

Psychological **MEDICINE**

MONOGRAPH SUPPLEMENT 18

A model of stability and change in
minor psychiatric symptoms: results
from three longitudinal studies

by Paul Duncan-Jones,
David M. Fergusson,
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Cambridge University Press

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A statistical model designed to describe the processes of change and stability in minor psychiatric symptoms is proposed. This model assumes that each individual has a stable characteristic level of symptomatology, which may be high or may be low, and that over time symptom levels tend to fluctuate around this characteristic value as a result of the effects of non-observed change agents. The model is then extended to include the measure of trait neuroticism as a concurrent measure to validate the notion of symptom stability, and methods for estimating the extent to which reports of neuroticism are contaminated by short-term mental state are developed. The model is shown to be one of the class of covariance structure models and can be solved subject to the condition that longitudinal data have been gathered on at least three occasions.

The model was applied to longitudinal symptom data collected in three studies. These studies were:

- (i) a study of 231 Canberra (Australia) adults who had been studied on four occasions over a one-year period;
- (ii) a study of 246 Groningen (Holland) adults who had been studied on three occasions over a seven-year period;
- (iii) a study of 1053 Christchurch (New Zealand) women who had been studied on four occasions over a three-year period.

Data from all studies were found to fit the model adequately but the following three points of differences and agreement between the studies were found.

- (i) Studies varied in estimates of the amount of variation in symptoms which could be attributed to stable levels of symptomatology. The Canberra and Groningen studies suggested that the majority (50–76%) of symptom variance reflected stable differences in symptom levels whereas the Christchurch study suggested that only about 40% of symptom variance reflected stable differences in symptomatology. This may be due to the fact that the Christchurch sample was confined to a population of women with school-aged children and this group was more vulnerable to the effects of change factors than the Canberra or Groningen populations.
- (ii) Studies varied in estimates of the extent to which reports of neuroticism were contaminated by short-term mental state. No bias was found in the Canberra data, there were slight biases found for the Groningen data and somewhat larger biases were present for the Christchurch data.
- (iii) However, all studies found strong correlations between estimates of stable symptom levels and measures of neuroticism. These correlations range from 0.79 to 0.93 and may suggest that what is being measured by neuroticism is not so much a personality trait as an account of the subject's stable or characteristic level of minor psychiatric symptoms.

The implications of these findings for clinical practice and future research are discussed.

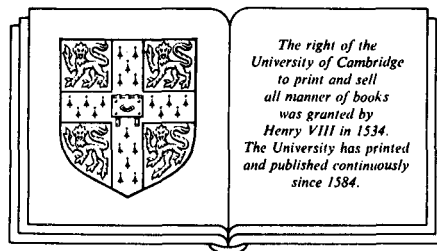
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CAMBRIDGE UNIVERSITY PRESS

Cambridge

New York Port Chester Melbourne Sydney

PUBLISHED BY
THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE

The Pitt Building, Trumpington Street, Cambridge CB2 1RP
40 West 20th Street, New York, N.Y. 10011, U.S.A.
10 Stamford Road, Oakleigh, Melbourne 3166, Australia

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Printed in Great Britain by the University Press, Cambridge

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We would like to thank Dr David Grayson for his assistance and consultation during the course of model fitting and model testing and Dr A. S. Henderson for his helpful comments on the final manuscript.