

THE POWER OF WALKING, BELFAST 2019

Walking on sunshine:

***What is the evidence for the relationship
between walking and mental health?***

Dr Paul Kelly

PAHRC

Institute for Sport, Physical Education and Health Sciences

13th November 2019





Physical Activity for Health Research Centre (PAHRC)

Key Areas of Research

The promotion of walking

Reducing sedentary time

Physical activity in children and adolescent girls

Physical activity for people with medical conditions

The role of the environment in physical activity
promotion



Prof Nanette Mutrie MBE

<http://www.ed.ac.uk/education/rke/centres-groups/pahrc>





RESEARCH INTERESTS – PHYSICAL ACTIVITY EPIDEMIOLOGY

Health benefits of physical activity
(especially walking and cycling)

Measurement of physical activity

Pragmatic Evaluation

<https://scholar.google.co.uk/citations?user=DXHhJcgAAAAJ&hl=en>



FOR A HAPPIER,
HEALTHIER SCOTLAND

<https://www.pathsforall.org.uk/>

Walking for wellbeing and good mental health

Conversation starters



Ending Mental Health Stigma One Conversation At a Time
Connecting Communities

BJSM

The Journal of Sport & Exercise Medicine

**Special Issue:
Walking and Health**

June 2019 / Volume 52 Issue 12

**Editor
Professor
Emmanuel
Stamatakis**



Impact
Factor
6.6



7th ISPAH Congress

London, England
15–17 October 2018
www.ISPAH2018.com
#ISPAH2018 @ISPAH



bjsm.bmj.com

BMJ

Special Issue on
Walking and
Health

<https://bjsm.bmj.com/content/52/12>

BJSM SPECIAL EDITION WALKING FOR HEALTH

Celebrating 21 Years of Walking Research



10 Articles:

3 Editorials

1 BJSM Bright Spot

2 Original Articles

4 Reviews



This infographic is based on a Special Edition on Walking and Health.

This was published in June 2018 in BJSM.

Work led by:



British Journal of
Sports Medicine

June 2018 Volume 52 Issue 12

Contact: Prof Marie Murphy mh.murphy@ulster.ac.uk

<http://bjsm.bmj.com/content/52/12>

Walking to Health

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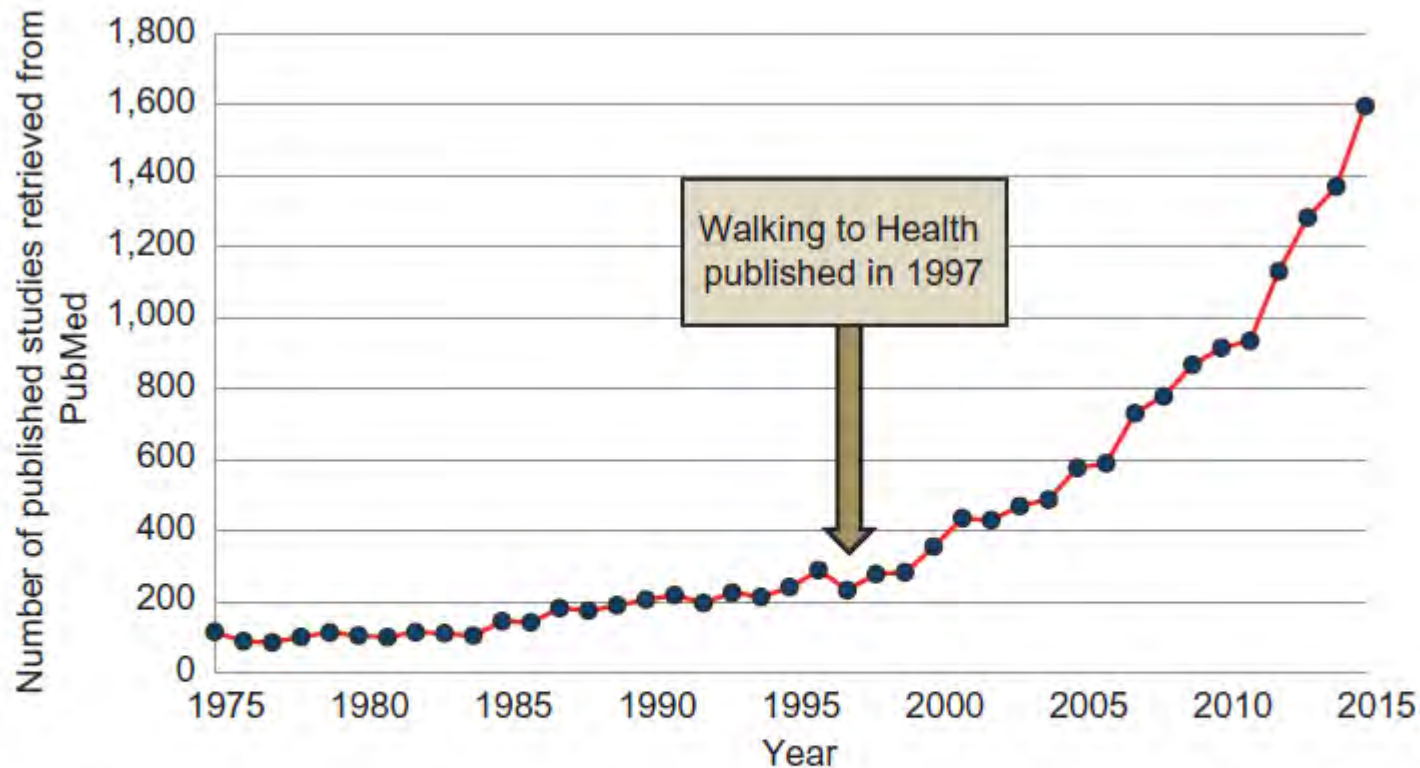


Fig. 1. Published Studies Retrieved from the PubMed US National Library of Medicine with (walk*) in the title 1975–2015 (National Institute for Health and Clinical Excellence, 2012).

Contents

Summary	307
1. The Physiology	308
1.1 Walking for Fitness: Training	310
1.2 Endurance and Stamina	311
1.3 Strength of Legs and Flexibility/Stability of Joints	311
1.4 Bodyweight Regulation	311
2. Health Gains: Health-Related Fitness	312
2.1 The Elderly	312
2.2 Bone Strength	314
2.3 Metabolism in Walking	315
2.3.1 Lipoproteins	315
2.3.2 Insulin/Glucose Dynamics: Non-Insulin-Dependent Diabetes Mellitus	316
2.3.3 Diabetes in Postmen	317
2.4 Type 2 Diabetes, Arterial Thrombosis/Immunity	317
2.5 Control of Blood Pressure	318
2.6 Mental Health	318
3. Prevention of Cardiovascular Disease	319
3.1 Coronary Heart Disease	320
3.1.1 British Regional Heart Study	321
3.1.2 Postmen's Hearts	321
3.1.3 The Harvard Alumni: Cardiovascular and All-Cause Mortality	321
3.2 Protection in Women	321
3.3 Cardiovascular Disease in the Elderly	321
4. Treatment and Rehabilitation	322
4.1 Walking in Primary Care	322
5. Hazards, Barriers and Costs	323
5.1 Road Traffic Accidents	323
5.2 Air Pollution	324
5.3 Potholes	324
6. Walking Targets for Population and Personal health	325
7. Current Walking	326
7.1 A Nation of Walkers	326
7.2 Walking Regimens	327
8. Conclusion	328

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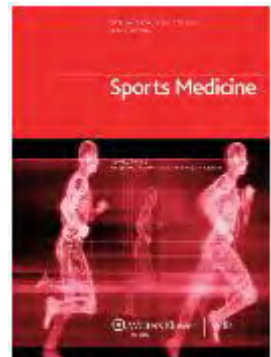


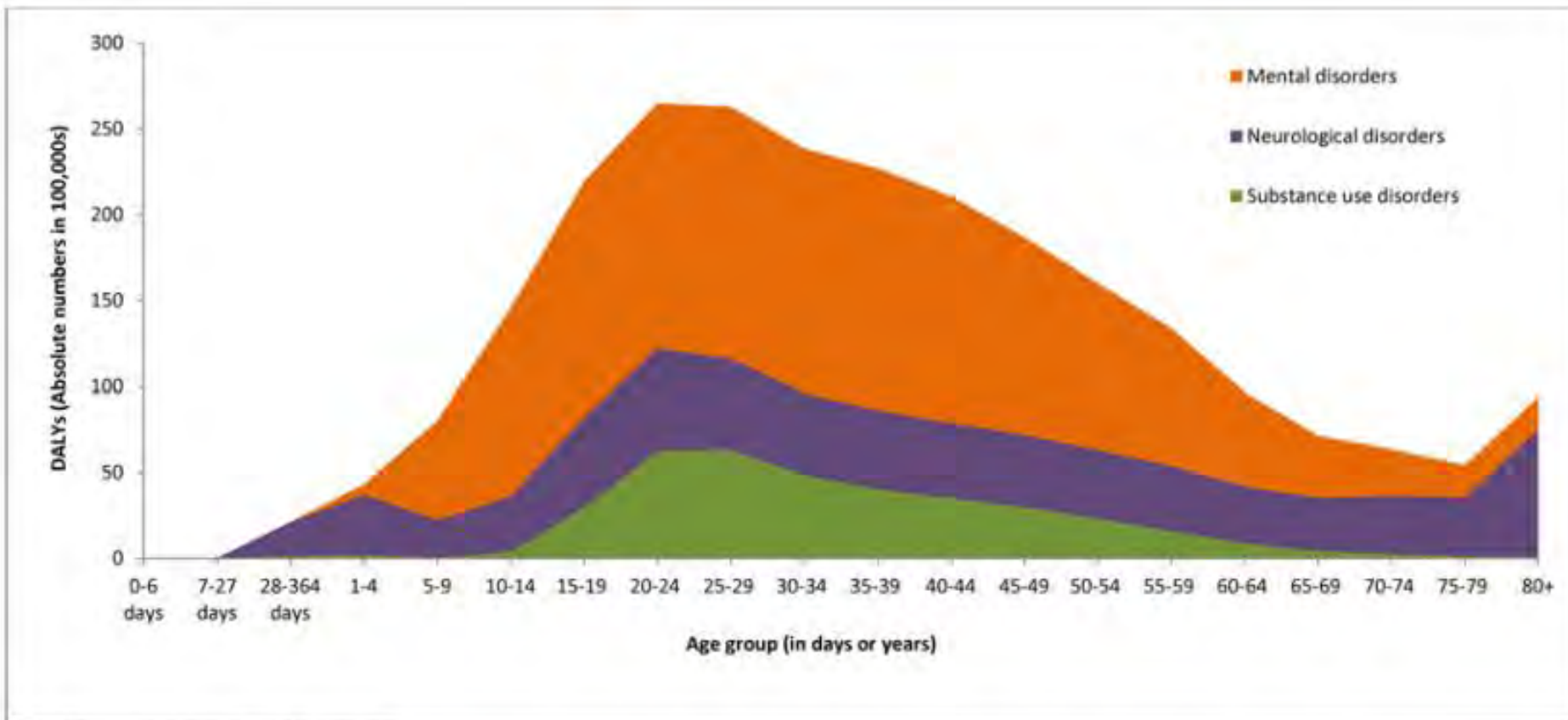
“Walking is the nearest activity to perfect exercise”

“The pleasurable and therapeutic, psychological and social dimensions of walking, whilst evident, have been surprisingly little studied”

Morris and Hardman (1997)

Walking to health. Sports medicine. 1997 May 1;23(5):306-32.





Note: DALYs = disability-adjusted life years.

Fig 1. Absolute DALYs Attributable to Mental, Neurological, and Substance Use Disorders, by Age, 2010.

doi:10.1371/journal.pone.0116820.g001



RESEARCH ARTICLE

The Global Burden of Mental, Neurological and Substance Use Disorders: An Analysis from the Global Burden of Disease Study 2010

Harvey A. Whiteford^{1,2,3*}, Alize J. Ferrari^{1,2,3}, Louisa Degenhardt^{1,4,5}, Valery Feigin⁶, Theo Vos¹

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4320057/pdf/pone.0116820.pdf>

NEWS

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Regular exercise 'best for mental health'

9 August 2018



Share



All types of exercises were found to improve mental health no matter people's age or gender

Top S

UK Bre
ministe

Cabinet i
be expec
work'

14 min

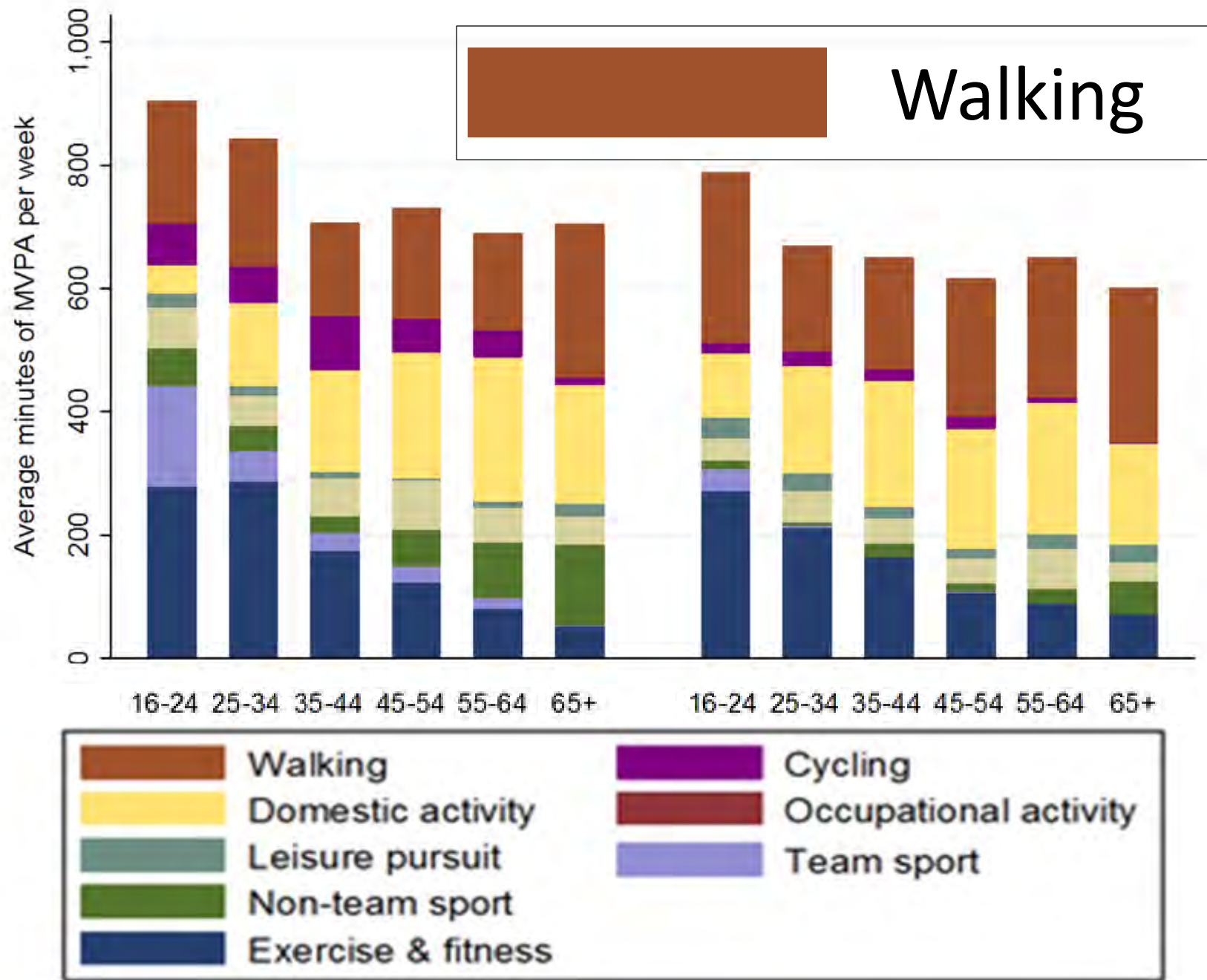
Bosses
relation

4 hour

All the
recycle

19 Sep

Featu



***WHAT IS THE
“INDEPENDENT EVIDENCE BASE”
FOR WALKING AND MENTAL HEALTH?***

Walking on sunshine: scoping review of the evidence for walking and mental health

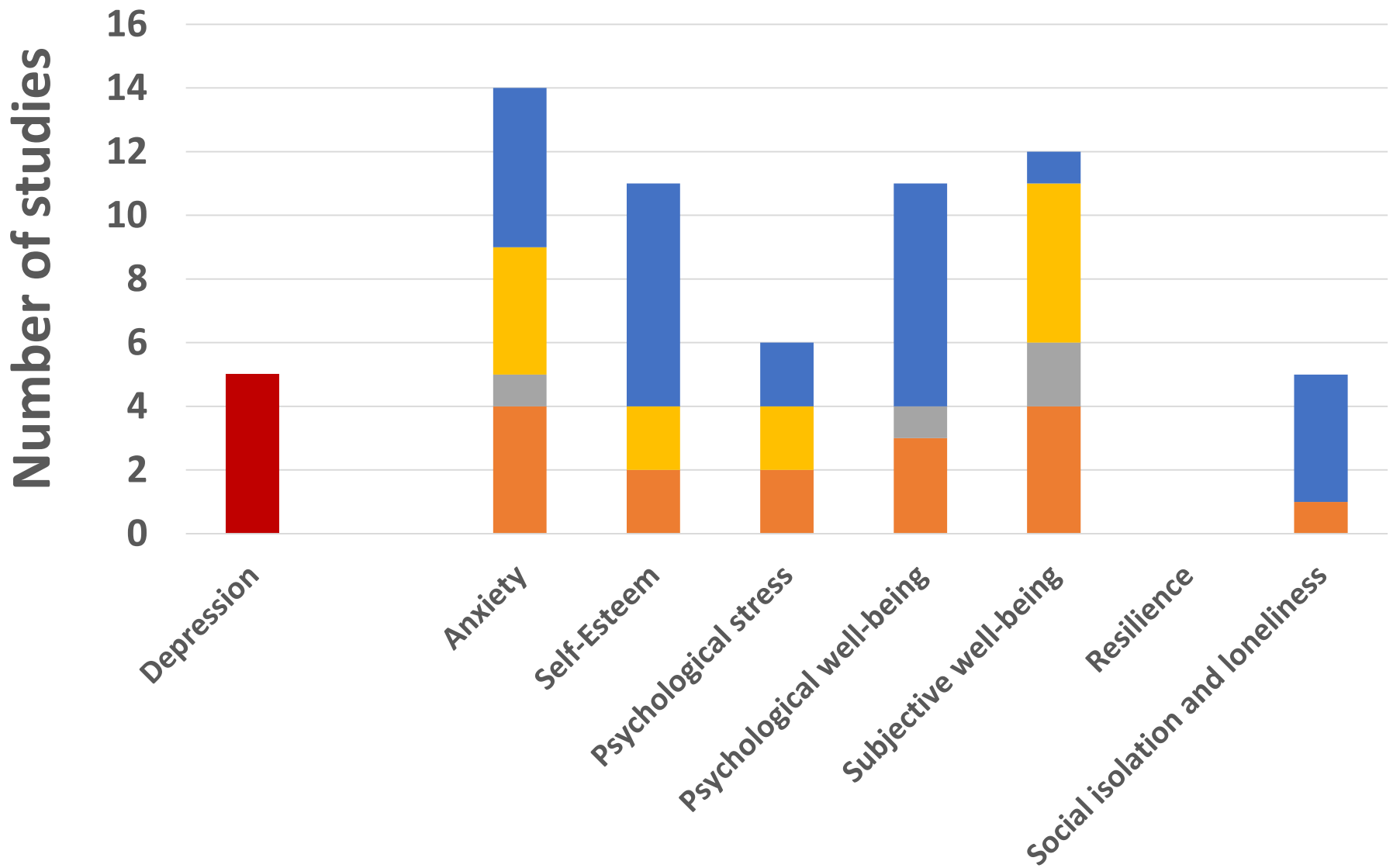
Paul Kelly,¹ Chloë Williamson,¹ Ailsa G Niven,¹ Ruth Hunter,² Nanette Mutrie,¹ Justin Richards³

Scoping review; 5 reviews and 55 studies

8 mental health outcomes

Key knowns, concepts and research priorities mapped

<https://bjsm.bmj.com/content/52/12/800>



■ Systematic review

■ Cross-sectional

■ Prospective

■ Single bout - acute

■ intervention

Outcome	Key findings
Depression	Systematic review-level evidence for prevention and treatment
Anxiety	Multiple studies showing preventive and treatment effects
Self-esteem	No evidence for preventive effects; mixed evidence for treatment effects
Psychological stress	Limited but emerging evidence for preventive and treatment effects
Psychological well-being	Limited but emerging evidence for preventive effects; mixed evidence for treatment effects
Subjective well-being	Emerging evidence for preventive effects and emerging but limited evidence for treatment effects
Resilience	No evidence found
Social isolation and loneliness	Minimal evidence found, but some promising findings; area needs mapping conceptually

PART 1

***QUESTION: WHAT IS THE
“INDEPENDENT EVIDENCE BASE”
FOR WALKING AND MENTAL HEALTH?***

PART 2:

MECHANISMS AND MOTIVATIONS

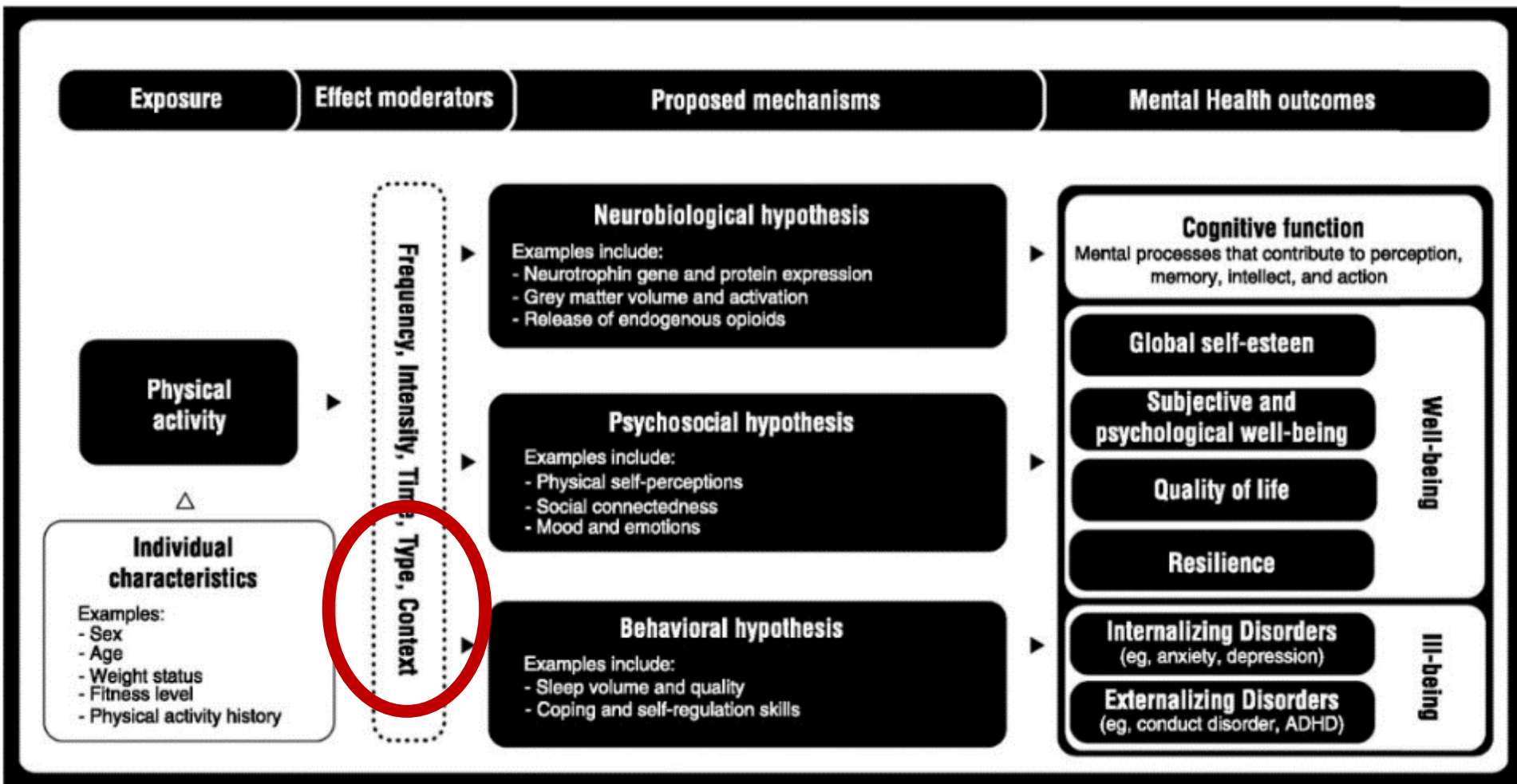


Number of hypotheses

- Psycho-social mechanisms
 - Expectancy effects
 - Self-efficacy (Craft, 2005)
 - Distraction (Craft, 2005)
 - Feelings of control
 - Social interaction
 - Improved self-image
- Biological mechanisms
 - Monoamine dysregulation hypothesis
 - Hypothalamic-Pituitary-Adrenal cortical hypothesis
 - Endorphin hypothesis

Depression

Dishman and Buckworth (2013) Exercise Psychology (2nd Ed). Human Kinetics



Pediatrics. 2016 Sep;138(3). pii: e20161642. doi: 10.1542/peds.2016-1642. Epub 2016 Aug 19.

Physical Activity for Cognitive and Mental Health in Youth: A Systematic Review of Mechanisms.

Lubans D¹, Richards J², Hillman C³, Faulkner G⁴, Beauchamp M⁴, Nilsson M⁵, Kelly P⁶, Smith J⁷, Raine L³, Biddle S⁸.

<https://www.ncbi.nlm.nih.gov/pubmed/27542849>

***HOW DOES UNDERSTANDING THE
MECHANISMS HELP US PROMOTE MENTAL
HEALTH?***



Scottish Government
Riaghaltas na h-Alba
gov.scot

UK Chief Medical Officers' Physical Activity Guidelines

Published 7 September 2019

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/832868/uk-chief-medical-officers-physical-activity-guidelines.pdf

Adults (19 to 64 years)

- For good physical and mental health, adults should do at least 150 minutes of moderate intensity activity each day. Any activity is better than none, and more is better.
- Adults should do activities that strengthen muscles and bones. These could include weight-bearing activities such as walking, climbing stairs, and carrying heavy loads.

Know what to do?

...intensity
...intensity activity
...erate, vigorous and very

...the amount of time spent being sedentary, and when
...and break up long periods of inactivity with at least light physical

Physical activity for adults and older adults

- Benefits health
- Improves sleep
- Maintains healthy weight
- Manages stress
- Improves quality of life

- Reduces your chance of
- Type II Diabetes -40%
 - Cardiovascular disease -35%
 - Falls, depression etc. -30%
 - Joint and back pain -25%
 - Cancers (colon and breast) -20%

Some is good, more is better Make a start today: it's never too late Every minute counts

Be active

at least **150** minutes moderate intensity per week
OR
at least **75** minutes vigorous intensity per week
or a combination of both

Build strength to keep muscles, bones and joints strong

on a 2-week cycle

Gym Yoga



Minimise sedentary time
Break up periods of inactivity



UK CMO
Infographic for
physical a

Better???

Up



Where

With who

How

When

MOTIVATIONS?

Do we understand peoples' motives for walking?

I've been to the pub – can't drive!

Get to work

Car is in the garage

Parking is expensive/difficult

Walking clears my head



Do we understand peoples' motives for physical activity?


This is not fun...

I feel guilty if I don't

I'm scared about my health

To stop being yelled at





Quality time
together...

Enjoy nature
together...



Great to keep
moving...

open happiness™





open happiness



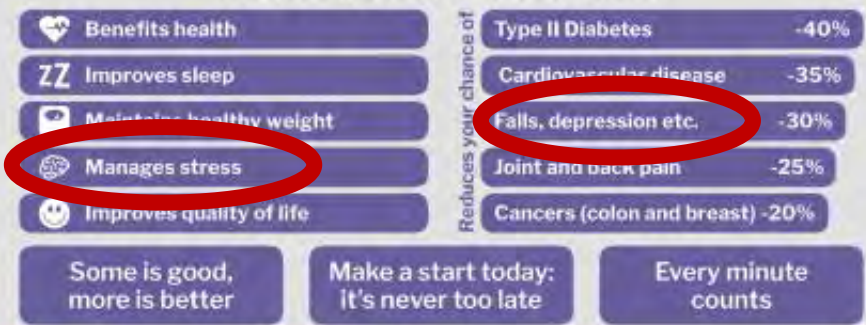
UPDATED:



Wouldn't it be great if everyone
decided to create a little happiness by

walking with friends and family

Physical activity for adults and older adults



UK CMO
Infographic for
physical activity...

<https://www.gov.uk/government/publications/start-active-stay-active-infographics-on-physical-activity>

PART 2

***QUESTION: ARE MECHANISMS AND
MOTIVATIONS IMPORTANT?***

IN SUMMARY...

JIGSAW

Understanding
of mechanisms

Know which types
and what quality of
walking to
promote

Understand
effects on
different
outcomes

Understand
people's
motives

Improved
promotion of
walking

WALKING FOR MENTAL HEALTH



The evidence base has grown over the last 21 years and we reviewed what is now known about walking and mental health in 2018

Walking may improve positive mental health outcomes such as happiness and self-esteem



A seminal review of walking and health was published in 1997 but noted that mental health had been "surprisingly little studied"

There is strong evidence that walking can prevent and treat depression and anxiety (strongest evidence for depression)



Walking outdoors in natural environments may bring additional mental health benefits



This infographic is based on a scoping review of walking and mental health. We looked at 13,014 studies and analysed 50 of them.

This was published in June 2018 in BJSM.

Kelly P Williamson, C. Niven, AG, Hunter, RE, Mulrine, N, Richards, J. 2018. Walking on sunshine: scoping review of the evidence for walking and mental health. *British Journal of Sports Medicine*, 52(12), 800-806.
doi: 10.1136/bjsports-2017-098827

British Journal of
Sports Medicine

Infographic created by Chloe Williamson. Contact: p.kelly@ed.ac.uk

Work led by:



Physical Activity for
Health Research Centre
(PAHRC)



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BJSM SPECIAL EDITION WALKING FOR HEALTH

Celebrating 21 Years of Walking Research



This infographic is published in the **British Journal of Sports Medicine** (June 2018) and is available for free download at www.bjsm.com.

Worked by: **Liverpool University**

British Journal of Sports Medicine

June 2018 Vol 42, Issue 12

WALKING PACE AND RISK OF ALL-CAUSE, CARDIOVASCULAR DISEASE AND CANCER MORTALITY



This infographic is published in the **British Journal of Sports Medicine** (June 2018) and is available for free download at www.bjsm.com.

Worked by: **University of Sydney**

British Journal of Sports Medicine

June 2018 Vol 42, Issue 12

HOW CAN WE BETTER PROMOTE WALKING AS A SOCIAL BEHAVIOUR?



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Worked by: **University of Sydney**

British Journal of Sports Medicine

June 2018 Vol 42, Issue 12

WALKING REDUCES THE RISK OF CARDIOVASCULAR DISEASE AND DIABETES



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Worked by: **University of Sydney**

British Journal of Sports Medicine

June 2018 Vol 42, Issue 12

HOW FAST IS FAST ENOUGH? WALKING CADENCES AND INTENSITY IN ADULTS: A NARRATIVE REVIEW



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Worked by: **Liverpool University**

British Journal of Sports Medicine

June 2018 Vol 42, Issue 12

EFFECTS OF RESIDENTIAL RELOCATION ON WALKING



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WALKING FOR MENTAL HEALTH



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British Journal of Sports Medicine

June 2018 Vol 42, Issue 12

WHAT WORKS TO PROMOTE WALKING AT A POPULATION LEVEL? A SYSTEMATIC REVIEW



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Worked by: **University of Sydney**

British Journal of Sports Medicine

June 2018 Vol 42, Issue 12

Walking and mental health – future research

1. Neurological health?
2. Systematic reviews?
3. Prospective analysis?
4. Interventions and translation?

Thanks for listening!



Physical Activity for Health Research Centre (PAHRC)

PHYSICAL ACTIVITY FOR HEALTH

Any questions?

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[@narrowboat_paul](#)

Nov 2019

