

**PHYSICAL ACTIVITY AND DEPRESSION FROM
CHILDHOOD TO YOUNG ADULTHOOD**

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of Philosophy (Medical Research)



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Abstract

Background: The trajectory from childhood to early adulthood is a critical developmental period when physical activity levels decline and depression risk increases. Epidemiological research indicates that physical activity is associated with decreased risk of depression however population-based studies examining the relationship between physical activity and depression from childhood to young adulthood are scant. Determining the efficacy of physical activity in the prevention of depression during this pivotal life stage would be an important advance in public health.

Aims: To investigate i) cross-sectional associations between physical activity and depressed mood in childhood; ii) cross-sectional associations between physical activity and depression, and depressive symptomatology in young adulthood; and iii) prospective associations between habitual physical activity from childhood to adulthood and risk of depression in young adulthood.

Methods: This dissertation utilises data from the Childhood Determinants of Adult Health study, a population-based prospective cohort study from Australia. Baseline data were collected from 6,070 school children participating in the 1985 Australian Schools Health and Fitness Survey, aged 9 to 15 years. Participants were followed-up in young adulthood approximately 20-years later (2004-2006), aged 26 to 36 years. Physical activity was assessed at both time-points via self-report and objectively at follow-up using pedometers. Depressed mood was self-reported at baseline and *DSM-IV* depression assessed at follow-up using the Composite International Diagnostic Interview.

Results: In childhood, increasing durations of school physical education in primary girls and increasing durations of total physical activity and discretionary sport in secondary boys were associated with decreased prevalence of depressed mood. In young adulthood, increasing ambulatory (pedometer steps/day) and leisure-time physical activity were associated with a decreased prevalence of depression. Increasing work-related physical activity was associated with increased prevalence of depression

in women only. Depression in physically low/inactive young men and women was characterised by a unique depression symptom profile involving a higher prevalence of suicidal symptomatology. Finally, increasing or maintaining high levels of habitual discretionary physical activity from childhood to adulthood relative to one's peers was prospectively associated with a decreased risk of depression in young adulthood.

Conclusions: The relationship between physical activity and depression in childhood and young adulthood appears to differ by gender, the type of activity and the domain in which it is assessed. Inverse associations between physical activity and depression appear to depend on physical activity being discretionary rather than non-discretionary, particularly in women. Results suggest that population-based strategies aimed at maintaining physical activity participation from childhood and initiating physical activity in young people have potential for reducing the morbidity and subsequent treatment burden of depression.

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