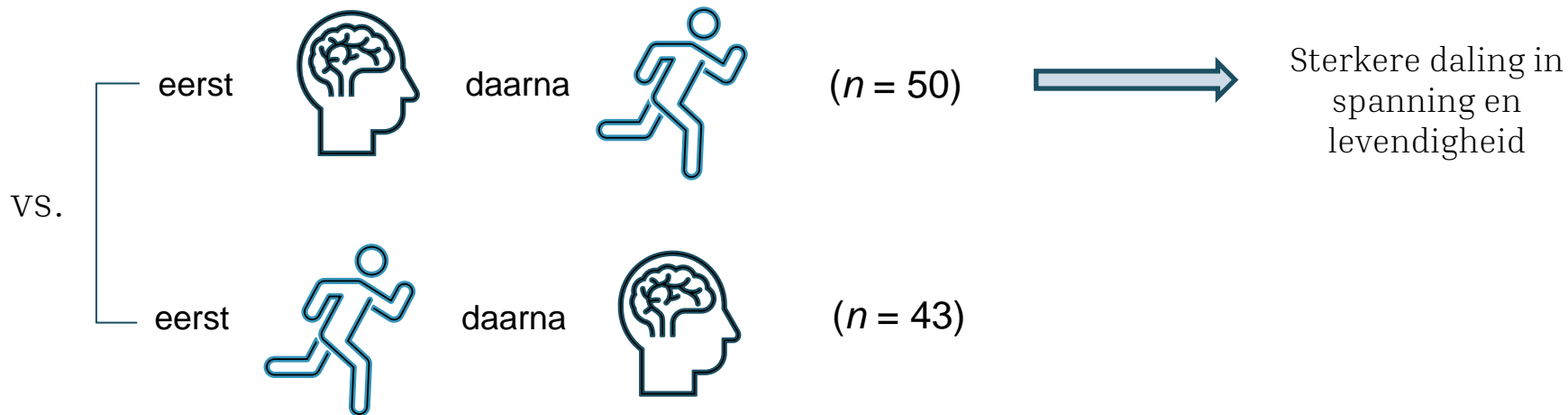


Combining a single session of prolonged exposure with physical activity in patients with PTSD: The effect of sequence

Eline M. Voorendonk^{a,b,*}, Sarita A. Sanches^c, Michelle Mojet^d, Ad De Jongh^{b,e,f,g,h},
Agnes Van Minnen^{a,b}

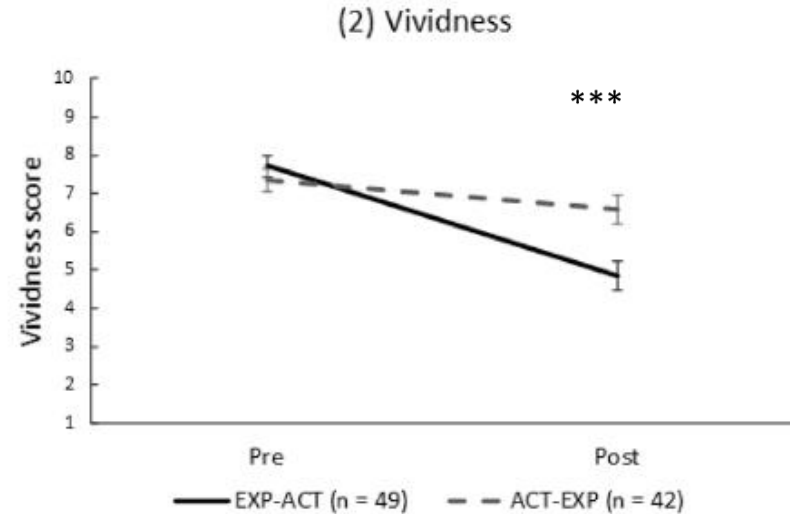
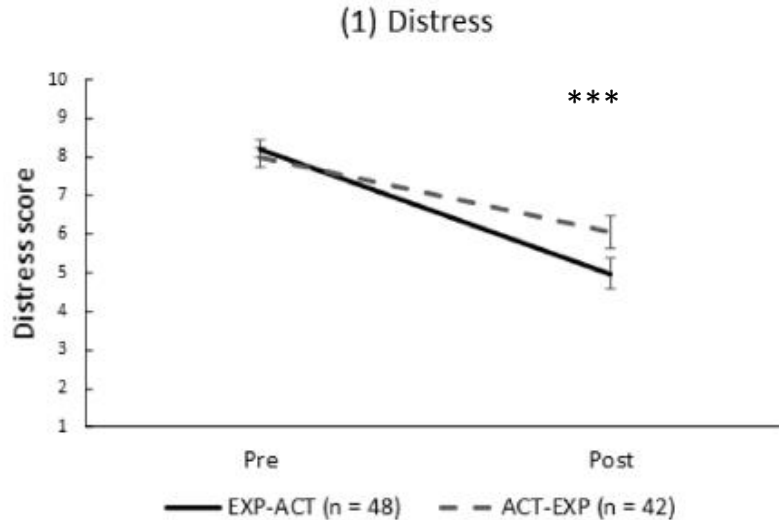


Design (N = 93)



1 exposuresessie = 1 herinnering

Resultaten



Spanning (distress) en levendigheid (vividness) namen allebei significant af, en meer in de EXP-ACT conditie, dus beweging **na** exposure

Resultaten

Exploratief:

Freeze en emotieregulatieproblemen namen allebei significant af, maar er was geen conditie-effect.

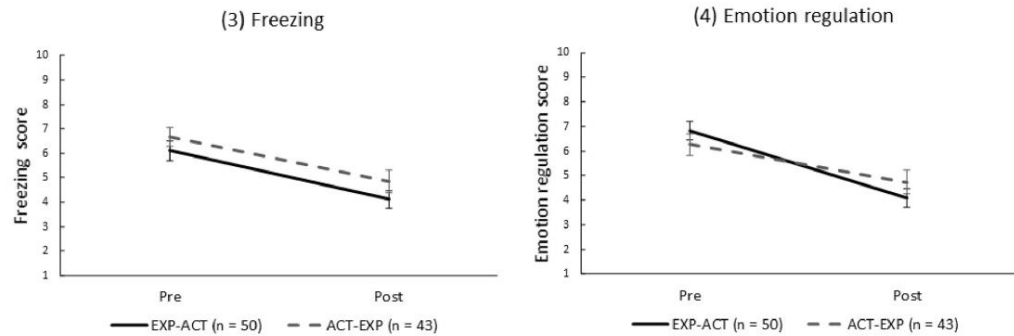


Fig. 3. Mean and standard errors of (1) distress, (2) vividness, (3) freezing and (4) emotion regulation numeric rating scores for the EXP-ACT and ACT-EXP condition from pre- to post-intervention.

5

Resultaten

Mensen vonden beweging **na** exposure ook significant meer behulpzaam

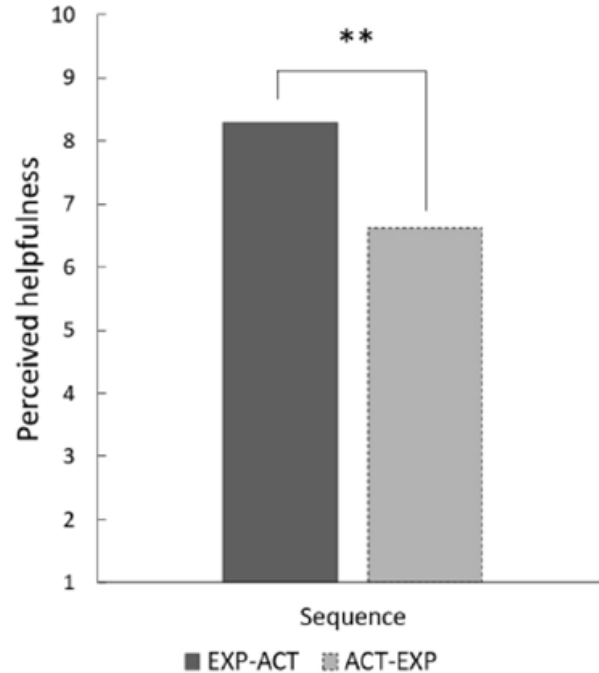
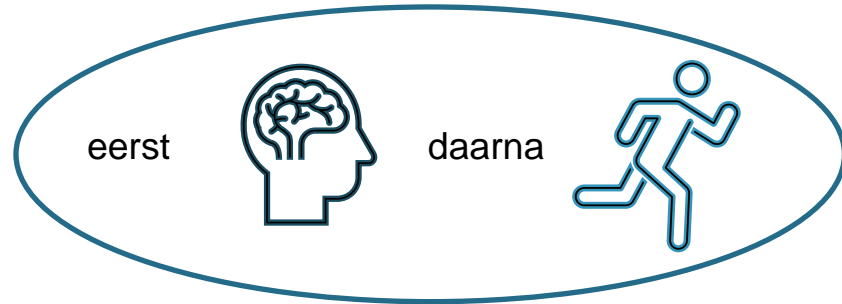


Fig. 4. Perceived helpfulness numeric rating scale mean for the EXP-ACT and ACT-EXP condition, scores ranging from 1 ("not at all helpful") to 10 ("very helpful"). * $p < .05$, ** $p < .01$, *** $p < .001$.

Conclusies

- Beweging na exposure meest effectief, in lijn met dieronderzoek, maar replicatie is nodig
- Effect zit echt in afname levendigheid en spanning herinnering, niet in dissociatie of emotieregulatie
- Controleconditie 'geen beweging' mist nog



3. Discussie en Future directions

Discussie

*e.g., Björkman & Ekblom, 2021; Davis, et al., 2021; Ramos-Sanchez, et al., 2021; Rosenbaum, et al., 2015; Van de Kamp, et al., 2019)

**e.g., Powers et al., 2015 (n = 9)

1. Wat is beweging?
 - Definitie
 - Optimale vorm
 - Stand-alone of add-on?
2. Mogelijkheid non-specifieke effecten beweging
 - Meta-analyses includeren ook wachtlijstcondities*
3. Veel pilot studies**: meer gecontroleerd onderzoek nodig

Future directions

1. Optimale duur, intensiteit, timing en vorm
2. Targetgroepen; veteranen, mannen, non-responders
3. Werkingsmechanismen (waaronder non-specifieke factoren)
4. PMT

Vragen?

Hartelijk dank!



Radboud Universiteit



Jullie kunnen mij altijd contacten!

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Referenties

- Björkman, F., & Ekblom, Ö. (2021). Physical Exercise as Treatment for PTSD: A Systematic Review and Meta-Analysis. *Military Medicine*, 00, 1–11. <https://doi.org/10.1093/milmed/usab497>
- Davis, A. A., Zachry, C. E., & Berke, D. S. (2021). Physical interventions for the treatment of trauma and stressor-related disorders: A comprehensive systematic review. *Mental Health and Physical Activity*, 20(December 2020), 100401. <https://doi.org/10.1016/j.mhpa.2021.100401>
- Nordbrandt, M. S., Sonne, C., Mortensen, E. L., & Carlsson, J. (2020). Trauma-affected refugees treated with basic body awareness therapy or mixed physical activity as augmentation to treatment as usual - A pragmatic randomised controlled trial. *PLoS ONE*, 15(3), 1–16. <https://doi.org/10.1371/journal.pone.0230300>
- Philippot, A., Dubois, V., Lambrechts, K., Grogna, D., Robert, A., Jonckheer, U., Chakib, W., Beine, A., Bleyenheuff, Y., & De Volder, A. G. (2022). Impact of physical exercise on depression and anxiety in adolescent inpatients: A randomized controlled trial. *Journal of Affective Disorders*, 301(July 2021), 145–153. <https://doi.org/10.1016/j.jad.2022.01.011>
- Powers, M. B., Medina, J. L., Burns, S., Kauffman, B. Y., Monfils, M., Asmundson, G. J. G., Diamond, A., McIntyre, C., & Smits, J. A. J. (2015). Exercise augmentation of exposure therapy for PTSD: rationale and pilot efficacy data. *Cognitive Behaviour Therapy*, 44(4), 314–327. <https://doi.org/10.1080/16506073.2015.1012740>
- Ramos-Sanchez, C. P., Schuch, F. B., Seedat, S., Louw, Q. A., Stubbs, B., Rosenbaum, S., Firth, J., van Winkel, R., & Vancampfort, D. (2021). The anxiolytic effects of exercise for people with anxiety and related disorders: An update of the available meta-analytic evidence. *Psychiatry Research*, 302, 114046. <https://doi.org/10.1016/j.psychres.2021.114046>
- Rodak, J., Alloway, T. P., & Rizzo, M. (2018). PTSD's true color: Examining the effect of coloring on anxiety, stress, and working memory in veterans. *Mental Health and Prevention*, 12(October), 50–54. <https://doi.org/10.1016/j.mhp.2018.09.007>
- Roquet, R. F., & Monfils, M. H. (2018). Does exercise augment operant and Pavlovian extinction: A meta-analysis. *Journal of Psychiatric Research*, 96, 73–93. <https://doi.org/10.1016/j.jpsychires.2017.09.018>
- Rosenbaum, S., Sherrington, C., & Tiedemann, A. (2015). Exercise augmentation compared with usual care for post-traumatic stress disorder: A randomized controlled trial. *Acta Psychiatrica Scandinavica*, 131(5), 350–359. <https://doi.org/10.1111/acps.12371>
- Rosenbaum, S., Vancampfort, D., Steel, Z., Newby, J., Ward, P. B., & Stubbs, B. (2015). Physical activity in the treatment of Post-traumatic stress disorder: A systematic review and meta-analysis. *Psychiatry Research*, 230(2), 130–136. <https://doi.org/10.1016/j.psychres.2015.10.017>
- van de Kamp, M. M., Scheffers, M., Hatzmann, J., Emck, C., Cuijpers, P., & Beek, P. J. (2019). Body- and Movement-Oriented Interventions for Posttraumatic Stress Disorder: A Systematic Review and Meta-Analysis. *Journal of Traumatic Stress*, 32(6), 967–976. <https://doi.org/10.1002/jts.22465>
- Voorendonk, E. M., Sanches, S. A., Tollenaar, M. S., De Jongh, A., & Van Minnen, A. (2022). Augmenting PTSD treatment with physical activity: study protocol of the APPART study (Augmentation for PTSD with Physical Activity in a Randomized Trial). *European Journal of Psychotraumatology*, 13(1). <https://doi.org/10.1080/20008198.2021.2016219>
- Voorendonk, E. M., Sanches, S. A., Mojet, M., De Jongh, A., & Van Minnen, A. (2021). Combining a single session of prolonged exposure with physical activity in patients with PTSD: The effect of sequence. *Mental Health and Physical Activity*, 21(December 2020), 100417. <https://doi.org/10.1016/j.mhpa.2021.100417>
- Young-McCaughan, S., Peterson, A. L., Mintz, J., Hale, W. J., Dondanville, K. A., Borah, E. V., Blount, T. H., Blankenship, A. E., Fina, B. A., Hall-Clark, B. N., Hernandez, A. M., Jacoby, V. M., Malach, S. L., Williams, J. M., Compton, K. E., Bingham, M. O., Vriend, C. A., Inman, A. W., Brundige, A., ... Yarvis, J. S. (2022). Testing the role of aerobic exercise in the treatment of posttraumatic stress disorder (PTSD) symptoms in U.S. active duty military personnel: a pilot study. *Cognitive Behaviour Therapy*, 51(4), 309–325. <https://doi.org/10.1080/16506073.2021.2001689>