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EFFECTS
OF
ANGER MANAGEMENT AND SOCIAL CONTACT
ON
ALCOHOL AND TOBACCO CONSUMPTION

A thesis presented in partial fulfilment of the requirements
for the degree of
Master of Arts in Psychology
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Fiona Margaret Alpass

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ABSTRACT

Relationships between anger management, social contact, and alcohol and tobacco consumption were investigated to examine a number of issues: (1) That anger management and social contact would be correlated to each other and therefore possibly confounded, (2) that anger management and social contact would be independently related to alcohol and tobacco consumption, (3) that anger management and social contact would jointly influence alcohol and tobacco consumption, (4) that anger management, social contact and alcohol and tobacco consumption would vary across age, sex and socioeconomic status, (5) that age, sex and socioeconomic status would moderate the effects of anger management and social contact on alcohol and tobacco consumption, and (6) that alcohol and tobacco consumption would, in conjunction with psychosocial and sociodemographic variables, operate interactively on each other. A secondary analysis was undertaken on a sub-sample of 831 control subjects taken from the general population as a part of the Auckland Heart Study. Analyses revealed that anger discussion was positively correlated with social availability. No other significant correlations were found between anger management and social contact variables. Multiple regression analyses showed no independent effects of anger management and social contact variables on alcohol and tobacco consumption, but revealed a number of significant interaction effects involving sociodemographic variables. Only one significant interaction effect was found involving both anger management and social contact on either alcohol or tobacco consumption. Analyses revealed that anger management, social contact and alcohol and tobacco consumption varied by age, sex and socioeconomic status. It was concluded that anger management and social contact were not confounded, and were not independently or jointly related to alcohol and tobacco consumption. Results were thus inconsistent with a mediating relationship for smoking and alcohol consumption between psychosocial variables and health outcomes. The number of significant interaction effects was supportive of the value of an interactive approach to health variables. Conceptual and methodological issues are discussed in view of the general lack of support for the research questions and hypotheses.

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INTRODUCTION

OVERVIEW

A great deal of research has been undertaken to assess the role of psychosocial factors in the aetiology of physical disease. There now exists research evidence linking the key variables of the present study, anger management and social contact, to health status (Haynes et al, 1978; Booth-Kewley, & Friedman 1987; Berkman & Syme, 1979; Blumenthal et al, 1987). A mechanism that may link these two variables to health outcomes is engaging in behaviours which endanger health, such as smoking and alcohol consumption. For instance, the individual with an inappropriate anger management style or lacking in social contact may be more likely to engage in negative health behaviours such as maintaining poor dietary habits, lack of exercise, smoking and drinking alcohol. Such an individual might initiate these behaviours because of low self-esteem, or lack of support from others to engage in health promoting behaviours. The present study focuses on anger management and social contact and the nature of their relationships with smoking and alcohol consumption.

Although the literature linking anger management and social contact to health is substantial, in general these variables have not been studied together, which raises issues of confounding. One study using the same measures as the present study found anger management and social contact to be correlated (Spicer & Hong, 1991). If correlations are found, confounding is likely to be a problem.

In substantive terms, anger management must be viewed contextually, that is, an individual's anger management style is to some extent linked to their social or interpersonal environment. Given this view and the possibility that anger management and social contact may be confounded in their ability to predict health outcomes, and that both have been associated with alcohol and tobacco consumption, it is possible that they may also be confounded in their ability to predict these health behaviours.

The possible association between anger management and social contact not only has statistical implications re confounding but also raises substantive issues of **how** these variables are related. For instance, do anger episodes increase with social contact

requiring the increased use of anger management strategies, or is the suppression of anger related to an inability to maintain supportive relationships resulting in a lack of social contact? An important research question then is, what is the nature and form of the substantive relationship between anger management and social contact? As noted earlier there is considerable evidence linking anger management and social contact to health outcomes. In discussing the connections between psychosocial variables and physical health, an important focus of attention is the role of life style variables, such as smoking and alcohol consumption, as health risk factors. Smoking and alcohol have been consistently associated with poor health outcomes (Pomerleau, 1978; World Health Organisation, 1991; Berg, 1976; Schmidt & Popham, 1975; Stason et al, 1976; Hennekens et al, 1978; Glynn, Labry, & Hou, 1988;), and there is some evidence for the association between these health behaviours and anger management and social contact (Haynes et al, 1978; Johnson, 1990; Thomas, 1989; Houston and Vavak, 1991; Berkman & Syme, 1979; Mermelstein et al, 1986). If anger management and social contact are risk factors for health, then it is possible that physical factors common to a range of diseases, such as smoking and alcohol consumption, may be **mediating** the relationship. Although the present study does not measure health outcomes and therefore this mediating relationship can not be tested as such, evidence linking anger management and social contact to smoking and alcohol consumption would lend some support for this possibility or conversely failure to find associations may weaken the case for mediation.

Age, sex and socioeconomic status are also important and well established risk factors for poor health (Aravanis, 1983; Wingard et al, 1983; Verbrugge, 1989; Syme & Berkman, 1976; Marmot et al, 1987). It can be argued that the association between sociodemographic variables and health outcomes may also be confounded by correlated psychological factors. For instance there is some evidence that anger management and social contact vary over age, sex and socioeconomic status (Haynes et al, 1978; Cohen & Syme, 1985; Weidner et al, 1989; Antonucci and Akiyama, 1987; Belle, 1987; Matthews et al, 1989; Thomas, 1989; Flaherty & Richman, 1989; Shumaker & Hill, 1991), as do smoking behaviour and alcohol consumption (Haynes et al, 1978; Waldron, 1986; Winkleby et al, 1990; DuNah et al, 1991; Rice et al, 1984; Biener, 1987). Consequently sociodemographic variables should be included

in an analysis of the relationships among anger management, social contact, smoking and alcohol consumption as potential confounds.

Most often these psychosocial variables, demographics and behavioural processes are looked at independently in relation to health. Increasingly, researchers recommend that the relationships among health variables not be treated separately but interactively (Bowers, 1987). Because of the failure to study anger management and social contact variables together, study of the possible interactions between them has not been a major area of research. Given the extensive evidence for the buffering effect of social support on health (see chapter one), there is clearly grounds for looking at the potential interaction effects of anger management and social contact on smoking and alcohol consumption.

Matthews (1989) suggests, researchers typically treat sociodemographic variables as secondary, static constructs of more interest to epidemiologists than those interested in the relationships between behaviour and health outcomes. In the context of the present study, age, sex and socioeconomic status may moderate the relationship between the psychosocial variables and the health behaviours. Moreover, sociodemographic variables may be important attributes of individuals and/or groups that could act as **markers** for differing psychobiological processes that operate across subgroups. Bowers (1987) has argued for an interactive approach to the study of health variables, with particular emphasis on the interactions of psychological and physical variables on physical health outcomes. In this regard, it is possible that alcohol and tobacco consumption may, in conjunction with the other study variables, operate interactively on each other.

In sum, in etiological studies of disease, anger management and social contact variables are most often considered separately, which raises issues of confounding. Additionally, the possible association of these two variables raises questions as to the nature of the relationships between the two. A possible mechanism for the relationships between anger management, social contact and health is the practice of negative health behaviours, i.e. smoking and alcohol consumption, suggesting a potential mediating relationship between psychological and physical variables. Due to the failure to study anger management and social contact together in aetiological studies, potential interaction effects on physical health variables has not been

extensively analysed. Similarly, sociodemographic variables are generally used as descriptive variables in research so potential interaction effects with psychosocial variables on health variables are neglected. Additionally, alcohol and tobacco consumption may operate interactively, in conjunction with psychosocial and sociodemographic variables, on each other.

The present study examines the relationships between anger management, social contact, smoking and alcohol consumption. Using a multivariate approach possible interaction effects among these variables can be investigated. Similarly, the potential moderating effect of age, sex, socioeconomic status, alcohol and tobacco consumption can also be examined.

The remainder of this introduction will proceed as follows: Chapter one will address the psychosocial variables, anger management and social contact. Issues relating to construct and operational definitions will be discussed and a review of the evidence for the relationships between anger management, social contact and health outcomes will be provided. Chapter two will consider the associations between alcohol and tobacco consumption and the psychosocial variables, the sociodemographic variables and disease outcomes. Chapter three will address the sociodemographic variables, age, sex and socioeconomic status. Evidence relating to the associations between the sociodemographic variables and anger management and social contact will be discussed, accompanied by a brief review of sociodemographic links to health outcomes.