UNIVERSITEIT GENT

GRAY aging young

FACULTEIT GENEESKUNDE EN GEZONDHEIDSWETENSCHAPPEN

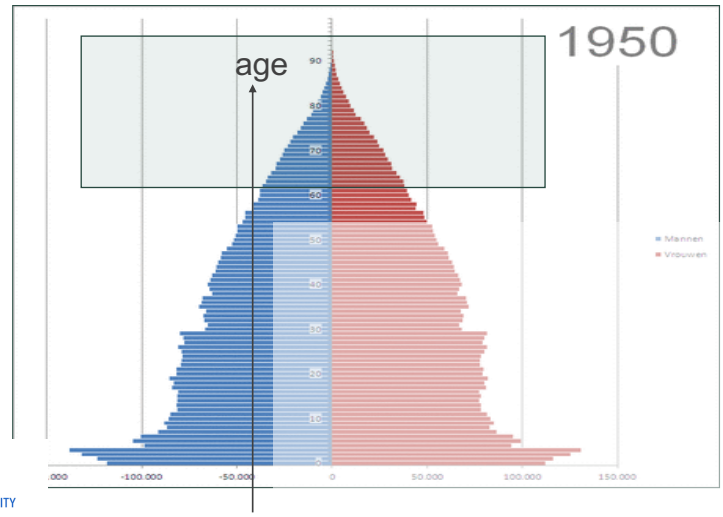
# Preventie start nu voor ieder van ons: waarom en hoe?

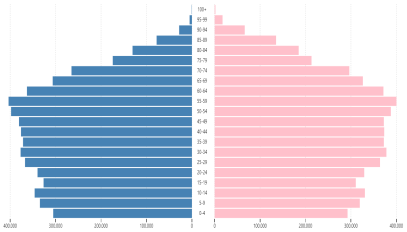
Prof. Greet Cardon
Vakgroep Bewegings- en Sportwetenschappen

Onderzoeksgroep
Fysieke activiteit en Gezondheid

1

Oudere volwassenen = > 65 jr



**2021**

- mannen
- vrouwen

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2


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## Ghent University Research for Aging Young

GRAY staat voor **Ghent University Research for Aging Young** en bundelt de expertise rond het **boosten van gezond verouderen** vanuit zeer uiteenlopende domeinen aan de Universiteit Gent.

GRAY
aging young

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GRAY GHENT UNIVERSITY RESEARCH FOR AGING YOUNG

- **Interdisciplinair onderzoeksconsortium** (IDC) en bundelt de expertise rond het boosten van gezond verouderen vanuit zeer uiteenlopende domeinen aan de Universiteit Gent.
- We gaan aan de slag met **partners en ouderen** om haalbare oplossingen, interventies, producten en diensten uit te denken zodat iedereen gezond kan verouderen.

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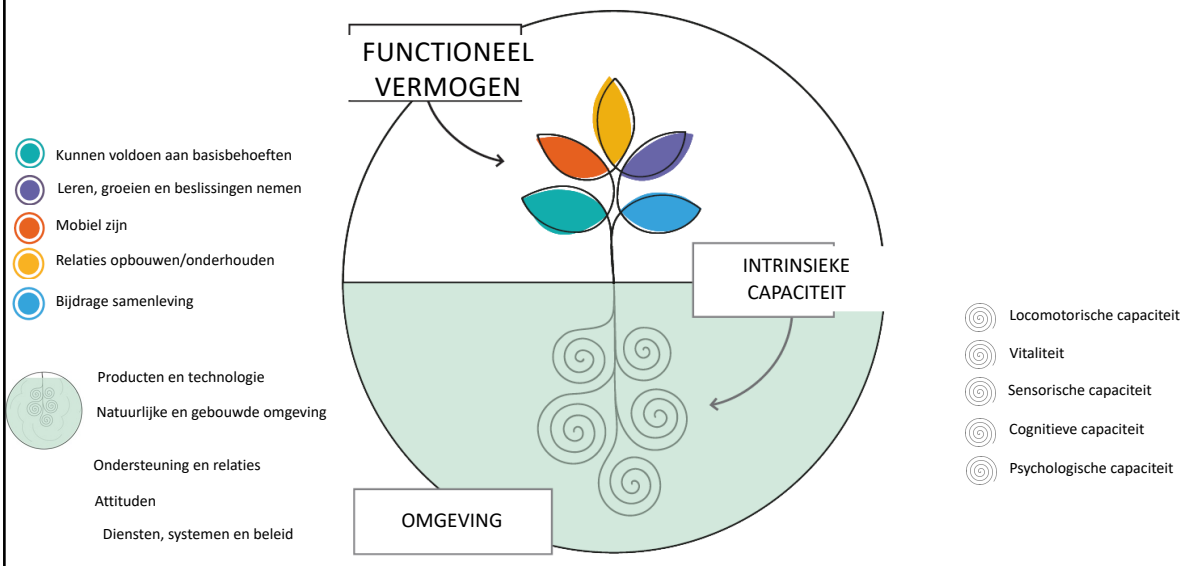
5

*Gezond Verouderen?*




*WHO, Decade of healthy aging 2020-2030*

6

GRAY aging young

## White Paper: Gezond Verouderen: Waar kunnen we nog op inzetten?

05/01/2023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GRAY aging young

**Geriater, Prof. dr. Nele Van Den Noortgate** - Inzetten op meer en eerder screenen op kwetsbaarheid bij ouderen.

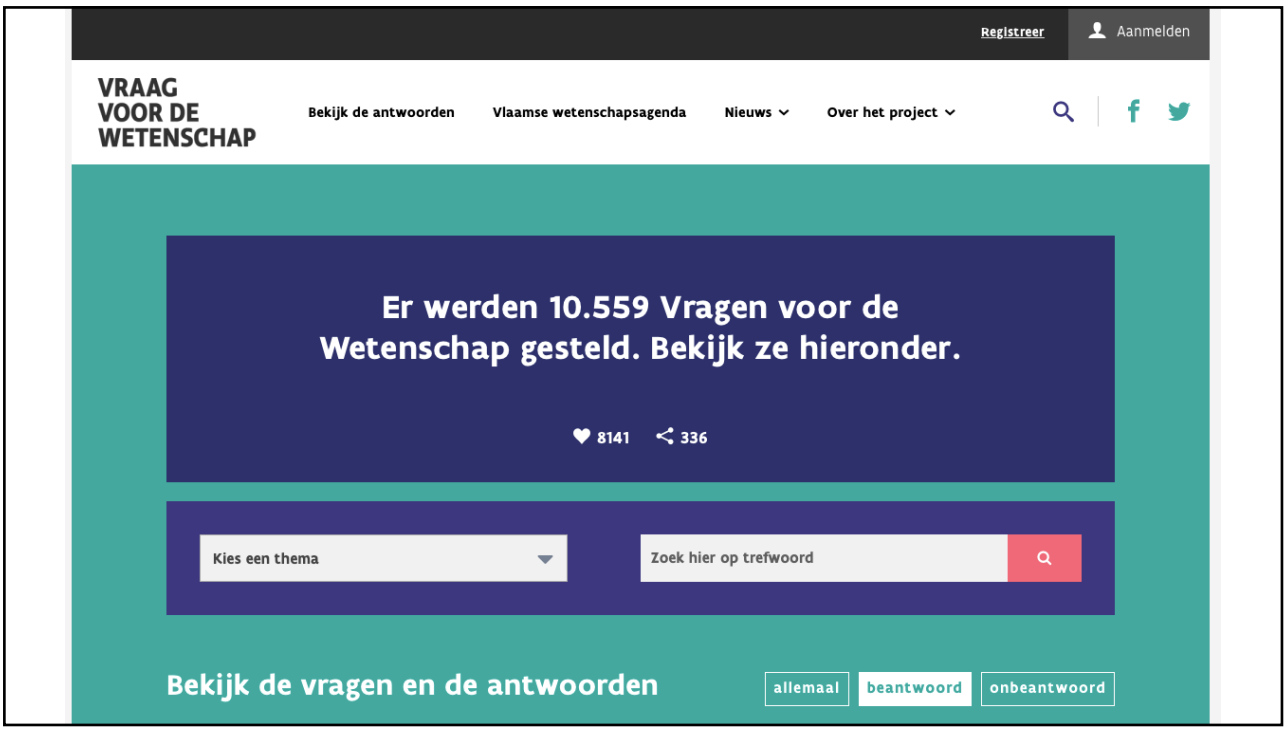
**Geriater, Prof. dr. Mirko Petrovic** - Inzetten op sensibilisering over oordeelkundig voorschrijven van medicatie bij ouderen.

**Verouderingsbioloog, Dr. Sven Bulterijs** - Langer gezond door medicatie: fictie of realiteit.

**Cardioloog, Prof. dr. Ernst Rietzschel** - De grootste bedreiging voor ons gezondheidssysteem is te veel focussen op de mensen die reeds ziek zijn.

**Bewegingswetenschapper, Prof. dr. Greet Cardon** - Inzetten op meer beweging bij ouderen.

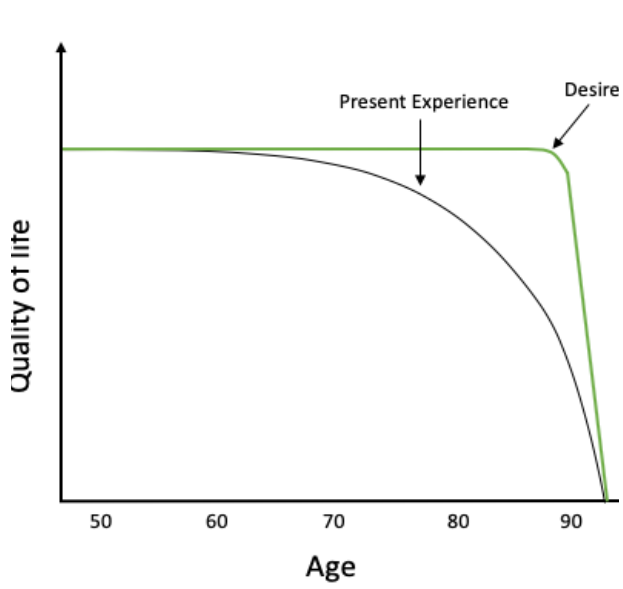
8


Registreer
Aanmelden
VRAAG VOOR DE WETENSCHAP
Bekijk de antwoorden
Vlaamse wetenschapsagenda
Nieuws
Over het project
Er werden 10.559 Vragen voor de Wetenschap gesteld. Bekijk ze hieronder.
8141
336
Kies een thema
Zoek hier op trefwoord
Bekijk de vragen en de antwoorden
allemaal
beantwoord
onbeantwoord

9


12 | LEVENSVERWACHTING
Kunnen we alsmaar ouder worden en toch fit, gezond en waardig blijven?
Is de eerste onsterfelijke generatie al geboren?
Hoe verandert de levensverwachting?
Bestaat er een manier om ouderdomsziekten te voorkomen/uit te stellen?
Ouder worden: waarom de focus op langer leven i.p.v. hoge(re) kwaliteit? Hoe is dat ethisch te verantwoorden?
1 | 3 | 5 | 7 | 8 | 9 | 10 | 15 | 17
22 | 29
67 | 73 | 74
78 | 82
Uitdaging
Het is een vaak gehoorde uitspraak: iedereen wil oud worden, maar niemand wil het zijn. De laatste eeuw
wat kosten in de gezondheidszorg meebrengt. Als we die ziektes en aftakeling zoveel mogelijk kunnen uitstellen of doeltreffender behandelen, dan wordt een gezonde en
belangrijker dat we ons richten op zo lang mogelijk fit en gezond blijven, zonder per se veel ouder te willen worden?
Hoe pakken we dit aan?
Enerzijds zijn er biologische uitdagingen voor de wetenschap. Om op een gezonde en fitte manier oud(er) te worden, moeten we ouderdomsziektes te snel af zijn. Maar wie wil ingrijpen, moet eerst begrijpen. Van gehoorproblemen over kanker tot dementie: ouderdomsziektes begrijpen, voorkomen en genezen is een werk van lange adem.
Anderzijds moeten we ons sociolo-

10

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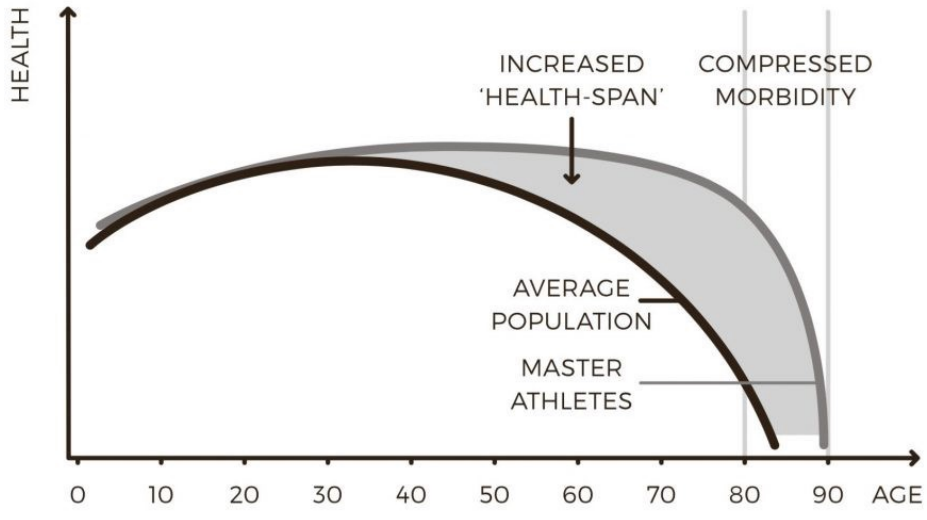


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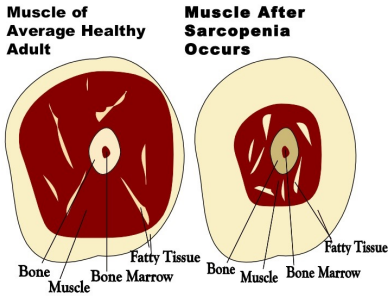
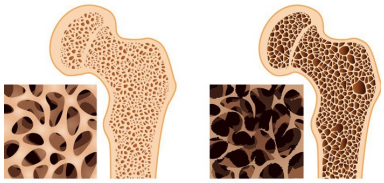
# Effecten van beweging

**Fysieke capaciteiten**
- Basale lichaamsfuncties
  - Spierkracht
  - Botdichtheid
  - Vet en cholesterol
- Complexe lichaamsfuncties
  - Balans
  - Flexibiliteit
  - Uithouding
  - beweeglijkheid
- Verouderingsprocessen
  - Langer leven
  - Minder verlies lichaamsfuncties
  - Ook bij chronische ziekten

**Preventie van chronische aandoeningen**
- Hart- en vaatziekten
- Osteoporose
- Diabetes mellitus TYPE II



Gezond bot | Botontkalking (osteoporose)

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# Effecten van beweging

**Cognitief functioneren**
- Geheugen, planning en reactietijd

**Psychisch welbevinden**
- Zinvolle vrijetijdsbesteding
- Contacten
- Controle
- Angst en depressie

Schrempft *et al. BMC Public Health* (2019) 19:74
https://doi.org/10.1186/s12889-019-6424-y

BMC Public Health

RESEARCH ARTICLE Open Access

Associations between social isolation, loneliness, and objective physical activity in older men and women

Stephanie Schrempft[3], Marta Jackowska[1,3], Mark Hamer[2,3] and Andrew Steptoe[3*]

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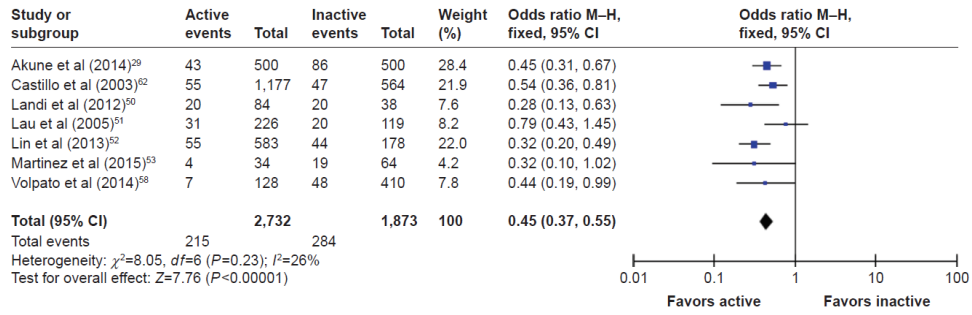
# EPIDEMIOLOGISCHE STUDIES

**Relationship between sarcopenia and physical activity in older people: a systematic review and meta-analysis.** (Steffl et al. 2017, Clinical Interventions in Aging)

- Relatie tussen fysiek activiteit en sarcopenie bij oudere volwassenen obv: **cross-sectionele** en (baseline of follow-up datasets van) **cohort studies.**
- 25 studies werden opgenomen
- Resultaten:



| Study or subgroup | Active events | Total | Inactive events | Total | Weight (%) | Odds ratio M–H, fixed, 95% CI |
|---|---|---|---|---|---|---|
| Akune et al (2014)[29] | 43 | 500 | 86 | 500 | 28.4 | 0.45 (0.31, 0.67) |
| Castillo et al (2003)[62] | 55 | 1,177 | 47 | 564 | 21.9 | 0.54 (0.36, 0.81) |
| Landi et al (2012)[50] | 20 | 84 | 20 | 38 | 7.6 | 0.28 (0.13, 0.63) |
| Lau et al (2005)[51] | 31 | 226 | 20 | 119 | 8.2 | 0.79 (0.43, 1.45) |
| Lin et al (2013)[52] | 55 | 583 | 44 | 178 | 22.0 | 0.32 (0.20, 0.49) |
| Martinez et al (2015)[53] | 4 | 34 | 19 | 64 | 4.2 | 0.32 (0.10, 1.02) |
| Volpato et al (2014)[58] | 7 | 128 | 48 | 410 | 7.8 | 0.44 (0.19, 0.99) |
| **Total (95% CI)** | | **2,732** | | **1,873** | **100** | **0.45 (0.37, 0.55)** |
| Total events | 215 | | 284 | | | |

Heterogeneity: $\chi^2$=8.05, $df$=6 ($P$=0.23); $I^2$=26%
Test for overall effect: Z=7.76 ($P$<0.00001)



**Figure 4** The forest plot of effect sizes for males and females.

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J Nutr Health Aging. 2021;25(7):824-853
Published online July 30, 2021, http://dx.doi.org/10.1007/s12603-021-1665-8

Special Article



## International Exercise Recommendations in Older Adults (ICFSR): Expert Consensus Guidelines

*M. Izquierdo[1,2], R.A. Merchant[3,4], J.E. Morley[5], S.D. Anker[6], I. Aprahamian[7], H. Arai[8], M. Aubertin-Leheudre[9-10], R. Bernabei[11], E.L. Cadore[12], M. Cesari[13], L.-K. Chen[14], P. de Souto Barreto[15,16], G. Duque[17,18], L. Ferrucci[19], R.A. Fielding[20], A. García-Hermoso[1,2], L.M. Gutiérrez-Robledo[21], S.D.R. Harridge[22], B. Kirk[17,18], S. Kritchevsky[23], F. Landi[11], N. Lazarus[22], F.C. Martin[24], E. Marzetti[11], M. Pahor[25], R. Ramírez-Vélez[1,2], L. Rodriguez-Mañas[2,26], Y. Rolland[15,16], J.G. Ruiz[27], O. Theou[28], D.T. Villareal[29], D.L. Waters[30], C. Won Won[31], J. Woo[32], B. Vellas[15], M. Fiatarone Singh[33,34]*

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**Table 3.** Role of Exercise in Primary, Secondary and Tertiary Disease Prevention

| Disease | Postulated mechanisms of exercise effect on disease prevention | Considerations for the prescription for secondary and tertiary prevention (disease expression and progression) | Recommended exercise modality |
|---|---|---|---|
| Arthritis | • Decreased body weight<br>• Maintenance of cartilage integrity<br>• Maintenance of muscle and tendon strength | • Low impact<br>• Sufficient volume to achieve a healthy weight if obese | • Aerobic exercise<br>• Resistance exercise[a] |
| Cancer (breast, colon, prostate) | • Decreased body fat<br>• Decreased oestrogen levels<br>• Altered dietary intake<br>• Decrease in gastrointestinal transit time<br>• Increased prostaglandin F2 | • Resistance training with dietary intervention may offset myopathy and reduce prevalence of cancer cachexia | • Aerobic exercise<br>• Resistance exercise[a] |
| Chronic obstructive pulmonary disease | • Increased adherence to smoking cessation, dietary behaviours<br>• Increased muscle mass<br>• Improved lung function | • Resistance training may be more tolerable in severe disease, combined effects complementary if feasible<br>• Time exercise sessions to coincide with bronchodilator medication peak.<br>• Use oxygen during exercise as needed | • Aerobic exercise[a]<br>• Resistance exercise[a] |
| Chronic renal failure | • Reduced risk of hypertension<br>• Reduced risk of type 2 diabetes mellitus | • Exercise reduces cardiovascular and metabolic risk factors, improves depression<br>• Resistance training offsets myopathy of chronic renal failure | • Aerobic exercise<br>• Resistance exercise[a] |
| Congestive heart failure | • Decreased risk of ischaemic heart disease<br>• Decreased risk of hypertension<br>• Decreased risk of type 2 diabetes mellitus | • Improves cardiovascular function and contractility<br>• Improves hypertension and lipid profile | • Aerobic exercise<br>• Resistance exercise[a] |
| Coronary artery disease | • Decreased blood pressure<br>• Decreased LDL cholesterol<br>• Increased HDL cholesterol<br>• Decreased fibrinogen<br>• Decreased total body fat, visceral fat<br>• Decreased insulin resistance, hyperinsulinaemia<br>• Decreased cortisol levels, inflammatory cytokines<br>• Increased adherence to smoking cessation, dietary behaviours<br>• Decreased depression, anxiety<br>• Improved endothelial cell function | • Complementary effects on exercise capacity and metabolic profile from combined exercise modalities<br>• Resistance training may be more tolerable if the ischaemic threshold is very low due to lower heart rate response to training | • Aerobic exercise<br>• Resistance exercise |
| Dementia | • Improved cerebral blood flow<br>• Increased neurotrophic factors in CNS<br>• Hippocampal neurogenesis<br>• Anabolic hormones<br>• Prevention of diabetes/insulin resistance<br>• Prevention of stroke<br>• Prevention of hypertension<br>• Prevention and treatment of depression | • Exercise under supervision if cognition is moderately to severely impaired<br>• Avoidance of head trauma during exercise is critical | • Aerobic exercise<br>• Resistance exercise[a] |
| Depression | • Increased self-efficacy, mastery<br>• Internalised locus of control<br>• Decreased anxiety<br>• Improved sleep<br>• Increased self-esteem<br>• Increased social engagement, decreased isolation<br>• Decreased need for drugs associated with depression (beta blockers, alpha blockers, sedative hypnotics)<br>• Decreased body fat, improved body image | • High-intensity resistance training and adequate volumes of aerobic exercise are more efficacious than low-intensity/low-volume exercise in major depression | • Aerobic exercise<br>• Resistance exercise[a]<br>• Yoga/other mind-body exercise[a] |
| Osteoporosis / Osteoporotic fracture | • Increased bone density<br>• Increased tensile strength<br>• Increased muscle mass<br>• Improved gait stability and balance<br>• Improved nutritional intake (energy, protein, calcium, vitamin D)<br>• Reduced fear of falling, improved self-efficacy<br>• Increased overall activity levels, mobility<br>• Decreased need for drugs associated with postural hypotension, falls, hip fractures (antidepressants, antihypertensives, seda- | • High-impact, high-velocity activity (e.g., jumping) is potent if tolerable; avoid if osteoarthritis is present.<br>• Resistance training effects are local to muscles contracted.<br>• Balance training should be added to prevent falls and must be challenging | • High-impact exercise[a]<br>• Resistance exercise[a] |

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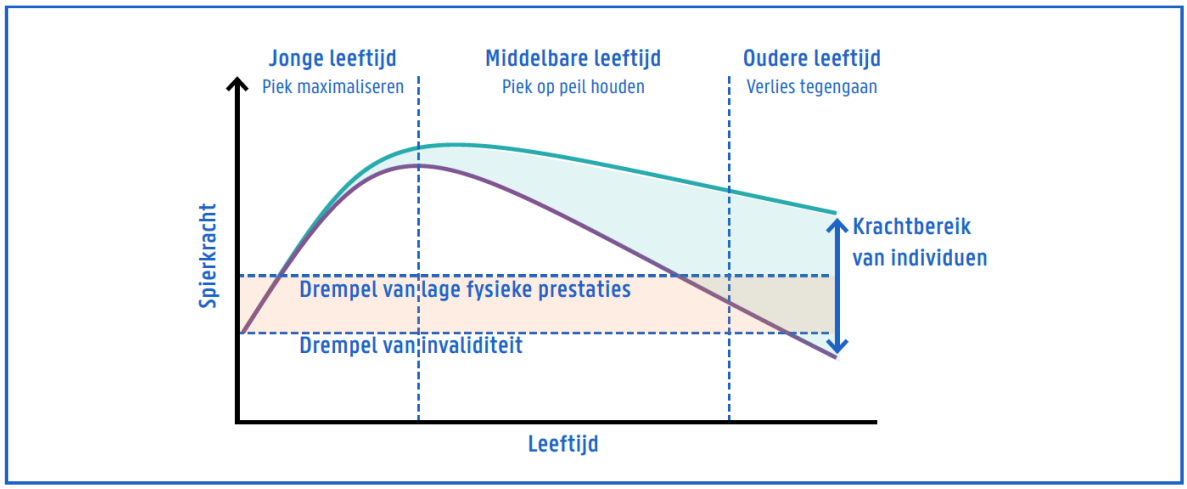


(Cruz-Jentoft AJ et al., 2018).

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OPEN ACCESS

# World Health Organization 2020 guidelines on physical activity and sedentary behaviour

Fiona C Bull ,[1,2] Salih S Al-Ansari,[3] Stuart Biddle,[4] Katja Borodulin,[5,6] Matthew P Buman ,[7] Greet Cardon,[8] Catherine Carty,[9,10] Jean-Philippe Chaput ,[11] Sebastien Chastin ,[12] Roger Chou,[13] Paddy C Dempsey,[14,15] Loretta DiPietro,[16] Ulf Ekelund ,[17,18] Joseph Firth,[19,20] Christine M Friedenreich,[21] Leandro Garcia,[22] Mu[illegible] Gichu,[23] Russell Jago ,[24] Peter T Katzmarzyk,[25] Estelle Lambert ,[26] Mic[illegible] Francisco B Ortega,[29] Chathuranga Ranasinghe,[3] Anne Tiedemann,[32] Richard P Troiano ,[33] Hidd[illegible] Juana F Willumsen[1]

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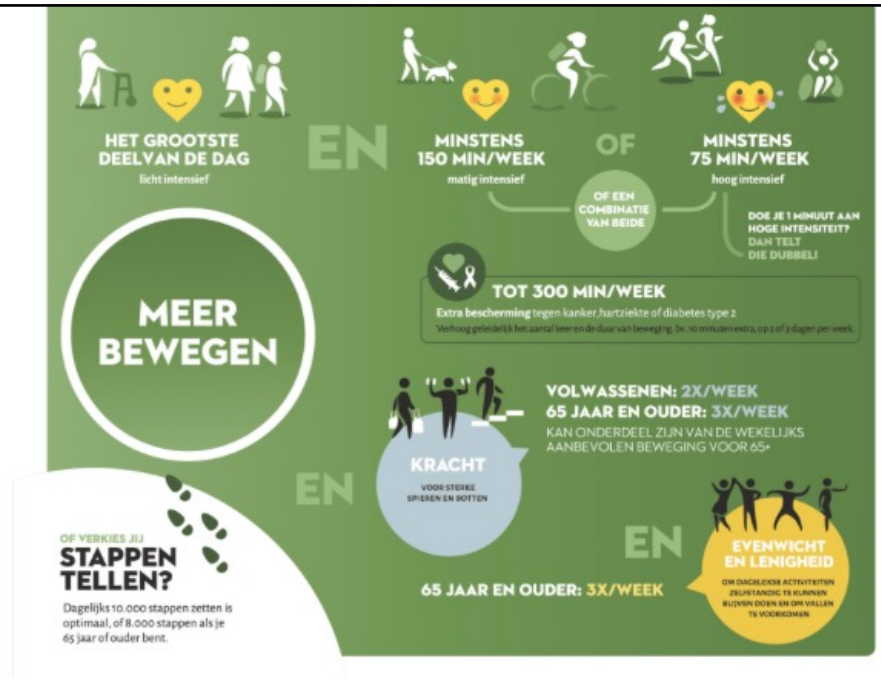


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# EPIDEMIOLOGISCHE STUDIES

**Cross-sectioneel onderzoek** van baseline data van Health, Aging and Body Composition (HealthABC) study. (Brach et al. 2004, American geriatric society)

- 3075 mannen en vrouwen tussen 70 en 79 jaar.

- Score op functionele beperkingen
- Hoe hoger, hoe slechter

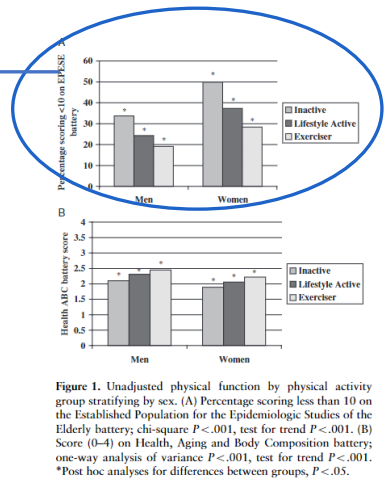


**Figure 1.** Unadjusted physical function by physical activity group stratifying by sex. (A) Percentage scoring less than 10 on the Established Population for the Epidemiologic Studies of the Elderly battery; chi-square $P<.001$, test for trend $P<.001$. (B) Score (0–4) on Health, Aging and Body Composition battery; one-way analysis of variance $P<.001$, test for trend $P<.001$. *Post hoc analyses for differences between groups, $P<.05$.

De 'lifestyle active' en 'exerciser' verbruiken evenveel kcal/week

- men: 6,135 kcal/wk and 6,734 kcal/wk, respectively;
- women: 5,695 kcal/wk and 5,854 kcal/wk, respectively;

CONCLUSIE: elk type van fysieke activiteit is beter dan geen activiteit om te beschermen tegen functionele beperkingen, MAAR 'exercise' (sport) levert meer voordelen op.

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Review

OPEN ACCESS

# How does light-intensity physical activity associate with adult cardiometabolic health and mortality? Systematic review with meta-analysis of experimental and observational studies

Sebastien F M Chastin,[1,2] Marieke De Craemer,[2] Katrien De Cocker,[2,3,4] Lauren Powell,[5,6] Jelle Van Cauwenberg,[3,7] Philippa Dall,[1] Mark Hamer,[8] Emmanuel Stamatakis[5,6]

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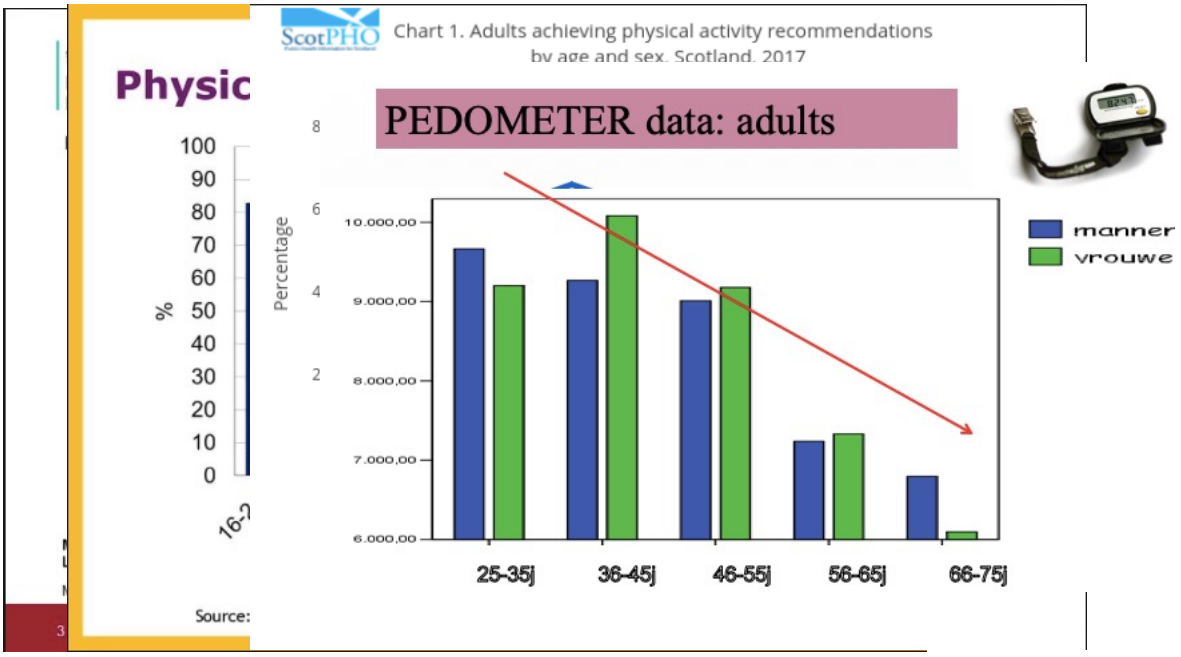


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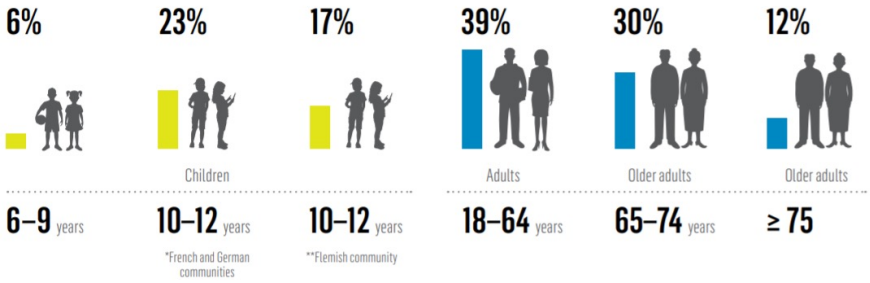
BELGIUM
PHYSICAL ACTIVITY
FACTSHEET 2018

**Level of physical activity**

ESTIMATED PREVALENCE OF SUFFICIENT PHYSICAL ACTIVITY LEVELS




The ongoing national health survey (2018) will be conducted with a new method to improve the quality and comparability of the data collected. It will be based on self-administered and face-to-face interviews and the European Health Information Survey Physical Activity Questionnaire.

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# Seniorensportparticipatie in Vlaanderen

- Laatste 12 maanden deelgenomen aan sport? (inclusief volkssporten)

55-plussers

- Man: 61 %
- Vrouw: 51 %

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# Top 10 in Vlaanderen sportende +55

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# Top 10 in Vlaanderen sportende +55

| Mannen | Vrouwen |
|---|---|
| fietsen | fietsen |
| wandelen | wandelen |
| petanque | dans |
| zwemmen | lichaamsoefeningen |
| biljart | petanque |
| dans | zwemmen |
| lichaamsoefeningen | fitness |
| fitness | bowling, kegelen |
| krulbol | loopsport |
| bowling, kegelen | aerobics |

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## ‘Rond welke thema's omtrent geestelijke gezondheid en sociaal welzijn zou je graag meer te weten komen?

(921 antwoorden)

Top 5:

- Internet /digitale wereld (35,5%),
- **Voldoende bewegen** (27,6%),
- Piekeren (22,1%),
- Cognitief functioneren (22,1%)
- Leven met een (chronsiche) aandoening (19,1%).

Bevraging pluralistische seniorenvereniging S-Plus, 2021

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## weten ≠ willen ≠ doen

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# Belangrijkste hindernissen

- Negatief imago van de ouderen
- Sportbiografie en vroegere faalervaringen
- Gezondheidstoestand: chronische aandoeninger gepercipieerde gezondheidstoestand
- Andere hobbies
- Geen tijd
- Verplaatsing, vervoer, reizen
- Weinig financiële middelen


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**Which environmental factors most strongly influence a street's appeal for bicycle transport among adults?**
**A conjoint study using manipulated photographs.**
Mertens L et al. Int J Health Geogr. 2016 Sep 1;15(1):31.

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International Journal of
*Environmental Research and Public Health*

MDPI

*Article*

# A Cross-Sectional Investigation of the Importance of Park Features for Promoting Regular Physical Activity in Parks

Sarah A. Costigan [1,*], Jenny Veitch [2], David Crawford [2], Alison Carver [1,3] and Anna Timperio [2]

1 School of Exercise and Nutrition Sciences, Deakin University, Geelong 3220, Australia; alison.carver@acu.edu.au
2 Institute for Physical Activity and Nutrition (IPAN), Deakin University, Geelong 3220, Australia; jenny.veitch@deakin.edu.au (J.V.); david.crawford@deakin.edu.au (D.C.); anna.timperio@deakin.edu.au (A.T.)
3 Mary MacKillop Institute for Health Research, Australian Catholic University, Melbourne 3000, Australia
* Correspondence: sarah.costigan@deakin.edu.au; Tel.: +61-35227-3461

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## Belang van park eigenschappen voor fysieke activiteit bij ouderen

?

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Om te bewegen in een park – ouderen
Costigan et al. 2017

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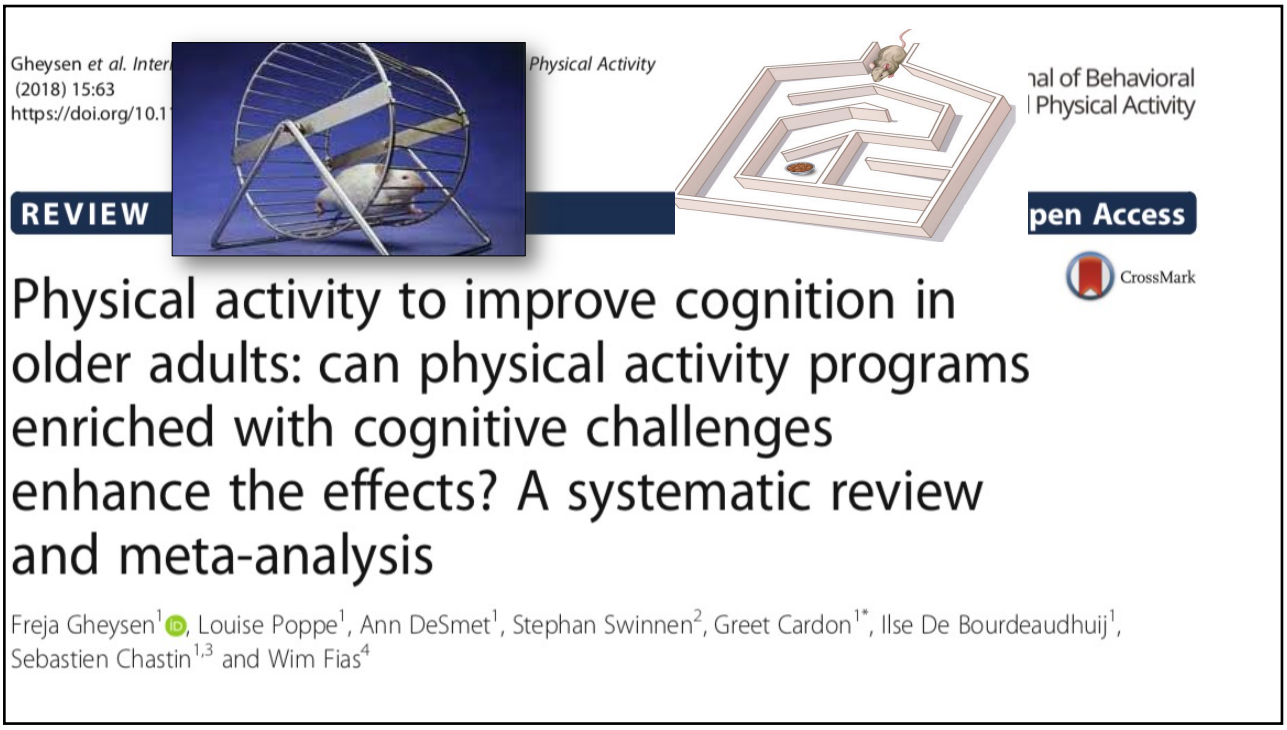
Gheysen et al. Inter
(2018) 15:63
https://doi.org/10.1
Physical Activity
REVIEW
al of Behavioral
Physical Activity
pen Access
CrossMark
Physical activity to improve cognition in older adults: can physical activity programs enriched with cognitive challenges enhance the effects? A systematic review and meta-analysis
Freja Gheysen[1], Louise Poppe[1], Ann DeSmet[1], Stephan Swinnen[2], Greet Cardon[1*], Ilse De Bourdeaudhuij[1], Sebastien Chastin[1,3] and Wim Fias[4]

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TAKE YOUR BRAIN FOR A WALK!

GHENT UNIVERSITY KU LEUVEN VLAAMS INSTITUUT GEZOND LEVEN fwo

37

Marent *et al. BMC Geriatrics* (2022) 22:167
https://doi.org/10.1186/s12877-022-02823-z

BMC Geriatrics

RESEARCH Open Access

# Conceptualization of a cognitively enriched walking program for older adults: a co-design study with experts and end users

Pieter-Jan Marent[1,2], Arwen Vangilbergen[1,2], Sebastien Chastin[2,3], Greet Cardon[2], Jannique G. Z. van Uffelen[1] and Melanie Beeckman[2*]

KU LEUVEN fwo UNIVERSITEIT GENT

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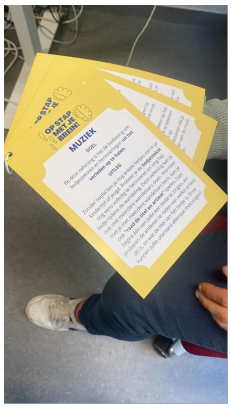
## Take your brain for a walk - program


*Look for the 7 differences …*

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# Take home messages

- Preventie : nu!
- In beweging voor lichaam en geest
- Weten ≠ doen
- Plezier van beweging
- Beweegvriendelijke omgevingen zijn belangrijk: gezonde keuze = makkelijkste keuze

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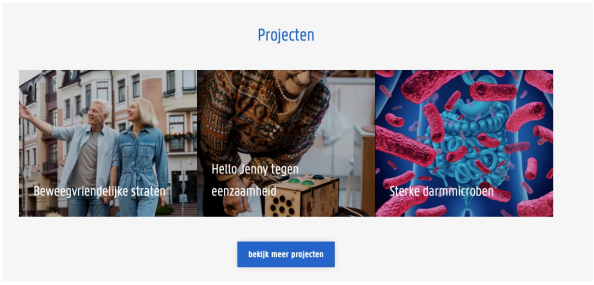
# Bedankt!

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