

Sport and Psychiatry

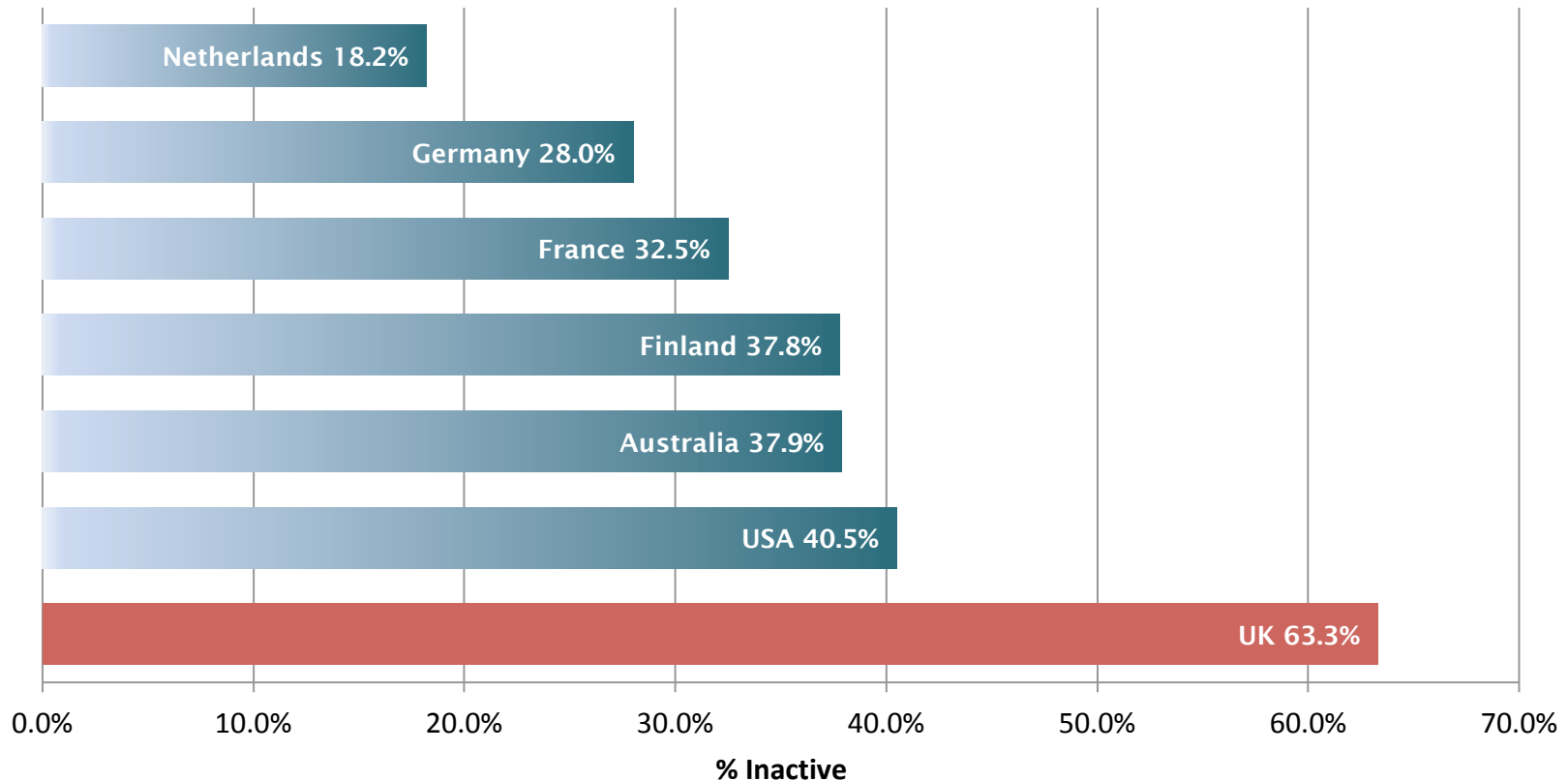
Why exercising is good for your mental health but being an athlete isn't

What is Sport & Exercise medicine (SEM)?

- Sport medicine
 - Specialist treatment for medical problems related to sport
- Exercise medicine
 - Sport/exercise as an intervention to improve health outcomes

How inactive are we?

International comparison of physical inactivity (at ages 15 and over)



Note: Comparator = Not meeting any of the following per week: (a) 5 x 30 mins moderate-intensity activity; (b) 3 x 20 mins vigorous-intensity activity; (c) equivalent combination achieving 600 metabolic equivalent-min.

Public Health England (2014) *Everybody Active, Every Day*; Based on Hallal PC *et al.* (2012) Global physical activity levels: surveillance progress, pitfalls, and prospects. *The Lancet*.

Exercise medicine: Sport/exercise as an intervention

- Mild subclinical disorders
- Common mental illness
 - Depression, anxiety
- More severe mental illness
 - Chronic psychosis ('SMI')

Mild subclinical disorders

- Self evident but hard to prove
 - Anxiety
 - Depression
 - Self esteem
 - Cognitive function
- Anti-exercise
 - Screen-time and poorer mental health

Exercise Intervention – mode of action

- Psychological
 - Self esteem
 - Mastery
 - Mindful
- Social
 - Confidence
 - Social skills
 - Networks and support
- Biological
 - Endorphins
 - Stress hormone regulation
 - Cytokines
 - BDNF and neuroplasticity

Common mental illness

Effect Size (ES) in MDD

All studies = 1.14

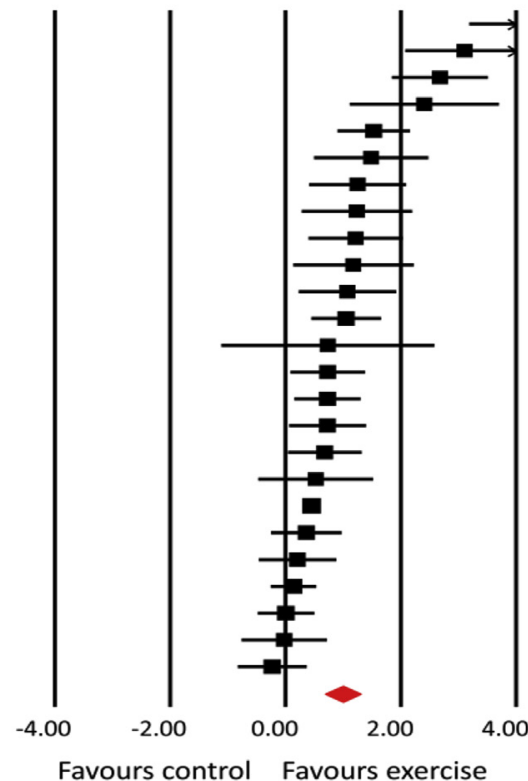
Adjusted for publication bias = 1.11

High quality studies only = 0.88

Nice threshold = 0.70

Study name	Statistics for each study			
	Std diff in means	Lower limit	Upper limit	p-Value
Mota-pereira 2011	4.599	3.189	6.009	0.000
Singh 1997	3.105	2.075	4.135	0.000
Danielsson 2014	2.679	1.845	3.512	0.000
Mutrie 1988	2.408	1.115	3.702	0.000
Setaro 1985	1.529	0.899	2.160	0.000
Mcneil 1991	1.484	0.495	2.474	0.003
Brenes 2007	1.249	0.407	2.092	0.004
Hemat-far 2012	1.237	0.280	2.193	0.011
Pilu 2007	1.217	0.397	2.036	0.004
Epstein 1986	1.176	0.132	2.220	0.027
Doyne 1987	1.075	0.231	1.919	0.013
Nabkasorn 2005	1.052	0.449	1.655	0.001
Orth 1979	0.734	-1.112	2.581	0.436
Huang 2015	0.732	0.083	1.380	0.027
Schuch 2015	0.729	0.157	1.302	0.013
Singh 2005	0.729	0.063	1.395	0.032
Shahidi 2011	0.683	0.045	1.321	0.036
Oertel Knoechel 2014	0.525	-0.472	1.521	0.302
Hallgreen 2015	0.452	0.294	0.610	0.000
Kerling 2015	0.362	-0.248	0.973	0.245
Gary 2010	0.207	-0.464	0.878	0.546
Blumenthal 2007	0.137	-0.255	0.530	0.493
Veale 1992	0.009	-0.481	0.498	0.973
Williams 2008	-0.022	-0.761	0.717	0.953
Sims 2009	-0.230	-0.824	0.363	0.447
	0.987	0.686	1.288	0.000

Std diff in means and 95% CI



Std diff in means = standardized differences in means, CI = Confidence Interval

What we don't know

- How much?
- What type?
- What intensity?
- Who with?

Metabolic syndrome & severe mental illness – where might sport help?

- Lethal association
- Contributed to by
 - Genetics
 - Inflammatory molecules
 - Hypothalamic-pituitary adrenal axis abnormalities
 - Drug effects on sedation and metabolism
 - Lifestyle

Sport & Social Inclusion

- Socialisation
 - Informal
 - Co-operation in team games
- Confidence
- Self-management skills
- Peer support
- ‘Normalised’ interactions

Mental health problems in sports

	General population	Sports
Depression	2% of adults	About the same or higher Lower in school athletes
Bipolar Disorder	0.5% of adults	Unknown
Schizophrenia	0.5% of adults	Lower
ADHD (adolescents)	3.6% for boys 0.9% for girls	A bit higher
Eating disorders – anorexia and bulimia nervosa	5%	13.5% overall Higher still in lean sports
Substance misuse	Don't forget PEDs	Different pattern. Binges, PEDs, cannabis

Psychiatric disorders and sport

- Athletes attain high levels of success in spite of a co-existing primary psychiatric disorder
- Athletes chose the athletic arena as a means of coping with disorder
- Athletes have a psychiatric illness precipitated or exacerbated by sport

Risks within sport

- Stigma and denial
 - Weakness to discuss or acknowledge emotions
 - Taking good mental health for granted
- Exercise may be protective
 - But wealth and fame are not
 - Athletes don't exercise for health reasons

Risks within sport

- Injuries
- Transitions
 - Retirement
 - De-selection

Risks within sport

- Lifestyle
 - Esp. travel and sleep disturbance
- Emotional support only provided when not needed
- Mental skills manage and suppress emotions
 - and can be misinterpreted

Risks within sport

- Perfectionism
 - High standards
 - Self criticism

- Success is not a treatment

Fatigue syndromes in sport and depression

- High training load and psychosocial stressors
 - Fatigue syndrome is more likely
- Fatigue syndromes a risk factor for depression
- Diagnosis depends on diagnostician
 - Mainstream medicine diagnoses depression
 - Sports medicine diagnoses fatigue syndrome (OTS/UPS)

Eating disorder spectrum

Sports specific syndromes



Normal
eating

'Athletic'
eating

Disordered
eating

Atypical/
EDNOS

Eating
disorder

Risks

- Within sport
 - Early specialisation
 - Comments from coaches
 - Losing weight to improve
 - Losing weight > getting better then worse
 - Revealing clothing
 - Identification difficulties
- Within the athlete – personality traits
 - Driven & determined
 - Obedient/compliant

Child protection in sport

- Emotional abuse
 - E.g. selection threats
- Subtle violence
 - E.g. forced physical exertion
- Pressure to compete if injured
- Doping
- Age cheating
- Medical mismanagement
 - Painkillers
 - Insufficient medical cover
 - Making weight

NSPCC

<https://thecpsu.org.uk/>



Child Protection in Sport Unit

SEPSIG

<http://www.rcpsych.ac.uk/workinpsychiatry/specialinterestgroups/sportandexercise.aspx>

<https://sportandexercisepsychiatry.co.uk/>

Sports Psychiatry

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