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AN INTEGRATED SOCIAL-COGNITIVE MODEL
FOR PREDICTING EXERCISE COMPLIANCE
AMONG PATIENTS WITH A CARDIAC DIAGNOSIS

Ralph Maddison MSc

A thesis submitted to the faculty of the University of Auckland in partial fulfilment of the requirements for the degree of Master of Science in the Department of Sport and Exercise Science, Division of Science and Technology.

July 2000
DECLARATION

The material presented in this thesis is the original work of the author except as acknowledged in the text. I hereby declare that I have not submitted this material in part or whole for a degree at this or any other institution.

Ralph Maddison
ABSTRACT

The aim of the present study was to determine whether Maddux’s (1993) integrated social cognitive model of health behaviour could predict compliance and intention to exercise among patients with a cardiac diagnosis. Forty-one participants (29 male and 12 female—mean age of 63 SD ±9.81 years) with documented cardiac disease enrolled in an 18-week, supervised walking-based exercise programme. Participants completed scales (e.g., intention, self-efficacy, barrier efficacy, outcome expectancy, outcome value and perceived social norm) related to Maddux’s model at the beginning of the programme (phase I) and again at weeks six (phase II) and twelve (phase III). In addition, compliance behaviour was assessed through daily attendance and exercise energy expenditure measures—via Metabolic Equivalents (MET) calculations (ACSM guidelines, 1995).

Insofar as exercise behaviour is concerned, results showed that during phase I barrier efficacy and intention frequency were significant predictors of attendance behaviour (adjusted $R^2 = .26$) and outcome expectancy added an additional 14.3%. Intention frequency predicted energy expenditure (adjusted $R^2 = .19$) and outcome value contributed an additional 10%. Results also showed that during phase II intention frequency and time significantly predicted attendance behaviour (adjusted $R^2 = .38$). Intention frequency and time also predicted energy expenditure (phase II, adjusted $R^2 = .26$). For phase III attendance was significantly predicted by barrier efficacy and intention frequency (adjusted $R^2 = .56$).

Insofar as intention is concerned, results showed that self-efficacy and outcome expectancy significantly predicted intention intensity in phase I (adjusted $R^2 = .43$) whereas self-efficacy alone predicted intention intensity in phase II (adjusted $R^2 = .25$). In phase III self-efficacy and outcome value significantly predicted intention intensity (adjusted $R^2 = .43$).

Using Baron and Kenny’s (1986) suggestion for testing mediation results showed no evidence to support the notion that intention might mediate relations between self-efficacy and exercise behaviour. In addition, a significant difference was found between compliers versus dropouts on the social-cognitive variables at phase I. Specifically those participants that dropped out of the programme had higher outcome expectancy (i.e., vulnerability and severity towards current behaviour) than compliers. Finally, a cross lag correlation design showed that the direction of relations was strongest for exercise behaviour leading to the social-cognitive variables. These results, taken in concert, provide partial support for Maddux’s model. Recommendations for future research are discussed.
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