University of Zurich[UZH]

Institute of Social and Preventive Medicine

Determinants of physical activity: why are some people physically active and others not?

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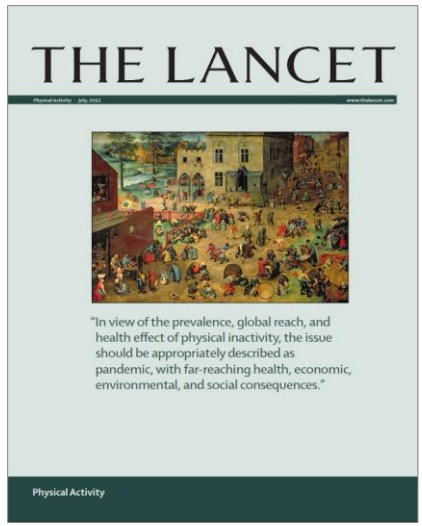
Institute for Environmental Decisions (IED), Consumer Behavior, ETH Zurich, 28.03.2013



The Lancet Physical Activity Series Working Group

33 researchers from 16 countries

www.thelancet.com/series/physical-activity

Panel 1: **Health benefits of physical activity in adults[3-5]**

Strong evidence of reduced rates of:

- All-cause mortality
- Coronary heart disease
- High blood pressure
- Stroke
- Metabolic syndrome
- Type 2 diabetes
- Breast cancer
- Colon cancer
- Depression
- Falling

Strong evidence of:

- Increased cardiorespiratory and muscular fitness
- Healthier body mass and composition
- Improved bone health
- Increased functional health
- Improved cognitive function

Lee IM, Shiroma EJ, Lobelo F, Puska P, Blair SN, Katzmarzyk PT, for the Lancet Physical Activity Series Working Group. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. Lancet. 2012 Jul 21;380(9838):219-29.

Panel 1: **Health benefits of physical activity in adults[3-5]**

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conservative assumptions

↓

calculation of burden of disease ← physical inactivity

- 6% to 10% of cases for these diseases worldwide
- 9% of premature mortality worldwide (5.3 million deaths)

~ comparable to worldwide effects of smoking or obesity

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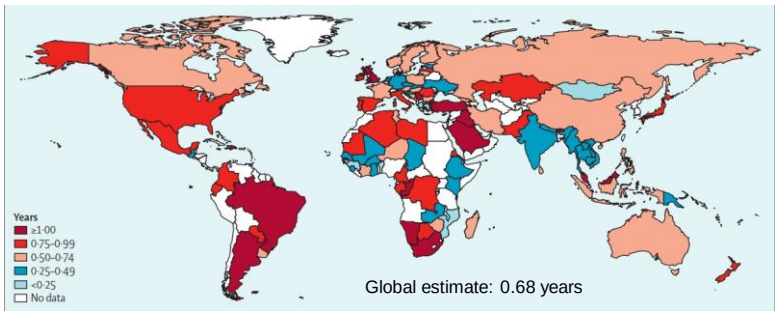
Estimated gains in life expectancy worldwide with elimination of physical inactivity



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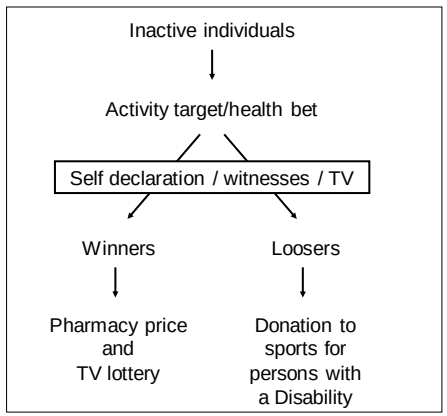
General idea <<Health Bet>>



Launching «Health Bet» in September 2003

- **TV health programme «Gesundheit Sprechstunde» with 300‘000-500‘000 spectators**
- **Health magazine «Gesundheit Sprechstunde» with circulation 80‘000**
- **Article in in pharmacy magazine**
- **170 (-> 180) participating pharmacies/dispensing chemists**

➔ Expected number of participants: 1’000 to 10’000

Dössegger A, Nützi C, Kienle G, Ackermann B, Stutz S, Martin BW. Experiences in nationwide recruiting for the Allez Hop Physical Activity Programme. . Schweiz Z Sportmed Sporttraumatol 2009: 57 (2); 61-64

Participation «Health Bet» in September 2003

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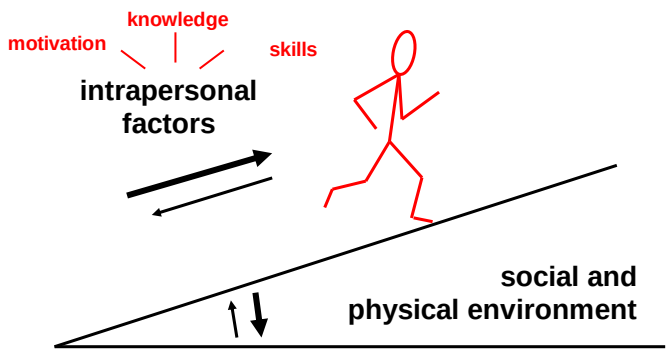
- **Health magazine «Gesundheit Sprechstunde» with circulation 80‘000**
- **Article in in pharmacy magazine**
- **170 (-> 180) participating pharmacies/dispensing chemists**

➔ 35 bets accepted out of 55 offered

➔ 8 winners

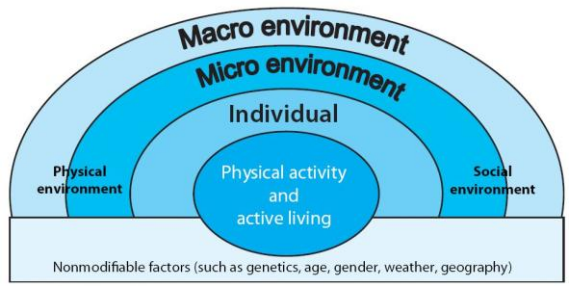
Dössegger A, Nützi C, Kienle G, Ackermann B, Stutz S, Martin BW. Experiences in nationwide recruiting for the Allez Hop Physical Activity Programme. . Schweiz Z Sportmed Sporttraumatol 2009: 57 (2); 61-64

Determinants of (physical activity) behaviour



Martin BW, Martin E, Mengisen W. Promotion de l'activité physique: définir des stratégies intégrées en Europe. In Inserm. Activité physique et santé. Contextes et effets sur la santé. Expertise collective. Paris, Inserm 2008: 755-768.

Determinants of physical activity behaviour



Source: adapted from Dahlgren *(61)*.

Cavill N, Racioppi F, Kahlmeier S. Physical Activity and Health in Europe. Evidence for Action. Copenhagen: WHO, 2006. www.euro.who.int/hepa

A conceptual approach to determinants of PA

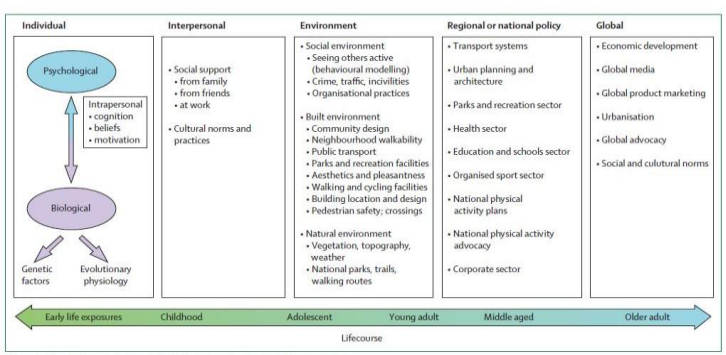


Figure 1: Adapted ecological model of the determinants of physical activity

Bauman A, Reis R, Sallis JF, Wells J, Loos R, Martin BW, for the Lancet Physical Activity Series Working Group. Physical Activity 2 - Why are some people physically active and others not? Understanding the Correlates of Physical Activity. Lancet. 2012 Jul 21;380(9838):258-71.

Evaluation «Health Bet» 2003

Representative population survey (n=811)

"The results (…) showed a solicited awareness of 39% for the "Health Bet" for the whole of Switzerland and of 50% for the German-speaking part where the intervention was centred."

Survey in TV show audience (n=153)

„53% of all interviewees were aware of the health bet. Among them, 56% were informed about the objective of the intervention, 54% knew the target population, 38% knew that health bets could be placed with the pharmacists and 25% were informed of all three aspects.
When asked whether they saw themselves as members of the target group of the intervention, the following proportion of the three categories (…) answered "yes": trained 39%; active 50%; insufficiently active: 48%."

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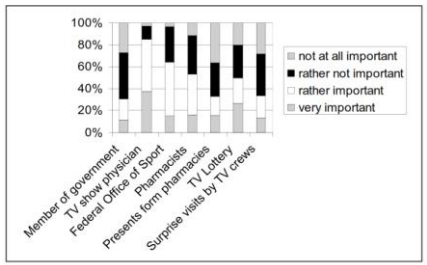
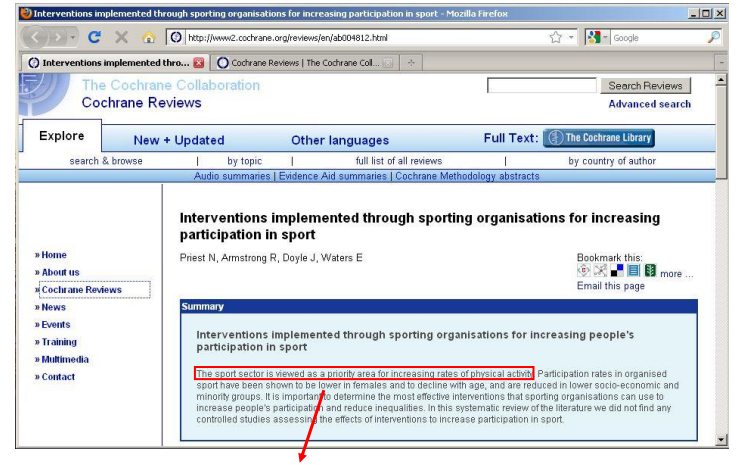


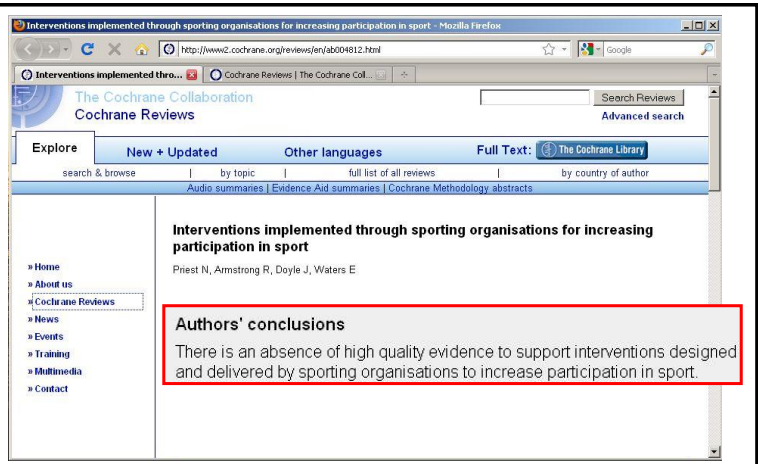
Figure 4: Relevance of the different motivational elements of the "Health Bet" according to the interviews with the audiences of the "Health Practice" shows in December 2002 and January 2003 (n=153)

„A question addressed specifically the surprise visits of the TV crews to the health bet participants: A little less than 36% of the TV audience saw this element as partially motivating and partially deterring, while 33 % saw it as rather or very motivating and 31% as rather or very deterring.

Dössegger A, Nützi C, Kienle G, Ackermann B, Stutz S, Martin BW. Experiences in nationwide recruiting for the Allez Hop Physical Activity Programme. Schweiz Z Sportmed Sporttraumatol 2009: 57 (2); 61-64



The sport sector is viewed as a priority area for increasing rates of physical activity.



Relative risks for being inactive by sport club membership

Table 4 Odds ratios for being physically inactive in young males and females

	Men				Women			
	"no sport"		inactive		"no sport"		inactive	
	unadjusted	adjusted[1]	unadjusted	adjusted[1]	unadjusted	adjusted[1]	unadjusted	adjusted[1]
Sport club membership								
member	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
non-member	6.6 (5.4-8.1)	6.7 (4.9-8.9)	4.2 (3.5-5.0)	4.6 (3.5-6.0)	7.3 (6.0-8.9)	8.1 (5.7-11.4)	5.3 (4.4-6.5)	4.6 (3.3-6.4)
p-value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

[1] adjusted for all variables displayed in the table except education
All estimates and 95% CI are based on the pooled data using the GEE model with pair-wise log odds ratios for the within-subject correlation, $n_{male\ participants}$ = 1,534; $n_{female\ participants}$ = 1,534)

6.7 4.6 8.1 4.6

Relative risks for becoming inactive by sport club membership

Table 5 Odds ratios for becoming physically inactive in previously active young males and females

	Men				Women			
	becoming "no sport"		becoming inactive		becoming "no sport"		becoming inactive	
	unadjusted	adjusted[1]	unadjusted	adjusted[1]	unadjusted	adjusted[1]	unadjusted	adjusted[1]
Sport club membership								
remaining member	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
becoming member	1.4 (0.7-2.7)	1.3 (0.4-3.3)	2.1 (1.2-3.7)	2.7 (1.1-6.3)	1.5 (0.8-2.8)	2.7 (1.1-7.0)	2.1 (1.2-3.6)	1.6 (0.7-3.7)
p-value	0.3	0.6	0.01	0.02	0.2	0.04	0.007	0.2
becoming non-member	7.4 (4.9-11.0)	7.8 (4.4-14.0)	5.6 (3.9-8.1)	5.9 (3.4-10.5)	7.0 (4.5-11.1)	11.9 (5.9-24.1)	5.4 (3.5-8.5)	5.1 (2.7-9.6)
p-value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
remaining non-member	9.2 (6.6-13.1)	7.8 (4.7-12.9)	5.2 (3.7-7.4)	5.1 (3.1-8.4)	10.7 (7.3-15.6)	12.4 (6.4-24.1)	7.9 (5.4-11.3)	6.9 (4.0-11.8)
p-value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

[1] adjusted for all variables displayed in the table except education
[2] OR = 12.7 (2.6-61.5), due to small numbers estimates become unreliable
All estimates and 95% CI are based on the pooled data for the one-year outcome conditional to previous physical activity level using the GEE model with an independent correlation structure for the within-subject association. Only observations were included with data for the preceding wave in individuals previously active in sports ($n_{male\ participants}$ = 95[2]; $n_{female\ participants}$ = 931) or previously active ($n_{male\ participants}$ = 933; $n_{female\ participants}$ = 936)

7.8 5.9 11.9 5.1

Objectives of the "correlates" article

- Summary of present knowledge and its development
- Examination of correlates and determinants research in countries of low and middle income
- Discussion of "hot topics" in the field

Bauman AE, Reis RS, Sallis JF, Wells JC, Loos RJF, Martin BW. Lancet 2012; 380 (9838): 258-71

Role of the lifecourse for correlates and determinants of PA

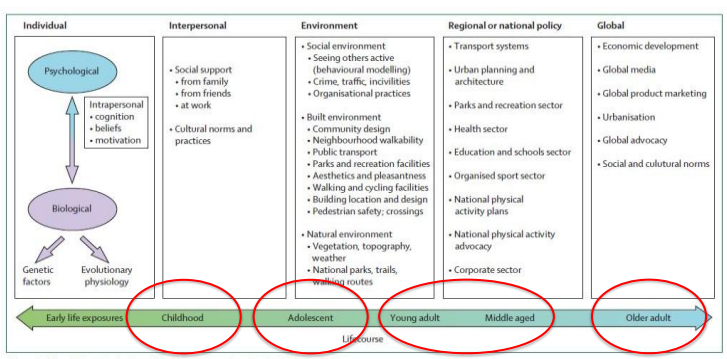


Figure 1: A dapted ecological model of the determinants of physical activity

children adolescents adults older adults

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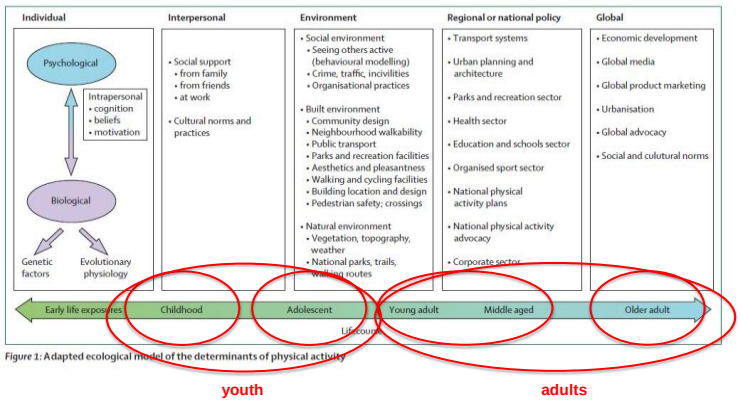

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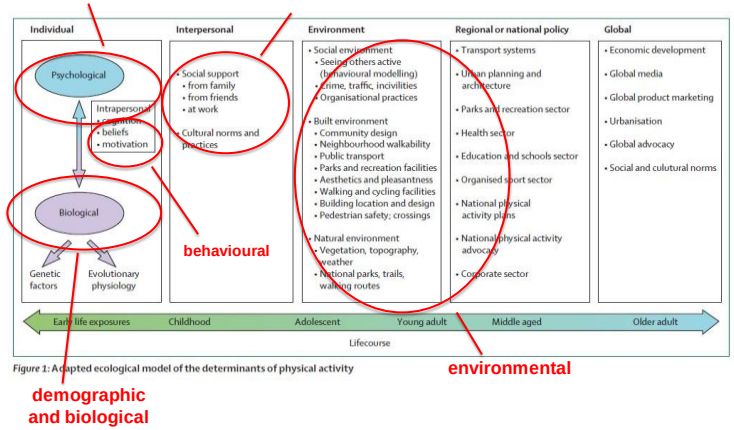
Categories of correlates and determinants of PA



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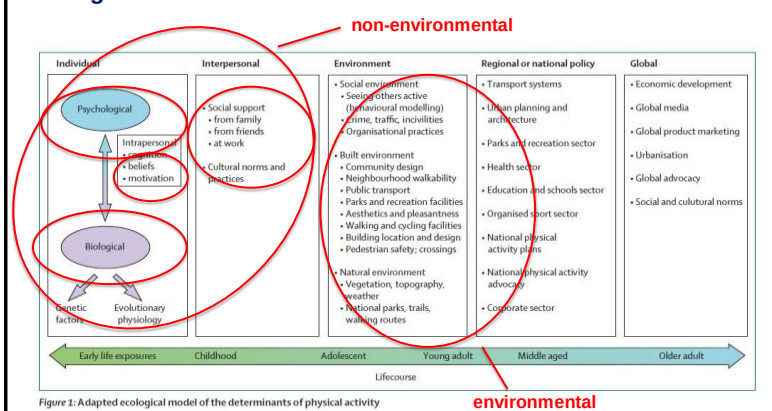


Bauman AE, Reis RS, Sallis JF, Wells JC, Loos RJF, Martin BW. Lancet 2012; 380 (9838): 258-71

Methods

(<) 1110 original articles

Systematic review of systematic reviews and meta-analyses

	initial search	read	final selection	included	
non-environ-mental factors	1891 →	1299 →	32 →	8	youth
				9	adults
environmental factors	7621 →	4835 →	42 →	9	adults

Existing recent systematic review

environmental factors — Ding D et al, Am J Prev Med 2011; 41: 442–55 — youth

Systematic review of original articles low and middle income countries

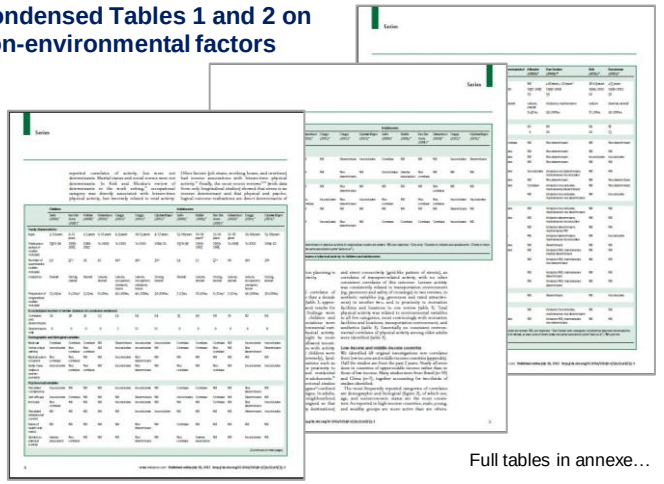
all factors — 1360 → 988 → 68 → 68 — all ages

Review of topics of growing interest

Genetics – evolution – obesity - tracking

Bauman AE, Reis RS, Sallis JF, Wells JC, Loos RJF, Martin BW. Lancet 2012; 380 (9838): 258-71

Condensed Tables 1 and 2 on non-environmental factors



Full tables in annexe…

Bauman AE, Reis RS, Sallis JF, Wells JC, Loos RJF, Martin BW. Lancet 2012; 380 (9838): 258-71

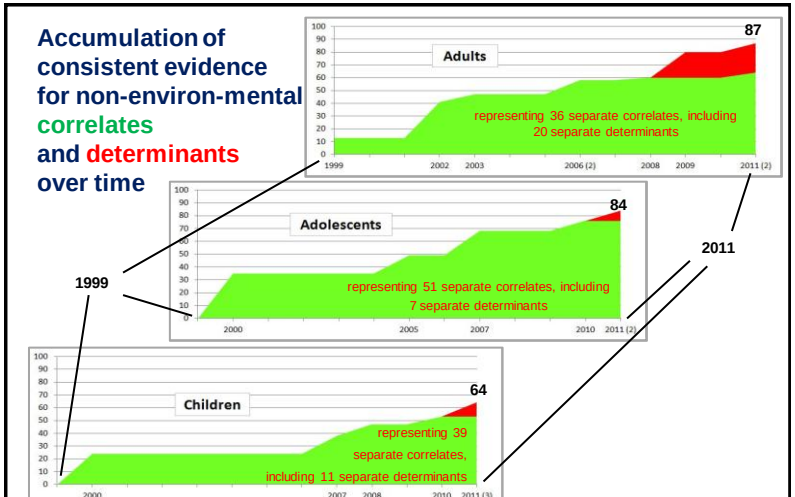
Concept of consistent evidence

Consistent evidence for role as determinant:
- three or more original reports cited in review
- review based exclusively on longitudinal design studies
- at least 60% of them show the same association (direct, inverse or consistently no association)

Consistent evidence for role as correlate:
- three or more original reports cited in review
- review based on cross-sectional design studies
- at least 60% of them show the same association

Sallis JF, Prochaska JJ, Taylor WC. Med Sci Sports Exerc 2000; 32: 963.

Accumulation of consistent evidence for non-environ-mental correlates and determinants over time



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Examples of variables identified as consistent correlates

Non-environmental factors

	children	adolescents	adults
Reported health			direct
Male sex	direct	direct	direct
Intention to exercise			direct
Self-efficacy	direct	direct	direct
Previous physical activity	direct	direct	direct
Social support		direct	

Environmental factors

	children	adolescents	adults
Neighbourhood design	direct		
Recreation facilities and locations	direct		direct
Transport environments	direct		direct
Aesthetics			direct

Bauman AE, Reis RS, Sallis JF, Wells JC, Loos RJF, Martin BW. Lancet 2012; 380 (9838): 258-71

Correlates and determinants of domains of PA

Figure 1: Adapted ecological model of the determinants of physical activity

specific activity
specific activity
...
physical activity
overall physical activity

Bauman AE, Reis RS, Sallis JF, Wells JC, Loos RJF, Martin BW. Lancet 2012; 380 (9838): 258-71

Correlates and determinants of domains of PA

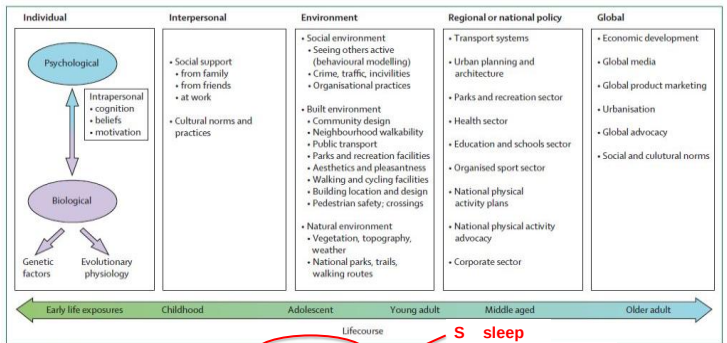


Figure 1: Adapted ecological model of the determinants of physical activity

physical activity

S sleep
L leisure time
O occupational
T transport
H home

Correlates and determinants of domains of PA

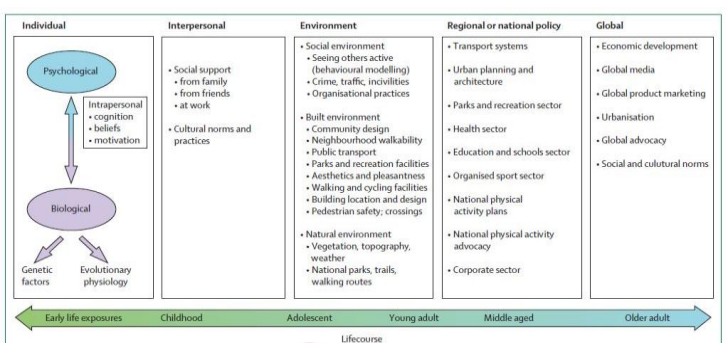


Figure 1: Adapted ecological model of the determinants of physical activity

Sedentary behaviour
Light intensity behaviour
physical activity
Moderate intensity activities
MVPA
Vigorous intensity activities

Correlates and determinants of domains of PA

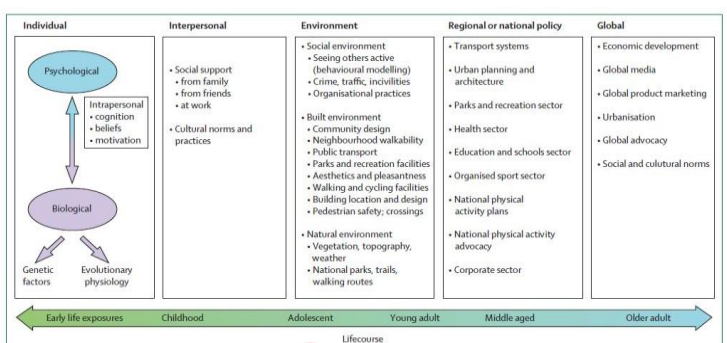


Figure 1: Adapted ecological model of the determinants of physical activity

initiation
physical activity
maintenance

Examples of variables identified as consistent correlates

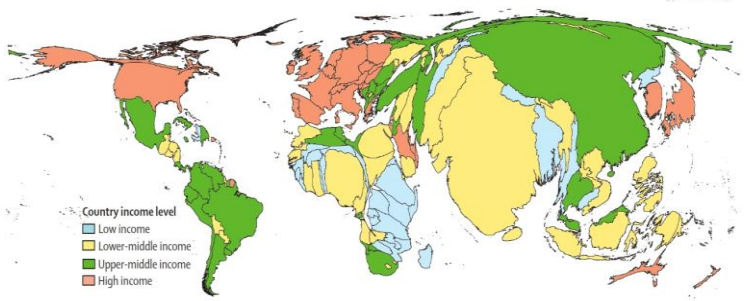
"Health status and self-efficacy are the clearest correlates in adults, with consistent evidence for a direct role in four of seven reviews (table 2). Consistent evidence from one of two reviews shows that both are determinants (table 2). The next clearest are personal history of physical activity during adulthood and intention to exercise, both with consistent evidence for a direct role from two correlate reviews and one determinant review. The stages of behavioural change according to the transtheoretical model were direct correlates in one review and direct determinants in another."

Why is there not more consistency between reviews?

- Lack of standardisation in assessment of potential correlates
- Differences between countries and population subgroups
- Diversity of the outcome "physical activity"

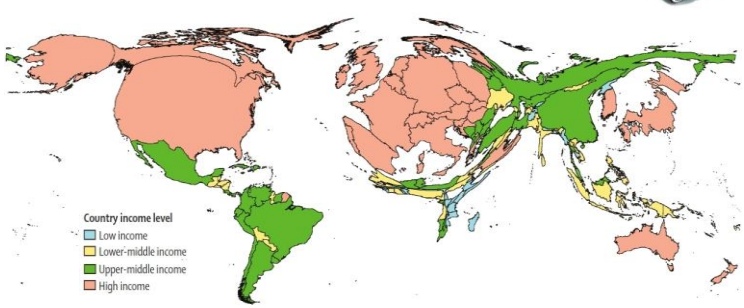
Bauman AE, Reis RS, Sallis JF, Wells JC, Loos RJF, Martin BW. Lancet 2012; 380 (9838): 258-71

Countries resized according to population size



Pratt M, Sarmiento OL, Montes F, et al, for the Lancet Physical Activity Series Working Group. Physical Activity 4 - The implications of megatrends in information and communication technology and transportation for changes in global physical activity. Lancet. 2012 Jul 21;380(9838):282-93.

Countries resized according to car ownership



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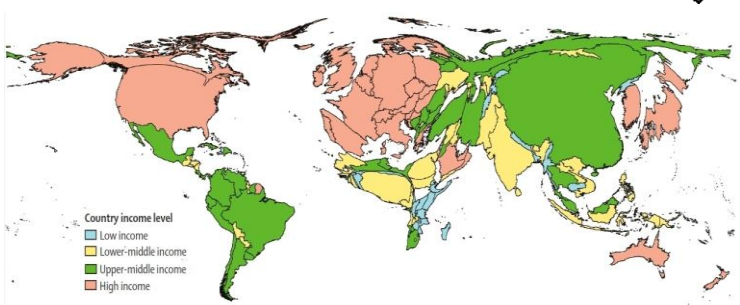
Countries resized according to Internet use



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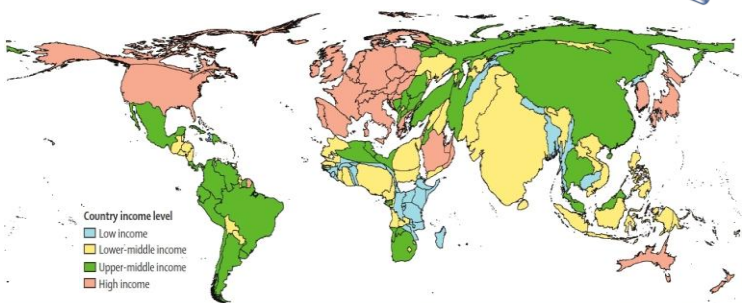
Countries resized according to mobile phone use



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Key messages

- Non-commun… deaths occur in low-income or middle-income countries
- Physical inactiv… accounting for …
- The challenges … several importa… shape people's …
- Information an… access have grown enormously during the past decade; these technologies have the potential to affect physical activity
- Trends in transp… improved and … negatively and …
- On the basis of … modelled the ef… ownership on p…
- The direct and p… middle-income … planned physic…
- The greatest po… of supportive p… communication)
- There is a glaring mismatch between where the studies of physical activity interventions have been done and where the potential lies for population-level effects that will truly affect global health (low-income and middle-income countries)

„The implications of megatrends – key messages“

- „ On the basis of a review of publications about physical activity interventions, **we modelled the effects of megatrends in internet access, mobile phone access, and car ownership on physical activity**."
- The direct and potentiating **effects of mobile phone technology on physical activity** in middle-income and upper-income countries are **similar in size to the mean effects of planned physical activity interventions** in community and clinical settings.
- The **greatest potential** (…) might be **in the creation of supportive policies in sectors outside health (transportation, urban planning, and communication)**"

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HEALTH EDUCATION RESEARCH Theory & Practice — Vol.19 no.4 2004 Pages 406–417

The Stages of Change in three stage concepts and two modes of physical activity: a comparison of stage distributions and practical implications

Eva Martin-Diener[1,2,3], Nicole Thüring[1,2], Thomas Melges[1] and Brian W. Martin[2]

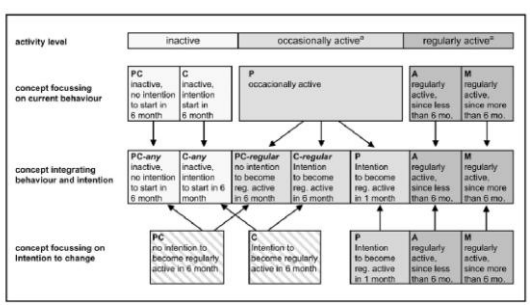

Fig. 1. Three concepts of the Stages of Change for physical activity. PC = precontemplation, C = contemplation, P = preparation, A = action, m = maintenance; *-any*: intention/no intention for *any* activity, *-regular*: intention/no intention for *regular* activity.
[a]Regular physical activity defined according to behavior and target criteria under consideration.

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The Stages of Change in three stage concepts and two modes of physical activity: a comparison of stage distributions and practical implications

Eva Martin-Diener[1,2,3], Nicole Thüring[1,2], Thomas Melges[1] and Brian W. Martin[2]

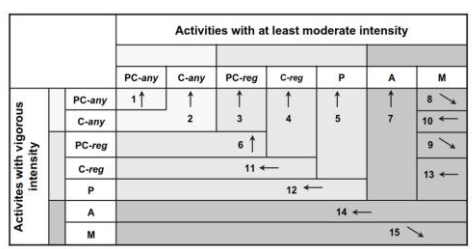
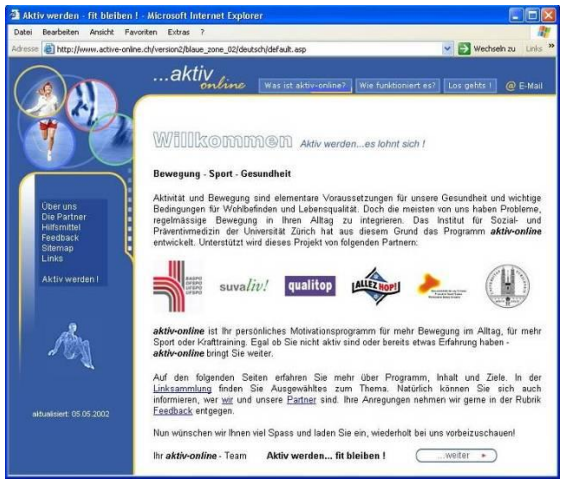


Fig. 2. Stage categorization of participants in a computerized counseling system for two physical activity behaviors. PC = precontemplation, C = contemplation, P = preparation, A = action, M = maintenance; *-any*: intention/no intention for *any* activity, *-reg* = intention/no intention for *regular* activity; h: participants motivated towards moderate intensity activities (Groups 1–7); f: participants motivated towards vigorous intensity activities (Groups 10–14); m: participants motivated to think about strength and flexibility training (Groups 8, 9 and 15).



www.active-online.ch

JOURNAL OF MEDICAL INTERNET RESEARCH Wanner et al

Original Paper

Effectiveness of Active-Online, an Individually Tailored Physical Activity Intervention, in a Real-Life Setting: Randomized Controlled Trial

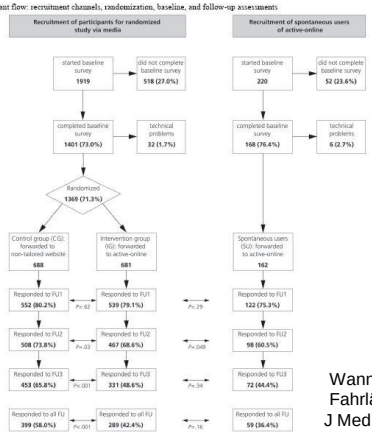
Miriam Wanner[1,2], MSc; Eva Martin-Diener[1], MPH; Charlotte Braun-Fahrländer[2], MD; Georg Bauer[3,4], MD, DrPH; Brian W Martin[1,3], MD, MPH

[1]Swiss Federal Institute of Sport Magglingen, Magglingen, Switzerland
[2]Institute of Social and Preventive Medicine, University of Basel, Basel, Switzerland
[3]Institute of Social and Preventive Medicine, University of Zurich, Zurich, Switzerland
[4]Center for Occupational and Organizational Sciences ETH Zurich, Zurich, Switzerland

(J Med Internet Res 2009;11(3):e23) doi:10.2196/jmir.1179

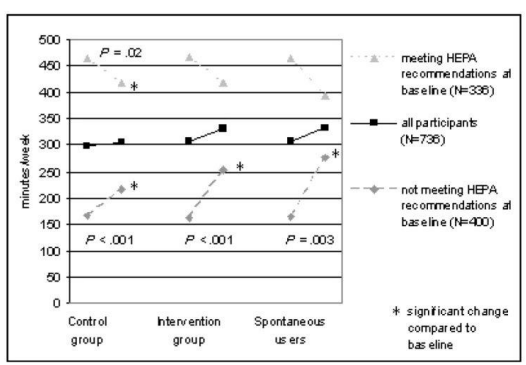
Effectiveness of Active-Online

Figure 4. Participant flow: recruitment channels, randomization, baseline, and follow-up assessments



Wanner M, Martin-Diener E, Braun-Fahrländer C, Bauer G, Martin BW. J Med Internet Res 2009; 11(3): e23

Effectiveness of Active-Online



Wanner M, Martin-Diener E, Braun-Fahrländer C, Bauer G, Martin BW. J Med Internet Res 2009; 11(3): e23

Effectiveness of Active-Online

„In a real-life setting, Active-online was not more effective than a nontailored website in increasing physical activity levels in volunteers from the general population. Further research may investigate ways of integrating Web-based physical activity interventions in a wider context, for example, primary care or workplace health promotion."

Wanner M, Martin-Diener E, Braun-Fahrländer C, Bauer G, Martin BW.
J Med Internet Res 2009; 11(3): e23

JOURNAL OF MEDICAL INTERNET RESEARCH Wanner et al

Original Paper

Comparison of Trial Participants and Open Access Users of a Web-Based Physical Activity Intervention Regarding Adherence, Attrition, and Repeated Participation

Miriam Wanner[1,2], PhD; Eva Martin-Diener[1], MPH; Georg Bauer[3,4], MD, DrPH; Charlotte Braun-Fahrländer[2], MD; Brian W Martin[3], MD, MPH

J Med Internet Res 2010 | vol. 12 | iss. 1 | e3

Table 1. Recorded website visits in the open access context (according to the six time periods from 2003-2009) and during the RCT

Open Access Program Use	Number of Visits Recorded in Database	Number of First Visits (% of Recorded Visits)	Number of First Visits Resulting in Registration (% of First Visits)
Time period (from April 23 to April 22 of the following year)			
2003-2004	42,626	41,699 (97.8%)	2263 (5.4%)
2004-2005	25,392	25,026 (98.6%)	784 (3.1%)
2005-2006	12,776	12,517 (98.0%)	592 (4.7%)
2006-2007	9847	9539 (96.9%)	610 (6.4%)
2007-2008	9689	9451 (97.5%)	513 (5.4%)
2008-2009	8343	8140 (97.6%)	322 (4.0%)
Total (2003-2009)	108,673	106,372 (97.9%)	5084 (4.8%)
RCT[a] (May 1, 2006 to September 30, 2007)	**2103**	**836 (39.8%)**	**836 (100%)**

[a]Trial participants were automatically registered within Active-online.

JOURNAL OF MEDICAL INTERNET RESEARCH Wanner et al
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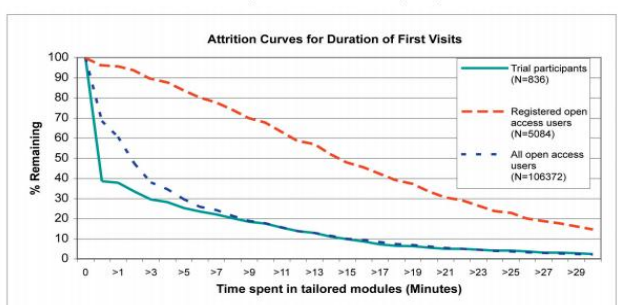
Figure 6. Attrition curves for the duration of the first visit for open access users and trial participants



Original Paper
Comparison of Trial Participants and Open Access Users of a Web-Based Physical Activity Intervention Regarding Adherence, Attrition, and Repeated Participation
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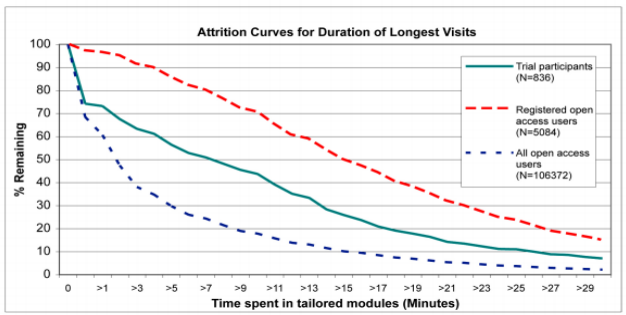
Figure 7. Attrition curves for the duration of the longest visit for open access users and trial participants



JOURNAL OF MEDICAL INTERNET RESEARCH Wanner et al
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Figure 4. Nonusage attrition curves for open access users and trial participants over 18 months

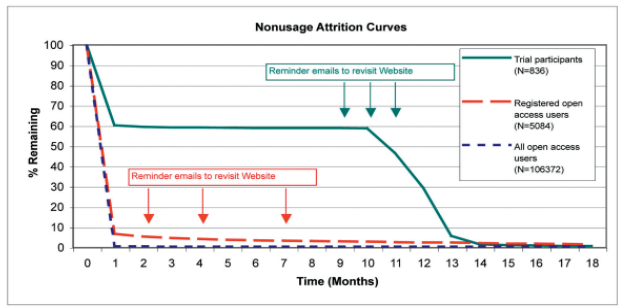

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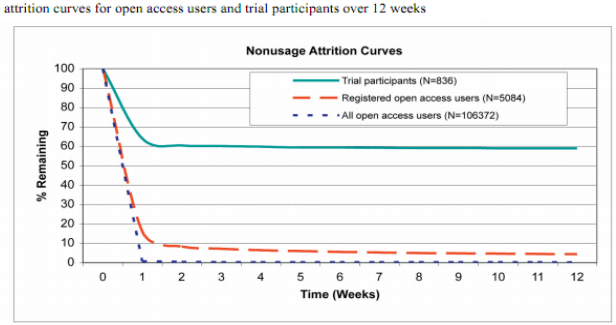
Figure 5. Nonusage attrition curves for open access users and trial participants over 12 weeks



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Curr Cardiovasc Risk Rep (2011) 5:340–349
DOI 10.1007/s12170-011-0180-6

Public Policy Actions Needed to Promote Physical Activity

Bill Bellew · Adrian Bauman · Brian Martin ·
Fiona Bull · Victor Matsudo

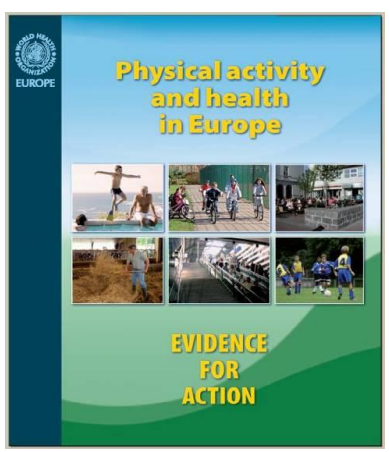
www.thecommunityguide.org

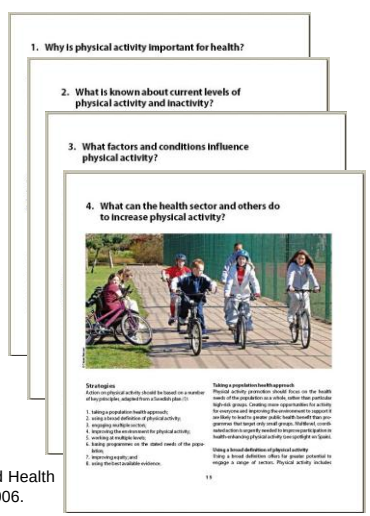
www.who.org

www.nice.org.uk

Evidence-based settings to promote physical activity

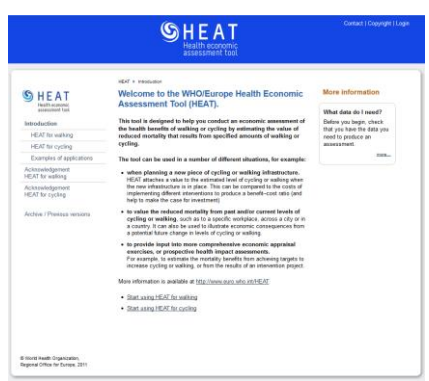
- Policy and environment
- Mass media
- School setting
- Workplace
- The community
- Primary health care

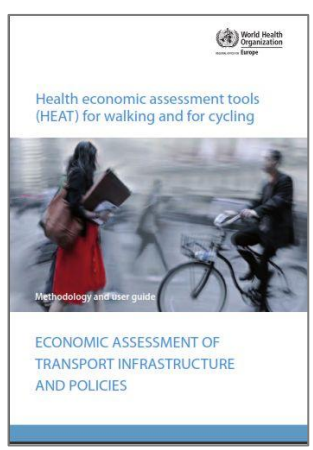




Cavill N, Racioppi F, Kahlmeier S. Physical Activity and Health in Europe. Evidence for Action. Copenhagen: WHO, 2006.

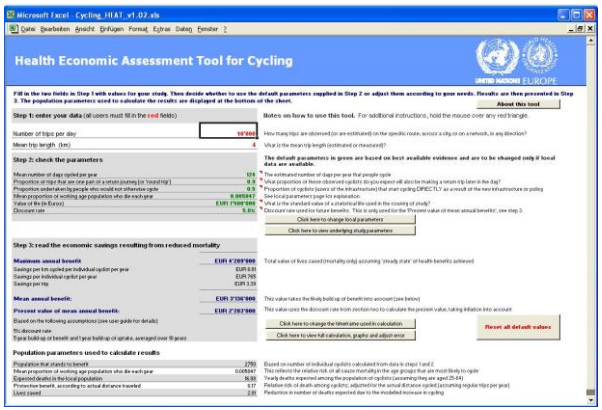
HEAT
Health Economic Assessment Tool for Cycling and for Walking





www.euro.who.int/HEAT

HEAT for Cycling illustrated in its former Excel version



www.euro.who.int/hepa

HEAT for Cycling illustrated in its former Excel version

Step 1: enter your data (all users must fill in the **red** fields)	
Number of trips per day	10'000
Mean trip length (km)	4

Step 2: check the parameters	
Mean number of days cycled per year	124
Proportion of trips that are one part of a return journey (or 'round trip')	0.9
Proportion undertaken by people who would not otherwise cycle	0.5
Mean proportion of working age population who die each year	0.005847
Value of life (in Euros)	EUR 1'500'000
Discount rate	5.0%

Population parameters used to calculate results	
Population that stands to benefit	2750
Mean proportion of working age population who die each year	0.005847
Expected deaths in the local population	16.08
Protective benefit, according to actual distance traveled	0.17
Lives saved	2.81

HEAT for Cycling illustrated in its former Excel version

Step 1: enter your data (all users must fill in the **red** fields)	
Number of trips per day	10'000
Mean trip length (km)	4

Step 3: read the economic savings resulting from reduced mortality	
Maximum annual benefit	**EUR 4'209'000**
Savings per km cycled per individual cyclist per year	EUR 0.81
Savings per individual cyclist per year	EUR 765
Savings per trip	EUR 3.39
Mean annual benefit:	**EUR 3'136'000**
Present value of mean annual benefit:	**EUR 2'283'000**

Based on the following assumptions (see user guide for details)

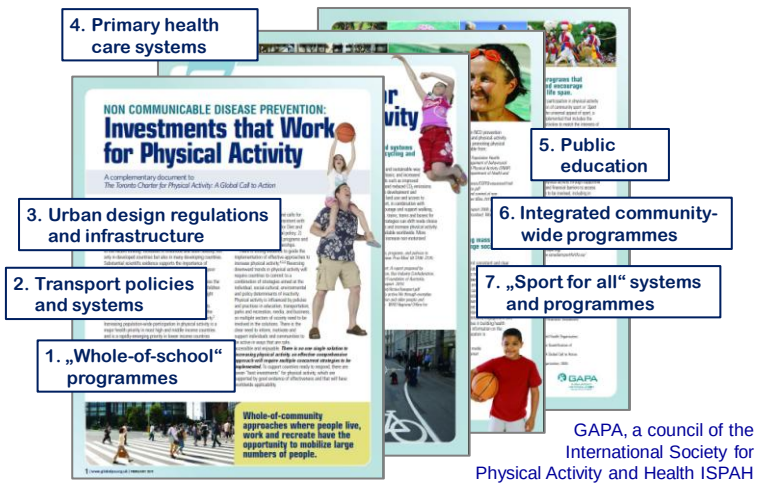
5% discount rate

5 year build-up of benefit and 1 year build-up of uptake, averaged over 10 years

HEAT Applications

www.euro.who.int/HEAT

- Since May 2011:
  - over 2.500 visits
  - from almost 60 countries
- Part of official transport assessment toolbox:
  - in 2 countries (Sweden, England)
  - under consideration in 1 more (France)
- Applied in project evaluations, status quo and scenario analyses



GAPA, a council of the International Society for Physical Activity and Health ISPAH
www.globalpa.org.uk

Review

Effect of school-based interventions on physical activity and fitness in children and adolescents: a review of reviews and systematic update

S Kriemler,[1,2] U Meyer,[1] E Martin,[2] E M F van Sluijs,[3] L B Andersen,[4,5] B W Martin[2]

Br J Sports Med 2011;**45**:923–930. doi:10.1136/bjsports-2011-090186

Effects of J+S-kids teachers' training on physical activity during PE lessons in 7 to 9 year old children

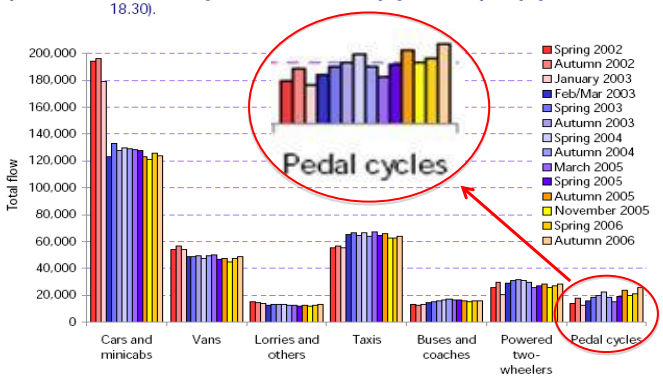
Short title: Physical activity during PE lessons in J+S-kids

Kids Up!

Physical activity behaviour, coordinative abilities and injuries in 7 to 9 year old children

London Congestion Charge

Figure 2.1 Traffic entering the central London charging zone during charging hours (07.00-18.30).



63

Comparison of inhabitants' physical activity behaviour in Zermatt (Community 1), Crans-Montana und Verbier

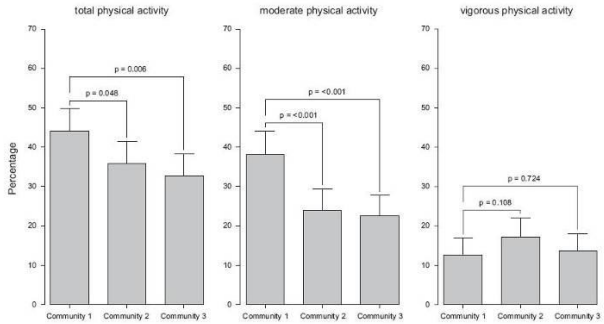


Fig. 1. Age- and sex-adjusted prevalence of sufficient total, moderate and vigorous physical activity by community.

Thommen Dombois O, Braun-Fahrländer Ch, Martin-Diener E. Comparison of adult physical activity levels in three Swiss alpine communities with varying access to motorized transportation. Health & Place, 2007; 13(3): 757-66

BMJ

BMJ 2012;344:e1389 doi: 10.1136/bmj.e1389 (Published 26 March 2012) Page 1 of 17

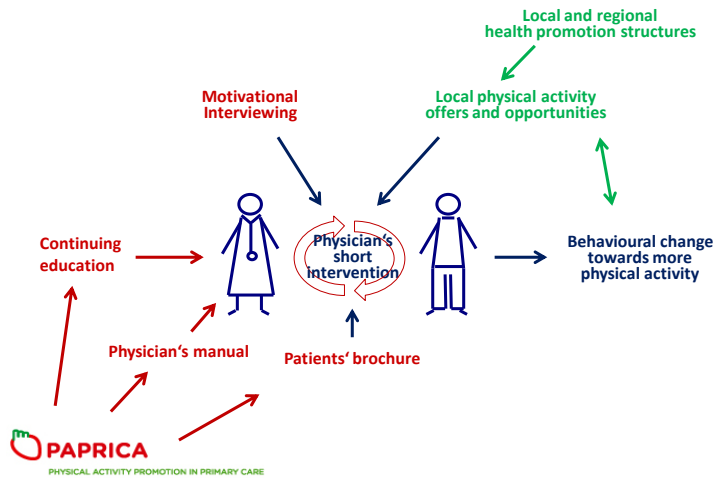
RESEARCH

Effectiveness of physical activity promotion based in primary care: systematic review and meta-analysis of randomised controlled trials

OPEN ACCESS

Gillian Orrow *academic clinical fellow in general practice*, Ann-Louise Kinmonth *foundation professor of general practice*, Simon Sanderson *senior clinical research associate*, Stephen Sutton *professor of behavioural science*

"CONCLUSIONS: Promotion of physical activity to sedentary adults recruited in primary care significantly increases physical activity levels at 12 months, as measured by self report (…)."



www.panh.ch/paprica

www.paprica.ch
www.panh.ch/presse
www.sgsm.ch

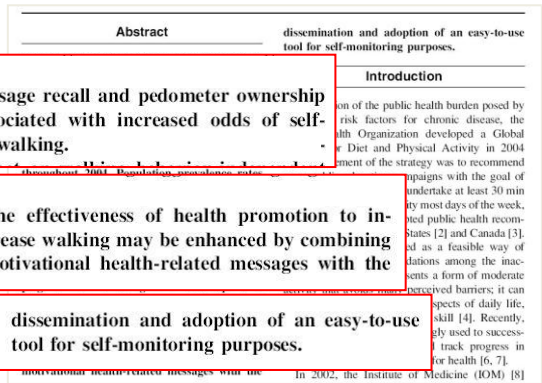
Potential of population wide campaigns

HEALTH EDUCATION RESEARCH Vol.22 no.3 2007
Pages 406–413
Advance Access publication 13 September 2006

Twelve-month effects of Canada on the Move: a population-wide campaign to promote pedometer use and walking

C. L. Craig[1,2]*, C. Tudor-Locke[1,3] and A. Bauman[4]

Potential of population wide campaigns


Abstract

dissemination and adoption of an easy-to-use tool for self-monitoring purposes.

Introduction

Message recall and pedometer ownership were associated with increased odds of self-reported walking.

The effectiveness of health promotion to increase walking may be enhanced by combining motivational health-related messages with the

dissemination and adoption of an easy-to-use tool for self-monitoring purposes.

www.agitasp.org.br

70

Time Trends in Physical Activity in the State of São Paulo, Brazil: 2002–2008

VICTOR K. R. MATSUDO[1], SANDRA M. MATSUDO[1], TIMÓTEO L. ARAÚJO[1], DOUGLAS R. ANDRADE[1], LUIS C. OLIVEIRA[1], and PEDRO C. HALLAL[2]

[1]*Physical Fitness Research Center, CELAFISCS, São Caetano, BRAZIL; and* [2]*Federal University of Pelotas, Pelotas, BRAZIL*

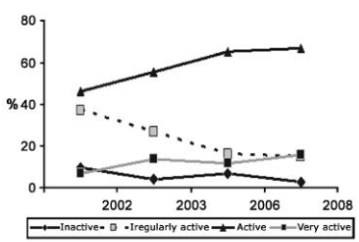


FIGURE 1—Trends of physical activity categories in the state of São Paulo, Brazil (2002, 2003, 2006, and 2008).

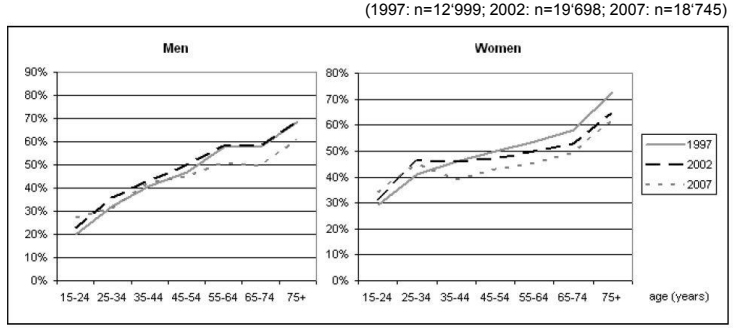
Med Sci Sports Exerc. 2010 Dec;42(12):2231-6.

71

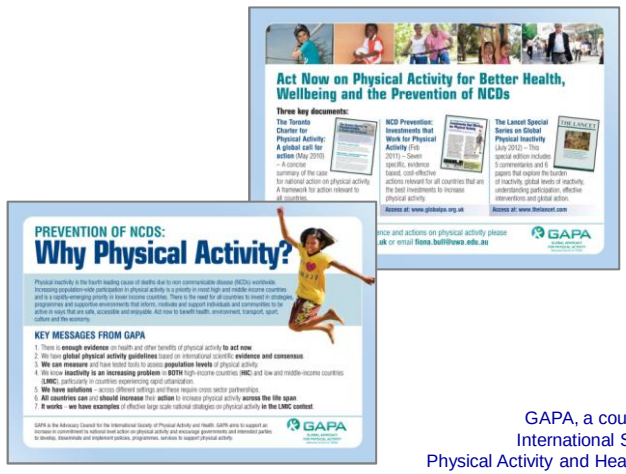
ALLEZHOP
Bewegen. Mit Spass.
1997-2008

Population impact of a nation-wide physical activity programme with 200'000 participants

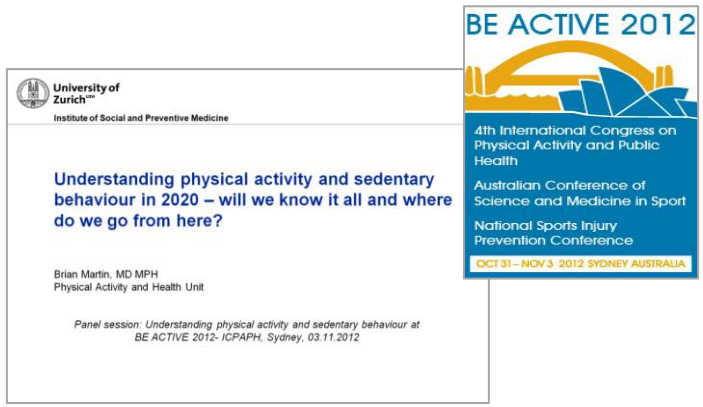
<1 „sweat episodes" during leasure time reported in the Swiss Health Survey (1997: n=12'999; 2002: n=19'698; 2007: n=18'745)



Wanner M, Martin-Diener E, Bauer G, Stamm HP, Martin BW. Brit J Sport Med 2011.



GAPA, a council of the International Society for Physical Activity and Health ISPAH
www.globalpa.org.uk



Physical activity and sedentary behaviour for prevention and public health in 2020

- ↑ Need for interventions and strategies in different cultural contexts and populations subgroups
- ↑ Demand for accountability and evidence-based action
- ↑ Integration in the fight against non-communicable diseases

Understanding PA and sedentary behaviour - still needed in 2020 or time to move on?

- ↑ Need for state-of-the art correlate and determinants research in different cultural contexts and populations subgroups
- ↑ Integration with evaluation research and monitoring systems
- ↑ Identification of similarities and differences in public health and patient-oriented approaches

For population health, the need for more physical activity is clear

- What are determinants of physical activity? ✓
- What do we know about the role of determinants? ✓
- What do we know about the effectiveness of interventions? ✓
- How do we communicate the effectiveness of interventions? ✓
- Where do we go from here?
  - State-of-the-art research in different contexts
  - Integration with evaluation research and monitoring
  - Public health and patient-oriented approaches