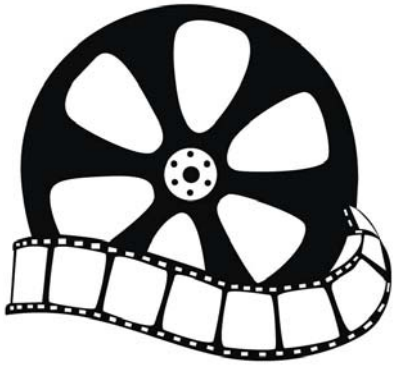
RESILIENCE

…through partnerwork

…through dance!

http://www.dance-mag.com/index.php/2015/10/luzern-tanzt-tanzt-mit-uns-in-den-fruehling-2016/

Crazy or Resilient?



http://www.huffingtonpost.co.uk/2014/08/11/elderly-couple-dance-wolverhampton-busker_n_5667452.html

Why …not?

Psychological Resilience

→individuals ability to successfully adapt to highly adverse life tasks or social disadvantages (Pezillo 2016)

→psychological resources of overcoming adversity, regaining of functioning and development after stressful situations (Fontes & Neri 2015)

Stressful life events in age

- death of loved ones
- accidents (e.g. falls), illness and disability
- poverty, loneliness
- family conflicts
- victim of violence

http://www.cbsnews.com/news/busy-minds-may-be-better-at-fighting-dementia/?soc_src=hl-viewer&soc_trk=pi

Resilience and Elderly

Why is it important?

→aging population!

→aging is demanding!

«normal»/usual aging means mental and physical losses
(Hsu & Jones 2012)

→successful aging is true for about 1/3 => not true for 2/3! (Hsu & Jones 2012)

→resilience supports physically & mentally healthy aging
(Jeste et al. 2013; Fontes & Neri 2015)

Aging in Switzerland

Mental difficulties

- ≥ 65 years: up to 25% suffer from mental difficulties e.g. depression, anxiety, substance abuse/dependences

→social isolation, depression

→inactivity (physical, mental, social)

Dementia

- dementia (e.g. Alzheimers disease) = 13% ≥ 80 years, 30% ≥ 90 years

→each year: 25'000 new cases

(Gesundheitsförderung CH, 2016)

WHO (2015)

- 47 million cases of dementia → 130 million until 2050!

→no cure

→focus on risk & preventive factors
(Prince et al., 2015)

Risc factors

- smoking
- low early education
- low cognitive activities
- obesity; diabetes
- sedentary behavior
- increased blood pressure/hypertension

Prevention

Regular physical exercising

- reduces risk for dementia for about 10%
- prolongs dementia about 2-3 years
- promotes self-supported lifestyle around 50%

✓best effects by combination of movement & socializing!

Keep mentally active
(Krell-Roesch et al. 2017; Stern 2012; Stine-Morrow & Chui 2012; Wilson 2002)

e.g. in Switzerland

→one year less in care => saves 100'000 sfr/person

→reducing years in care saves 40% of exptected increase in health-costs (related to aging population)!

(Gesundheitsförderung CH, 2016)

…She Might Did Right?

101-year old dancer

https://www.youtube.com/watch?v=DxnPgyuz8ss

Focus: Cognitive Reserve

Mind's resistance to damage of the brain

- way the brain uses its damaged resources
- measured behaviorally → as mind's resilience

→ differences between individuals in susceptibility to age-related brain changes or pathology related to Alzheimer's disease

→ some people can tolerate more of these changes than others and maintain function (see: Katzman et al. 1988)

Efficiency-model

→ ability to optimize/maximize performance through flexible recruitment of brain networks and/or alternative strategies (Benett et al. 2014; Stern 2012)

Focus: Cognitive Reserve

→higher cognitive reserve decreases risk of dementia up to 50%

→important concept of resilience in age

(Review: Valenzuela & Sachdev 2006)

What Builds Cognitive Reserve?

- Physical exercise
  - movement based therapy – against cognitive decline in age (Review & MA: Blondell et al. 2014)
- Cognitive demands
  - mental demands protects – even when predisposed! (e.g. Krell-Roesch et al. 2017)
- Socializing
  - social networking – prevents dementia (Crooks et al. 2008; Ertel et al. 2008)

https://s-media-cache-ak0.pinimg.com/736x/63/76/00/6376002800 7dd7665fda8c3b479058b--save-the-last-dance-just-dance.jpg

RESILIENCE

…through

dance?

http://data.whicdn.com/images/180714 4/large.jpg

Resilience Through Dance

Dance related aspects of resilience

- body-focused
- emotion-focused
- social/cultural-focused
  (Allen et al., 2011)

→dancing = combines = chance
→helpful for the elderly

https://s-media-cache-ak0.pinimg.com/736x/20/a0/3b/20a0d3b438be1575b6a612cacd232da6--old-couples-elderly-couples.jpg

What's Missing?

Dance: Music , Moves, Cognition & Socializing

Music

- stimulates reward system (e.g. dopamin)
  → what helps in establishing & maintaining behavior!!
  (Boso et al., 2006; Lin et al., 2011; Foster et al., 2013; Menon & Levitin, 2005)
- improves cognitive functions, mood & behavior (e.g. Alzheimers disease)
  (Cevasco & Grant, 2003; dancing in care homes/review: Gutzman et al., 2013)

Cognition

- dancing (e.g. Tango) not only needs the body
  → working memory, control of attention, multitasking
  (Foster et al., 2013; Romenets et al., 2015)

Verghese et al. (2003)

What recreational activity effects mental functioning?

→ *21year longterm-study (1980–2001) / N = 469; ≥ 75–85 years old*
→ *Follow-up: 2703 person-years/∅5.1 years => 124 cases of dementia*

6 cognitive activities

- reading books, writing for pleasure, crossword puzzles, playing cards, playing musical instruments

11 physical activities

- housework, baby-sitting, walking, climbing stairs, tennis, golf, swimming, bicycling, team games, group exercises, dancing

Verghese et al. (2003)

Reported = frequency

- rare = once per week (1P.) or less (0P.)
- frequent = several times per week (4P.) daily (7P.)

→time spent not recorded

→report veryfied by spouse/family member

http://www.gladetoner.dk/img/galleryl/forside/eksempler/erindringsdans.jpg

Covariates = effects cleared of

- sex, age
- influences of illnesses
- educational level
- base-line of memory & concentration

Leisure Activity and Frequency Cognitive activities	Subjects with Dementia	All Subjects	Hazard Ratio for Dementia (95% CI)
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)

Physical activities			
Dancing			
Rare	99	339	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)
Climbing stairs			
Rare	44	153	1.00
Frequent	80	316	1.55 (0.96–2.38)
Bicycling			
Rare	116	443	1.00
Frequent	8	26	2.09 (0.97–4.49)

Verghese et al. (2003)

Results

- physical activities: cardiovascular effects
- cases of dementia:
  ↓cognitive activities; ≈ physical activities
  (although: drop in physical activities prior to dementia)

↓Risk of dementia (∅ 5.1 years)

→reading 35% / crosswords 47% / instrument 69%

→physical activities (e.g. bycicling, golf, …) 0%

→frequent dancing 76%! / > 1P. (cogn. activity) => 7% < risk

→(!) no controlled-trial-group; no randomization

→(!) longterm but still: correlational study (no cause-consequences)

http://brakework.ru/wp-content/uploads/2015/09/stariki-9.jpg

Dance Interventions

http://rollingplanet.net/agilando-der-etwas-andere-tango-fuer-koerper-und-gedaechtnis/

Successful aging through dance?

N = 35 (60–94; Ø70y.); 6 mth. dance-intervention 1x/w (*n* = 15) vs. no intervention: benefits in cognition (attention), reaction time, hand motor performance, tactile perception, posture and subjective well-being!

→single-dance: Agilando™-Programm (classical dances)
(Kattenstroth et al., 2013)

N = 35 (∅64y.) with Parkinson's disease; 3mth. 2x/w; (argentine tango (*n* = 18) vs. home exercising): tango-group = better balance, functional mobility / > enjoyable / > life satisfaction

→partnered-dance (Romenets et al., 2015)

Dance Interventions

ATTENTION! SWISS MADE

Eggenberger et al. (2015)

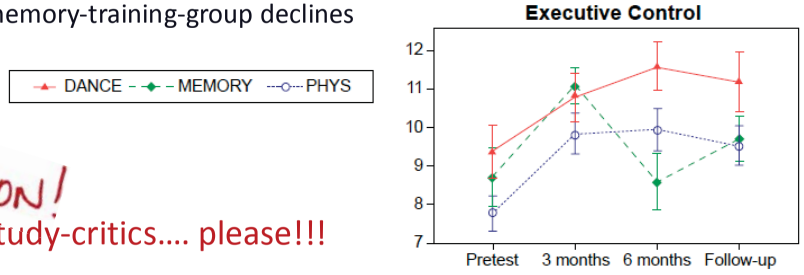
- *N* = 75, *n* = 25 (>70y.)
- intervention: 26 weeks/2x weekly
- 20min:
  A) virtual reality dancing
  B) treadmill with verbal memory training
  vs. C) physical training (treadmill)
- 20min: strength & balance (all groups)

Dance Interventions

Results

- simultaneous cognitive-physical training improves executive functions (e.g. attention-shift, working memory) – compared to physical training only

→only 'dance-group': improves working memory (transfer-effect!) – whereas verbal-memory-training-group declines



ATTENTION!
dance & study-critics…. please!!!

Let's Do It!

http://www.setxseniors.com/wp-content/uploads/2013/09/Best-Years-Seniors-Dancing.jpg

Dance for Elderly & Psychomotricity?

Dance offers

- highly social activity; fun, > life satisfaction/sense of live; effects of music
- physical activity; > body-awareness and perception
- cognitive demands (e.g. Kathenstroth et al., 2013; Lovatt, 2017; Romenets et al., 2015)

Chance for psychomotricity!

- we focus on body-perception / body-feeling / body-expression in regard & interaction with emotional well-being
- regard to personal abilities, feelings => work on access to individual resources!

(!) value the long life spent! (take 'their' music = cultural focus! => sense of life)

(+) dance ≠ play → no infantilization

Be Careful – Challenges

4th age (> 80) 'isn't easy': social isolation and perceived decline in everyday functioning

- refuse 'sports'; nothing 'new' *=> dance as 'old' cultural/social activity they already know*
- motor decline (loss of reactivity, balance, muscles) => *< speed; work on standing leg, weight-transfer & body-center*
- chronic pain; < motor activity *=> duration/breaks, correct/comfortable position, warm-up (muscels and perception)*
- sensory decline (visual sight; hearing) *=> room position / talking vs. music*
- mental challenges (executive functions, e.g. attention-shift; memory-loss; anxiety; depression) *=> short clusters only / > repetitions / small changes & support room for improvisation/choices (fast cogn. decisions)*

(e.g. Büla et al., 2014; Ryu et al., 2016)

Not the End – Let's Dance!

http://www.dailymail.co.uk/news/article-4409524/Dancing-elderly-couple-dazzle-crowds-new-routine.html

Dietmar (70) & Nelly (64) Ehrentraud; Durmersheim, Germany (published, 13.4.2017)

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