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# **Seasonal Mood Change**

A Study of the Effects of Season and  
Regular Exercise on Mood in the General Population

A thesis presented in partial fulfilment of  
the requirements for the degree of  
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## Abstract

Seasonal affective disorder (SAD) is a condition characterised by regularly recurring episodes of depression with an onset during autumn or winter and remission in spring or summer. Previous studies have suggested that seasonal variation in mood and behaviour are not limited to individuals with SAD, but may also be experienced by normal members of the general population. At present, these studies have been limited to northern hemisphere samples.

The aim of this study was to explore the relationships between seasonal change, weather, exercise and mood in a southern hemisphere general population sample from two regions. Two questionnaires were completed by 176 subjects. The first questionnaire consisted of the Beck Depression Inventory (BDI), Hopkins Symptom Checklist-21 (HSCL-21), and an Exercise Inventory mailed to subjects in the last week of August, while the second questionnaire also included the Seasonal Pattern Assessment Questionnaire (SPAQ) mailed to subjects in the last week of February.

Seasonal variation in mood, sleep, energy, appetite, weight and social activity was reported by a large proportion of the sample. SPAQ criteria for SAD were met by 5.8% of the sample, and 12% of subjects met criteria for S-SAD. The degree of seasonal variation in mood and behaviour reported on the SPAQ, and prevalence of SAD and S-SAD found in this study, were similar to those reported in northern hemisphere general population samples. Subject's reports of seasonal symptoms on the SPAQ however, were not supported by significant differences in winter and summer BDI, HSCL-21, or Exercise scores for the total sample, males and females, or the SAD, S-SAD or normal subject groups, although significant differences in BDI and HSCL-21 scores between these groups were found. Differences in weather variables across seasons and between regions for the period of the study were not reflected in significant regional or seasonal differences in BDI, HSCL-21 or Exercise Scores, however fewer sunshine hours and more rainfall were associated with increased HSCL-21 scores in summer, but not in winter for the total sample. Significant interaction effects of Global Seasonality Scores (GSS) and weather variables suggest that individuals with higher seasonality scores may differ from those with lower seasonality scores in their sensitivity to the effect of weather variables.

The results of this study suggest caution in the use of self-report measures to investigate seasonal variations in mood and psychological distress. Limitations of this study and suggestions for future research are discussed.

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