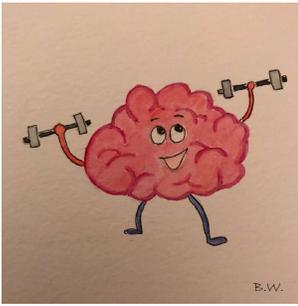


Spielerisches Training fürs Gehirn



Öffentlichkeitsanlass
Gesund und Aktiv 60+: Gedächtnis-Stark
 Freitag, 6. November 2020, 13.00 – 15.45 Uhr
 Aula, Universität Zürich

Prof. Dr. med. Reto W. Kressig
 retow.kressig@felixplatter.ch

Klinische Professur für Geriatrie Universität Basel
 Ärztlicher Direktor Universitäre Altersmedizin FELIX PLATTER



Webbasiertes Hirntraining

3x/Woche während 6 Wochen; n= 11'430;

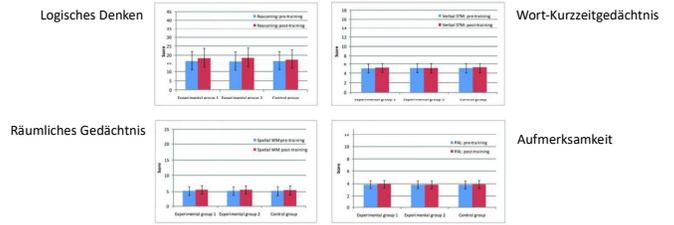


Figure 1. Benchmarking scores at baseline and after six weeks of training across the three groups of participants. VSTM = Verbal short-term memory, SWM = Spatial working memory, PAL = Paired-associates learning. Bars represent standard deviations.

Owen AM et al. Putting brain training to the test. Nature 2010;465(7299): 775–778.

Webbasiertes Hirntraining

3x/Woche während 6 Wochen; n= 11'430

However, the widely held belief that commercially available computerised brain trainers improve general cognitive function in the wider population lacks empirical support. The central question is not whether performance on cognitive tests can be improved by training, but rather, whether those benefits transfer to other untrained tasks or lead to any general improvement in the level of cognitive functioning. Here we report the results of a six-week online study in which 11,430 participants trained several times each week on cognitive tasks designed to improve reasoning, memory, planning, visuospatial skills and attention. Although improvements were observed in every one of the cognitive tasks that were trained, no evidence was found for transfer effects to untrained tasks, even when those tasks were cognitively closely related.

Kognitives Training:

die Performance in der «trainierten» Aufgabe wird besser

Keine Verbesserung (keine Transfereffekte) auf andere untrainierte Aufgaben oder die allgemeine Hirnleistung!

Owen AM et al. Putting brain training to the test. Nature 2010;465(7299): 775–778.

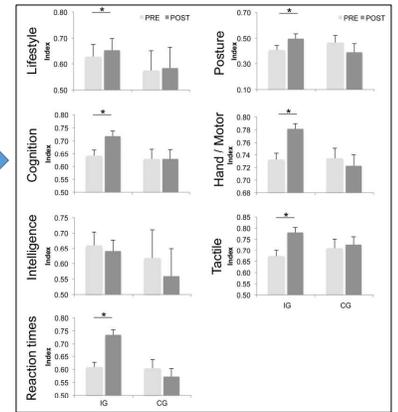
Tanzintervention

während 6 Monaten (1x/Wo)

... verbessert nicht nur körperliche, sondern auch kognitive Leistungsfähigkeit!

«Transfereffekte»!

Kattenstroh JC et al. Six months of dance intervention Enhances postural, sensorimotor, and cognitive Performance in elderly without affecting cardio-Respiratory functions. Front Aging Neurosci 2013;5:5.



Hirnschutz durch aktives Musikspielen!

➤ Mehr als 10 Jahre musikalische Aktivität im Leben («aktiver» Musiker) ist mit einer besseren Gedächtnisleistung im Alter assoziiert.

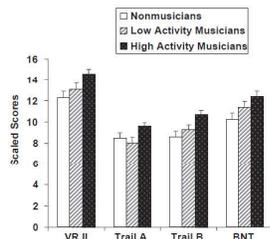
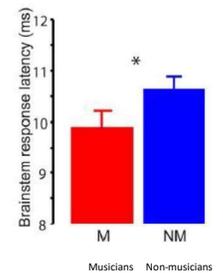


Figure 1. Scaled scores for significant between-group results. VR II = Visual Reproduction Delayed Recall; BNT = Boston Naming Test.

Hanna-Pladdy & MacKay (2011)

Bessere Hirnleistung im Alter dank Musikspiel

➤ Ältere aktive Amateur-Musiker haben besseres Sprachverständnis und kleineren alters-assoziierten Abbau von Spracherkennung/-verständnis.



Brainstem response latency is shorter in musicians than in non-musicians.

Bidelman & Alain (2015)

Bessere Hirnalterung dank mindestens 4 Jahren Musikalischer Aktivität in der Kindheit

➤ Moderates musikalisches Training in der Kindheit während **mindestens 4 Jahren**: signifikant schnellere und bessere Sprachauffassung im Alter!

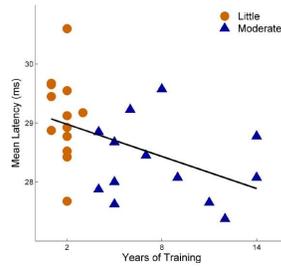


Figure 4. A correlation is observed between years of music training and neural timing. For illustrative purposes, latencies for probes 2 and 3 in response to the 4th presented noise were averaged. Faster timing is associated with more years of training. $r_{\text{age}} = -0.538, p = 0.005$.

White-Schwach et al. (2013)

Es ist nie zu spät...

➤ Klavierspiel erlernen über 6 Monate im Alter (60 – 85 J.): generell verbesserte Hirnleistung im Vergleich zu vorher.

«Transfereffekte!»

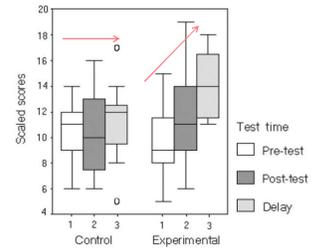


Figure 1. Results of the Digit Symbol (WAIS III subtest) Scaled Scores. The box plot contains the range of scores with the median represented by a solid line inside the box, outliers represented by points outside the box.

Bugos et al. (2007)

Leisure Activity and Frequency	Subjects with Dementia no.	All Subjects	Hazard Ratio for Dementia (95% CI)
Cognitive activities			
Playing board games			
Rare	108	366	1.00
Frequent	16	103	0.26 (0.17–0.57)
Reading			
Rare	40	87	1.00
Frequent	84	382	0.65 (0.43–0.97)
Playing a musical instrument			
Rare	120	452	1.00
Frequent	4	17	0.31 (0.11–0.90)
Doing crossword puzzles			
Rare	117	407	1.00
Frequent	7	62	0.59 (0.34–1.01)
Writing			
Rare	104	382	1.00
Frequent	20	87	1.00 (0.61–1.67)
Participating in group discussions			
Rare	117	437	1.00
Frequent	7	32	1.06 (0.48–2.33)
Physical activities			
Dancing			
Rare	99	330	1.00
Frequent	25	130	0.24 (0.06–0.99)
Doing housework			
Rare	39	106	1.00
Frequent	85	363	0.88 (0.60–1.20)
Walking			
Rare	19	65	1.00
Frequent	105	404	0.67 (0.45–1.05)

Verghese J et al. Leisure activities and the risk of dementia in the elderly. N Engl J Med 2003;348:2508-16.

Freizeitaktivitäten und Demenzrisiko

«Bewegung mit Musik»

Risikoreduktion bis 76%:

- Musikinstrument spielen
- Tanzen

Rhythmik nach Emile Jaques Dalcroze



Bachmann ML. Dalcroze today: an education through and into music. Oxford University Press Inc., New York, 1991

Happy Birthday !

Edith Naef, Assistentin von Emile Jaques Dalcroze, und zeitlebens Rhythmikerin feiert ihren **108ten** Geburtstag mit einer Dalcroze Lektion für ihre ehemaligen Schülerinnen

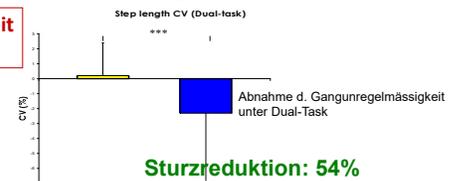


Januar 2006, Institut Jaques-Dalcroze, Genf

Genfer Dalcroze Sturzpräventionsstudie, n = 134, Gangveränderungen und Dual-Tasking nach 6 Monaten

Bessere Gangsicherheit
Bessere Hirnleistung

Variabilitätsveränderung unter Dual-Task



ANCOVAs with the baseline value of the outcome measure as covariate
 $p < .05$ *** $p < .001$

Control

Dalcroze eurhythmics

Trombetti et al. Arch Int Med 2011

Gesundheitsdepartement des Kantons Basle-Stadt
Medizinische Dienste
Prävention

Café Balance

Bewegung und Geselligkeit im Quartier 2019/20

Dalcroze Rhythmik im Café Bânce

Gesundheitsförderung und Prävention des Kantons BS



- Quartierstreff Kesselnengen**
Wahlstrasse 215, 4051 Basel
Team 8 oder 9B, Einleitung
Dienstag, 19.15 Uhr
- Quartierstreff Burg (Wetzikon)**
Burgweg 1, 4052 Basel
Team 1 oder 2a, 2b, 2c, 2d, 2e, 2f, 2g, 2h, 2i, 2j, 2k, 2l, 2m, 2n, 2o, 2p, 2q, 2r, 2s, 2t, 2u, 2v, 2w, 2x, 2y, 2z, 3a, 3b, 3c, 3d, 3e, 3f, 3g, 3h, 3i, 3j, 3k, 3l, 3m, 3n, 3o, 3p, 3q, 3r, 3s, 3t, 3u, 3v, 3w, 3x, 3y, 3z, 4a, 4b, 4c, 4d, 4e, 4f, 4g, 4h, 4i, 4j, 4k, 4l, 4m, 4n, 4o, 4p, 4q, 4r, 4s, 4t, 4u, 4v, 4w, 4x, 4y, 4z, 5a, 5b, 5c, 5d, 5e, 5f, 5g, 5h, 5i, 5j, 5k, 5l, 5m, 5n, 5o, 5p, 5q, 5r, 5s, 5t, 5u, 5v, 5w, 5x, 5y, 5z, 6a, 6b, 6c, 6d, 6e, 6f, 6g, 6h, 6i, 6j, 6k, 6l, 6m, 6n, 6o, 6p, 6q, 6r, 6s, 6t, 6u, 6v, 6w, 6x, 6y, 6z, 7a, 7b, 7c, 7d, 7e, 7f, 7g, 7h, 7i, 7j, 7k, 7l, 7m, 7n, 7o, 7p, 7q, 7r, 7s, 7t, 7u, 7v, 7w, 7x, 7y, 7z, 8a, 8b, 8c, 8d, 8e, 8f, 8g, 8h, 8i, 8j, 8k, 8l, 8m, 8n, 8o, 8p, 8q, 8r, 8s, 8t, 8u, 8v, 8w, 8x, 8y, 8z, 9a, 9b, 9c, 9d, 9e, 9f, 9g, 9h, 9i, 9j, 9k, 9l, 9m, 9n, 9o, 9p, 9q, 9r, 9s, 9t, 9u, 9v, 9w, 9x, 9y, 9z, 10a, 10b, 10c, 10d, 10e, 10f, 10g, 10h, 10i, 10j, 10k, 10l, 10m, 10n, 10o, 10p, 10q, 10r, 10s, 10t, 10u, 10v, 10w, 10x, 10y, 10z, 11a, 11b, 11c, 11d, 11e, 11f, 11g, 11h, 11i, 11j, 11k, 11l, 11m, 11n, 11o, 11p, 11q, 11r, 11s, 11t, 11u, 11v, 11w, 11x, 11y, 11z, 12a, 12b, 12c, 12d, 12e, 12f, 12g, 12h, 12i, 12j, 12k, 12l, 12m, 12n, 12o, 12p, 12q, 12r, 12s, 12t, 12u, 12v, 12w, 12x, 12y, 12z, 13a, 13b, 13c, 13d, 13e, 13f, 13g, 13h, 13i, 13j, 13k, 13l, 13m, 13n, 13o, 13p, 13q, 13r, 13s, 13t, 13u, 13v, 13w, 13x, 13y, 13z, 14a, 14b, 14c, 14d, 14e, 14f, 14g, 14h, 14i, 14j, 14k, 14l, 14m, 14n, 14o, 14p, 14q, 14r, 14s, 14t, 14u, 14v, 14w, 14x, 14y, 14z, 15a, 15b, 15c, 15d, 15e, 15f, 15g, 15h, 15i, 15j, 15k, 15l, 15m, 15n, 15o, 15p, 15q, 15r, 15s, 15t, 15u, 15v, 15w, 15x, 15y, 15z, 16a, 16b, 16c, 16d, 16e, 16f, 16g, 16h, 16i, 16j, 16k, 16l, 16m, 16n, 16o, 16p, 16q, 16r, 16s, 16t, 16u, 16v, 16w, 16x, 16y, 16z, 17a, 17b, 17c, 17d, 17e, 17f, 17g, 17h, 17i, 17j, 17k, 17l, 17m, 17n, 17o, 17p, 17q, 17r, 17s, 17t, 17u, 17v, 17w, 17x, 17y, 17z, 18a, 18b, 18c, 18d, 18e, 18f, 18g, 18h, 18i, 18j, 18k, 18l, 18m, 18n, 18o, 18p, 18q, 18r, 18s, 18t, 18u, 18v, 18w, 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34h, 34i, 34j, 34k, 34l, 34m, 34n, 34o, 34p, 34q, 34r, 34s, 34t, 34u, 34v, 34w, 34x, 34y, 34z, 35a, 35b, 35c, 35d, 35e, 35f, 35g, 35h, 35i, 35j, 35k, 35l, 35m, 35n, 35o, 35p, 35q, 35r, 35s, 35t, 35u, 35v, 35w, 35x, 35y, 35z, 36a, 36b, 36c, 36d, 36e, 36f, 36g, 36h, 36i, 36j, 36k, 36l, 36m, 36n, 36o, 36p, 36q, 36r, 36s, 36t, 36u, 36v, 36w, 36x, 36y, 36z, 37a, 37b, 37c, 37d, 37e, 37f, 37g, 37h, 37i, 37j, 37k, 37l, 37m, 37n, 37o, 37p, 37q, 37r, 37s, 37t, 37u, 37v, 37w, 37x, 37y, 37z, 38a, 38b, 38c, 38d, 38e, 38f, 38g, 38h, 38i, 38j, 38k, 38l, 38m, 38n, 38o, 38p, 38q, 38r, 38s, 38t, 38u, 38v, 38w, 38x, 38y, 38z, 39a, 39b, 39c, 39d, 39e, 39f, 39g, 39h, 39i, 39j, 39k, 39l, 39m, 39n, 39o, 39p, 39q, 39r, 39s, 39t, 39u, 39v, 39w, 39x, 39y, 39z, 40a, 40b, 40c, 40d, 40e, 40f, 40g, 40h, 40i, 40j, 40k, 40l, 40m, 40n, 40o, 40p, 40q, 40r, 40s, 40t, 40u, 40v, 40w, 40x, 40y, 40z, 41a, 41b, 41c, 41d, 41e, 41f, 41g, 41h, 41i, 41j, 41k, 41l, 41m, 41n, 41o, 41p, 41q, 41r, 41s, 41t, 41u, 41v, 41w, 41x, 41y, 41z, 42a, 42b, 42c, 42d, 42e, 42f, 42g, 42h, 42i, 42j, 42k, 42l, 42m, 42n, 42o, 42p, 42q, 42r, 42s, 42t, 42u, 42v, 42w, 42x, 42y, 42z, 43a, 43b, 43c, 43d, 43e, 43f, 43g, 43h, 43i, 43j, 43k, 43l, 43m, 43n, 43o, 43p, 43q, 43r, 43s, 43t, 43u, 43v, 43w, 43x, 43y, 43z, 44a, 44b, 44c, 44d, 44e, 44f, 44g, 44h, 44i, 44j, 44k, 44l, 44m, 44n, 44o, 44p, 44q, 44r, 44s, 44t, 44u, 44v, 44w, 44x, 44y, 44z, 45a, 45b, 45c, 45d, 45e, 45f, 45g, 45h, 45i, 45j, 45k, 45l, 45m, 45n, 45o, 45p, 45q, 45r, 45s, 45t, 45u, 45v, 45w, 45x, 45y, 45z, 46a, 46b, 46c, 46d, 46e, 46f, 46g, 46h, 46i, 46j, 46k, 46l, 46m, 46n, 46o, 46p, 46q, 46r, 46s, 46t, 46u, 46v, 46w, 46x, 46y, 46z, 47a, 47b, 47c, 47d, 47e, 47f, 47g, 47h, 47i, 47j, 47k, 47l, 47m, 47n, 47o, 47p, 47q, 47r, 47s, 47t, 47u, 47v, 47w, 47x, 47y, 47z, 48a, 48b, 48c, 48d, 48e, 48f, 48g, 48h, 48i, 48j, 48k, 48l, 48m, 48n, 48o, 48p, 48q, 48r, 48s, 48t, 48u, 48v, 48w, 48x, 48y, 48z, 49a, 49b, 49c, 49d, 49e, 49f, 49g, 49h, 49i, 49j, 49k, 49l, 49m, 49n, 49o, 49p, 49q, 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