

# Mental Health Charter

## Evidence Summary

### Depression and physical activity

Here is some of the evidence around depression and physical activity. The language used is mainly that of the authors.

The [National Institute of Clinical Excellence \(NICE\) \(2009\)](#) states that there is a benefit for using physical activity in the treatment of subthreshold depressive symptoms and mild to moderate depression; in particular group-based physical activity.

The following research is quoted in [Sport and Recreation Alliance \(2011\) Game of Life:](#)

- A 16-week study of 202 men and women found that 45% of patients diagnosed with major depression no longer met the criteria for depression after exercising three times a week in a group setting. This is close to the 47% of patients who no longer met the criteria after taking antidepressants. Replacing some prescriptions with physical activity-based treatments could therefore offer substantial cost savings to the NHS.  
**Source:** Blumenthal JA, Babyak MA, Doraiswamy PM et al. (2007), 'Exercise and Pharmacotherapy in the Treatment of Major Depressive Disorder', *Psychosomatic Medicine*, vol. 69, issue 7, pp.587-596
- Research found that physical activity was effective for improving depression amongst those who had not responded to medication. Martinsen (2008) concluded that both aerobic and resistance training are effective in reducing depression when participated in at an energy expenditure of 17.5kcal/kg per week, which is the equivalent of 5 sessions of 30 minutes of moderate intensity activity a week. The most important factors for physical activity in treating depression are that it should be regular, enjoyable & provide a sense of accomplishment with the ultimate goal of creating regular exercise.  
**Source:** Martinsen EW (2008), 'Physical Activity in the Prevention and Treatment of Anxiety and Depression', *Nordic Journal of Psychiatry*, vol. 62, issue 47, pp.25-29
- Based on 2,789 pupils from East London who were from multiple ethnic and deprived backgrounds, researchers found an association between physical activity and depressive symptoms among adolescent boys and girls, with the likelihood of depressive symptoms decreasing by around 8% for every additional hour of exercise undertaken.  
**Source:** Rothon C, Edwards P, Bhui K et al. (2010), 'Physical Activity and Depressive Symptoms in Adolescents: a prospective study', *BMC Medicine*, vol. 8, issue 32
- A comparison of running and psychotherapy showed aerobic physical activity to be equally as effective as psychotherapy as a form of treatment. Three 20 minute running group sessions for ten weeks caused a reduction in the mean depression score of 1.9 compared to a reduction of 1.6 for cognitive therapy treatment (Fremont et al., 1987).  
**Source:** Craft LL and Perna FM (2004), 'The Benefits of Exercise for the Clinically Depressed', *The Primary Care Companion to the Journal of Clinical Psychiatry*, vol. 6, issue 3, pp.104-111
- From a sample of 3,645 women aged between 18-45 living in disadvantaged areas of Australia, women who accumulated more than 40 minutes of total leisure time activity a week had a lower chance of depression than those who accumulated less than 40 minutes a week: 44% of those exercising less than



40 minutes a week were at risk of depression compared to 33% of those exercising more than 40 minutes a week.

**Source:** Teychenne M, Ball K and Salmon J (2010), 'Physical Activity, Sedentary Behaviour and Depression Amongst Disadvantaged Women', Health Education Research, vol.25, issue 4, pp.632-644

The following research is quoted in [Mental Health Foundation \(2013\) Let's get Physical: The impact of physical activity on wellbeing:](#)

- Research suggests that exercising at preferred intensity results in greater reductions in depression compared to exercising at a prescribed intensity. In other words, when people are given choice and control over the physical activity, they do report greater benefits to their mental health.  
**Source:** Callaghan P, Khalil E, Morres I & Carter T (2011). Pragmatic randomised controlled trial of preferred intensity exercise in women living with depression. BMC Public Health, 11(1) p. 465.
- A study compared different doses of physical activity for people whose depression had not remitted after a course of antidepressant medication. A high-intensity dose of physical activity was more effective than a low dose (28% and 15% remission respectively).  
**Source:** Trivedi MH, Greer TL, Church TS, Carmody TJ, Grannemann BD, Galper DI, et al. (2011). Exercise as an augmentation treatment for nonremitted major depressive disorder: a randomized, parallel dose comparison. Journal of Clinical Psychiatry, 72(5) p. 677-84. Epub 2011/06/11
- A review of the literature on exercise and depression concluded that exercise is effective when used independently and in combination with other treatments such as medication or cognitive behavioural therapy.  
**Source:** Perraton LG, Kumar S & Machotka Z (2010). Exercise parameters in the treatment of clinical depression: a systematic review of randomized controlled trials. Journal of Evaluation in Clinical Practice, 16(3) p. 597-604

The following research is quoted in [Top Foundation & Ofsted \(2014\) A Review of Literature: The impact of competitive school sport on students' academic performance within school as well as other factors such as improved diet, health and wellbeing:](#)

- Research into the relationship between physical activity of varying intensities and the psychological health of 57 9-10 year olds found that the results indicated that participants in very light physical activity are less likely to suffer from depression and anxiety.  
**Source:** Parfitt, G., Pavey, T., & Rowlands, A.V. (2009). Children's physical activity and psychological health: the relevance of intensity. Acta Paediatrica, 98(6), 1037-1043.
- A study of 2,951 14 year olds suggests that participation in physical activity decreases the likelihood of experiencing depression.  
**Source:** Wiles, N.J., Haase, A.M., Lawlor, D.A., Ness, A., & Lewis, G. (2012). Physical activity and depression in adolescents: cross-sectional findings from the ALSPAC cohort. Social Psychiatry and Psychiatric Epidemiology, 47(7), 1023-33



## Self-esteem and physical activity

Here is some of the evidence around self-esteem and physical activity. The language used is mainly that of the authors.

The following research is quoted in [Sport and Recreation Alliance \(2011\) Game of Life:](#)

- Research found that for adolescents physical activity was positively associated with changes in social and athletic self-perception regardless of gender.  
**Source:** Stein C, Fisher L, Berkey C and Colditz G (2006), 'Adolescent Physical Activity and Perceived Competence: Does Change in Activity Level Impact Self-Perception?', *Journal of Adolescent*, vol.40, issue 5, p.462
- 78% of 37 randomised controlled studies showed exercise participation to be associated with positive changes in self-esteem and that changes were more likely for those with low self-esteem scores at the beginning of the research.  
**Source:** Fox KR (2000), 'Self-esteem, Self-Perceptions and Exercise', *International Journal of Sport Psychology*, vol.31, issue 2, pp.228-240
- A longitudinal study utilising data from 641 Scottish children (aged 11-15 years) found that for older boys the odds of being physically active were 3.8 times greater for those who had high perceived confidence compared to those with low perceived confidence. In girls, high levels of exercise self-efficacy were associated with 5.2 times greater odds of being physically active.  
**Source:** Inchley J, Kirby J and Currie C (2011), 'Longitudinal Changes in Physical Self-perceptions and Associations with Physical Activity During Adolescence', *Paediatric Exercise Science*, vol.23, issue 2, pp.237-249
- Data concerning three groups of elementary aged children, their parents and their teachers showed that students who spent more time in team sports rather than individual sports, reported higher levels of self-concept and therefore higher self-esteem, than their non-sporting peers.  
**Source:** Slutzky, C. B., & Simpkins, S. D. (2009). The link between sports participation and self-esteem: Exploring the mediating role of sport self-concept. *Psychology of Sport and Exercise*, 10, 381-389

The following research is quoted in [Mental Health Foundation \(2013\) Let's get Physical: The impact of physical activity on wellbeing:](#)

- Studies have found that people who participate in physical activity typically have greater physical and overall self-esteem. This relationship has been found in children, adolescents, young adults, adults and older people, and across both males and females.  
**Source:** Lindwall M & Aşçı FH (in press). Physical Activity and Self-Esteem. In: Clow A, Edmunds S, editors. *Physical activity and mental health*. Champaign, IL: Human Kinetics.
- The greatest gains in self-esteem occurred for people who initially had low self-esteem, those whose fitness increased during the intervention, and those who were active on more days per week. All types of physical activity were equally effective at increasing self-esteem. Overall the researchers concluded from their review that physical activity interventions which aim to increase self-esteem should include physical activity which is moderately demanding and last for 12 weeks or more.  
**Source:** Spence JC, McGannon KR & Poon P (2005). The effect of exercise on global self-esteem: A quantitative review. *Journal of Sport & Exercise Psychology*, 27(3) p. 311-34

### Anxiety, general wellbeing and physical activity



Here is some of the evidence around anxiety, general wellbeing and physical activity. The language used is mainly that of the authors.

The following research is quoted in [Sport and Recreation Alliance \(2011\) Game of Life:](#)

- A systematic review of 40 studies exploring physical activity, chronic illness and anxiety generated 75 measurable effects from a total sample of 2,914 patients with a mean age of 50, who undertook physical activity an average of three times a week for 42 minutes as part of the intervention, which lasted for an average of 16 weeks. Analysis showed that exercising significantly reduced anxiety scores in patients with a chronic illness. Programmes between three and 12 weeks in duration were seen to be most effective.  
**Source:** Herring MP, O'Connor PJ and Dishman RK (2010), 'The Effect of Exercise Training on Anxiety Symptoms Among Patients', Archives of Internal Medicine, vol.170, issue 4, pp.321-331
- Utilising the Scottish Health Survey, researchers explored the dose-response relationship between physical activity and mental health benefits. Daily physical activity in any guise was associated with a lower risk of psychological distress and a dose-response relationship was apparent with a minimal threshold of 20 minutes a week. Whilst domestic activities and walking were associated with lower odds of psychological distress (between 13% and 20% risk reduction), sporting activities had the strongest impact with a 33% risk reduction.  
**Source:** Hamer M and Stamatakis E and Steptoe A (2008), 'Dose-response Relationship between Physical Activity and Mental Health: The Scottish Health Survey', British Journal of Sports Medicine, vol.43, issue 14, pp.1111-1114

[Mind's \(2007\) Ecominds effects on mental wellbeing](#) report was based on data from two studies at the University of Essex to demonstrate that participating in green exercise activities provides substantial benefits for health and wellbeing, while 94% reported that green exercise benefited their mental health and 90% said it benefited their physical health.

[The Ramblers \(2010\) Walking Facts and Figures 1: The Benefits of Walking sets out evidence that](#) regular walking can reduce anxiety, improve mood and self-image and aid sleep. And [The Ramblers \(2011\) The Impact of Get Walking Keep Walking](#) found that nine out of ten participants (88%) noted improvements to their mental wellbeing and half (51%) saw improvements in their social wellbeing. The mental health benefits of the project were calculated to be £4 million.

Donaldson and Ronan (2006) investigated the relationship between the sports participation of 203 adolescents and their emotional wellbeing, including self-reported behavioural and emotional problems. The results suggested that increased involvement in sport had a positive association with elements of behavioural wellbeing.

**Source:** [Donaldson, S. J. & Ronan, K. R. \(2006\) The effects of sports participation on young adolescents' emotional well-being. Adolescence, 41 \(162\), 369-389](#)

[Coalter, F & Sport England \(2012\) Psychological Health & Wellbeing](#) cites Taylor (2004) review of research on the role of physical activity in reducing anxiety and stress, concluding that low-to-moderate physical activities can reduce anxiety; that a period of exercise training can reduce trait anxiety in clinical and non-clinical settings and a single exercise session can reduce state anxiety.



[Mental Health Foundation \(2013\) Let's get Physical: The impact of physical activity on wellbeing](#) references Conn's (2010) review of 19 intervention studies which investigated the effect of physical activity on healthy adults. This found that increasing physical activity in this group resulted in reduced anxiety. Further analyses of these studies revealed that interventions were most effective when: participants engaged in moderate or high intensity physical activity; physical activity was supervised; the intervention was delivered to individuals (rather than group based); and when participants were encouraged to continue exercising at a fitness centre following the intervention.



## Positive moods and physical activity

Here is some of the evidence around anxiety, general wellbeing and physical activity. The language used is mainly that of the authors.

The following research is quoted in [Mental Health Foundation \(2013\) Let's get Physical: The impact of physical activity on wellbeing:](#)

- People with high levels of regular physical activity have been shown to have higher levels of positive emotions such as interest, excitement, enthusiasm and alertness compared to people with moderate and low levels of physical activity.  
**Source:** Pasco JA, Jacka FN, Williams LJ, Brennan SL, Leslie E & Berk M (2011). Don't worry, be active: positive affect and habitual physical activity. *Australian and New Zealand Journal of Psychiatry*, 45(12) p. 1047-52
- A review of studies which have investigated the impact of exercise interventions on positive moods has shown that regular aerobic exercise results in moderate increases in positive moods. More specifically they found that exercise interventions increased feelings of activation (how energised a person feels) and pleasant feelings. Overall the results indicated that low intensity aerobic exercise, for 30–35 min, on 3–5 days per week for 10–12 weeks was optimal for improving positive moods.  
**Source:** Reed J & Buck S (2009). The effect of regular aerobic exercise on positive-activated affect: A meta-analysis. *Psychology of Sport and Exercise*, 10(6) p. 581-94
- An earlier study found that walking for 10–15 minutes was sufficient to have an impact on mood states. Participants rated their energy levels and pleasant feelings as higher whilst walking compared to beforehand. Following a 10–15 minute period of rest, participants' moods became calm and relaxed.  
**Source:** Ekkekakis P, Hall EE, VanLanduyt LM & Petruzzello SJ (2000). Walking in (affective) circles: Can short walks enhance affect? *Journal of Behavioural Medicine*, 23(3) p. 245-75
- A review of 16 studies which included a physical activity intervention for people with severe and enduring mental illness found physical activity can contribute to improved quality of life through social interaction, meaningful use of time, purposeful activity and empowerment. By severe and enduring the authors mean any serious or persistent degrees of mental illnesses.  
**Source:** Alexandratos K, Barnett F & Thomas Y (2012). The impact of exercise on the mental health and quality of life of people with severe mental illness: a critical review. *British Journal of Occupational Therapy*, 75(2) p. 48-60
- Cross-sectional studies on adults who are employed have found that highly active individuals tend to have lower stress rates compared to low active individuals.  
**Source:** Aldana SG, Sutton LD, Jacobson BH & Quirk MG (1996). Relationships between leisure time physical activity and perceived stress. *Perceptual and Motor Skills*, 82(1) p. 315-21



