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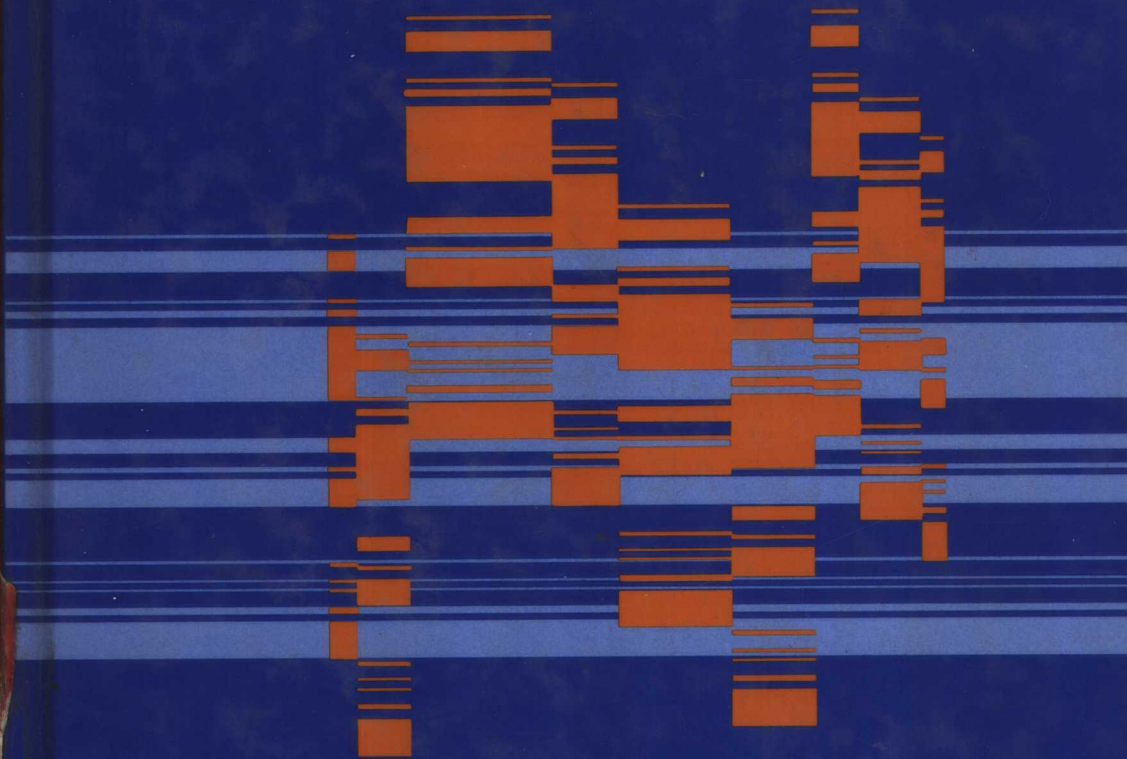
PERSONALITY AND STRESS: INDIVIDUAL DIFFERENCES IN THE STRESS PROCESS



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Personality and Stress: Individual Differences in the Stress Process

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Editorial Foreword to the Series

This book, *Personality and Stress: Individual Differences in the Stress Process*, is the nineteenth* book in the series of *Studies in Occupational Stress*. The main objective of this series of books is to bring together the leading international psychologists and occupational health researchers to report on their work on various aspects of occupational stress and health. The series will include a number of books on original research and theory in each of the areas described in the initial volume, such as Blue Collar Stressors, The Interface Between the Work Environment and the Family, Individual Differences in Stress Reactions, The Person–Environment Fit Model, Behavioural Modification and Stress Reduction, Stress and the Socio-technical Environment, The Stressful Effects of Retirement and Unemployment and many other topics of interest in understanding stress in the workplace.

We hope these books will appeal to a broad spectrum of readers—to academic researchers and postgraduate students in applied and occupational psychology and sociology, occupational medicine, management, personnel, and law—and to practitioners working in industry, the occupational medical field, mental health specialists, social workers, personnel officers, lawyers and others interested in the health of the individual worker.

CARY L. COOPER,
University of Manchester Institute of Science and Technology
STANISLAV V. KASL,
Yale University

*Five earlier titles are now out of print.

Abbreviations

BDHI	Buss–Durkee Hostility Inventory
CAD	coronary artery disease
CFA	confirmatory factor analysis
CHD	coronary heart disease
EPT	Eysenck Personality Inventory
I–E	Internal–External
JAS	Jenkins Activity Scale
LOC	locus of control
MBTI	Myers–Briggs Type Indicator
MRFIT	Multiple Risk Factor Intervention Trials
NA	negative affectivity
SE	self-efficacy
SI	structured interview
SOC	sense of coherence
TABP	Type A behaviour pattern
WCGS	Western Collaborative Group Studies

Contents

Chapter 1

Introduction

Cary L. Cooper, University of Manchester Institute of Science and Technology, UK and
Roy Payne, University of Manchester, UK

The recognition of the need for a book on personality, individual differences and stress was stimulated by the chapter on "Individual differences and occupational stress" in our book, *Causes, Coping and Consequences of Stress at Work* (Cooper and Payne, 1988). Writing that chapter revealed a range of issues about individual differences and stress.

Perhaps the most obvious was the variation in the amount of research on different individual-difference variables. There has been a huge amount of research on Type A behaviour. Not only have there been many studies, but they have included some of the largest epidemiological studies in the medical literature. An interesting aside about this huge body of work seems worth making. The Type A Behaviour Pattern (TABP) has been investigated because it has been hypothesised that it is associated with (causes?) coronary heart disease (CHD). Since the Type A pattern includes elements of hostility, and since stress has been assumed to stimulate, if not cause, the onset of CHD, it has been implicitly argued that Type A is associated with stress. Hostile, workaholic types must be stressed people. While the evidence that Type A is associated with CHD is now considered to be equivocal (see Edwards's Chapter 7 in this volume) the evidence that it is associated with stress measures is equally equivocal. Furthermore, that particular relationship has rarely been the central stand in studies of Type A.

The reason for raising this point is to propose that, even in a large body of literature such as exists about Type A, these fundamental issues have not been adequately articulated. We wish to argue that this is because there has been little effort put in to conceptualising the role of individual differences in the study of stress generally, and that this is even true of the one variable that has been extensively included in stress studies. Thus, another reason for

Personality and Stress: Individual Differences in the Stress Process. Edited by C.L. Cooper and R. Payne

producing this book was a concern for conceptualising the role of individual differences in the stress process.

If Type A has been extensively studied, it is perhaps surprising that the same individual-difference variables that one might expect to relate to stress (trait anxiety, introversion, pessimism) have been largely ignored. Introversion and anxiety were included in the seminal study of role conflict and ambiguity carried out by Kahn et al. (1964), but subsequently anxiety had hardly been studied at all within the stress literature until it re-emerged in the late 1980s as "negative affectivity" (Watson and Clark, 1984). This is somewhat surprising since even a layperson might quickly conclude that being anxious might make you more inclined to see the world as more threatening (i.e. anxiety affects perceptions of stress), as well as affecting how one copes with that stress whether it is "real" or not.

Without a study by an expert in the sociology of knowledge, we might be on weak ground in claiming that these omissions may be due to the fact it was in the early 1960s that personality theory itself came under heavy criticism. Even then doubts were raised about the wisdom of this. This waning of interest in personality appeared to be due to worries about the validity of personality measures, and to the fact that they account for very small proportions of variance in variables such as educational achievement, job performance, psycho-social adjustment and so on. Another reason for believing that this volume is a timely one is the recent trend towards greater awareness of individual differences and their role in the stress process, and to acknowledge that in complex human behaviour a plethora of small, interrelated relationships is all we can reasonably expect.

Two other issues appeared important to us. The first was the interrelationships among individual-difference variables themselves. In most studies of stress people study one or two such variables but we felt it was important to consider how the major individual-difference variables relate to each other. Does anxiety relate to Type A, and if it does, is the relationship between Type A and CHD due to Type A or to anxiety? Or, a related question, is locus of control linked to social class, and if so does that explain why it relates to psychological distress (since social class is related to mental and physical ill-health)?

A more general issue of course is, "What are the origins of the individual differences themselves?" Understanding the genesis of variations in these individual-difference variables provides another justification for the more comprehensive examination of this topic which we have tried to accomplish in this book.

All these concerns raise methodological issues about how best to investigate the role of individual differences as they interact with changes in environmental stress, and efforts to cope with the consequences of that stress. This latter issue pervades many of the chapters in the book, but as is obvious from

the contents page and the description of the structure of the book which appears below, methodological issues are dealt with specifically in some chapters rather than others.

In attempting to design a book which at least met the requirements of dealing with the above issues we decided to start by inviting Tom Cox and Eamon Ferguson to provide a framework chapter indicating how individual-difference variables are relevant to different parts of the stress process.

Part II of the book provides a different kind of background in that it deals with the question as to how the different individual-difference variables that are common in the stress literature relate to each other. This chapter is written by John Schaubroeck and Daniel Ganster and provides a useful map of these interrelationships. Hopefully this will alert researchers to these patterns, and to the syndromes to which particular variables belong.

The second chapter in Part II is by Aaron Antonovsky who considers several of the major personality syndromes (for example, hardiness and efficacy) as well as his own syndrome of salutogenesis. He offers some fascinating suggestions about how people come to acquire these patterns of beliefs and behaviours. Suggestions are given as to how to create these conditions and to help people to acquire such psychologically positive attributes.

The third part of the book is designed to probe our knowledge about major individual-difference variables. Rachel Jenkins reviews the effects of background variables such as gender, social class and marital status showing how they influence psychological health. Joseph Hurrell and Lawrence Murphy concentrate on locus of control and have confined their review to the occupational stress literature, though their concluding model can be applied to any kind of environment.

Jeff Edwards also confines himself to a single aspect of Type A in concentrating on the validity of measures. There have been several, major reviews of Type A recently and Jeff refers to these to reveal the major relationships between Type A, CHD and stress, but as he convincingly shows, further progress depends very much on refining and improving the measures of variables that make up the Type A syndrome.

Roy Payne's chapter looks at the role of cognitive factors and discovers that they have been little studied in the literature on real-life stress. He ends with a call for further work, arguing that they account for as much of the variance in psychological strain and coping as any other type of variable.

Part IV of the book specifically considers *coping*, and Andrew Steptoe cogently and comprehensively examines the relationship between physiological functioning and psychological coping. Ethel Roskies considers two contrasting health-related behaviours (smoking and exercise), and examines how individual differences influence the practice or cessation of these two activities. Their role in the two activities appears quite different, which suggests that a knowledge of the role of individual differences can have considerable

practical value in selecting people for treatment and designing treatment for individuals of different types.

The final section of the book falls to Stan Kasl and Stephen Rapp, who bring wisdom and insight to evaluating and criticising the broad area of individual differences and health. Their suggestions for further work are, as ever, a challenge to the research community and ones we hope will be taken up and progressed through the ideas and the scholarship that we believe this book contains.

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PART I

Theory and Methodological Framework

Chapter 2

Individual Differences, Stress and Coping

Tom Cox and Eamonn Ferguson, University of Nottingham, UK

INTRODUCTION

Essentially there have been three different approaches to the study of stress (see Cox, 1978, 1990; or Cox and Mackay, 1981): the stimulus-based or engineering approach; the response-based or medico-physiological approach; and a more psychological approach exemplified by "interactional" and "appraisal" theories of stress.

The engineering approach treats stress as a stimulus characteristic of the person's environment, usually cast in terms of the load or level of demand placed on the person or some adversive or noxious element of that environment. Stress, so defined, produces a strain reaction. In contrast, the medico-physiological approach considers stress as a "generalized and non-specific" response to aversive or noxious environmental stimuli. This approach owes much to the pioneering work of Hans Selye (1950) Stressors give rise, among other things, to a stress response. Despite a certain popularity, these approaches have been judged to be inadequate both in terms of their ability to account for the available data and in terms of their theoretical sophistication. Essentially, they fail to take account of the individual differences which are so obvious in relation to stress, and the perceptual cognitive processes which underpin such differences.

The question of individual differences in relation to the experience and effects of stress and in relation to coping is virtually a defining characteristic of the more psychological approaches. As a result, much research effort has been expended in exploring their nature and role, and in trying to establish the natural "laws" which govern their behaviour. Developing an understanding of such differences must begin with some consideration of the relevant conceptual and methodological issues, and the resolution of these, in turn, hinges on the model of stress that is adopted as the framework for study.

Personality and Stress: Individual Differences in the Stress Process. Edited by C.L. Cooper and R. Payne

A PSYCHOLOGICAL FRAMEWORK

It has been argued above that stimulus- and response-based models of stress have been found to be inadequate in two respects: first, they fail to account convincingly for much of the available data, and second, they do not reflect current thinking in psychology (or many of the other contributing disciplines). The more psychological models have attempted to overcome the obvious weakness in these approaches. Various have been offered: most may be categorised as either "interactional" or "transactional" in nature. Transactional models, which are the more process orientated of the two, have tended to focus on the concept of "appraisal", and owe much to the work of Lazarus (for example, 1966, 1976). Such models are used here as a framework for discussing the role of individual differences in stress and coping.

APPRAISAL MODELS OF STRESS

Appraisal models of stress make explicit its psychological nature. They treat stress as a psychological state which is the internal representation of a particular and problematic transaction between the person and their environment. This state, however, is effectively a "snap shot" of a wider and *dynamic* "stress process" which involves an ongoing sequence of person–environment transactions (Cox, 1978, 1985, 1990; Lazarus and Folkman, 1984). Appraisal is the evaluative process that imbues these transactions with meaning (Holroyd and Lazarus, 1982). According to Lazarus and his colleagues (see, for example, Lazarus, 1966; Folkman and Lazarus, 1986), the outcome of a stressful transaction is mediated by appraisal and coping. Individual differences are obvious in relation to both.

Appraisal is said to be comprised of primary and secondary processes. When involved in primary appraisal, the person asks themselves: "Is this particular encounter relevant to well-being, and in what way?". If the encounter is relevant to well-being then the person might judge it to involve, in terms of Lazarus and Folkman's (1984) model: challenge, threat or harm/loss. These authors have more recently suggested a fourth appraisal, that of "benefit".

In a recent study (Ferguson and Cox, 1991), the present authors have argued that the architecture of primary appraisal should be explored using "situational" rather than "psychological" reasoning. Subjects in studies of primary appraisal should be confronted with questions or scales asking them about their relationship with particular situations in terms of the characteristics of those situations rather than their own feelings (items such as "the situation was frightening" rather than "I was frightened"). Their studies, based on the use of factor-analytic and LISREL techniques, confirmed the existence of three dimensions of primary appraisal but suggested that these are more appropriately conceptualised, in terms of situations, as: challenging,

anxiety-producing and depressing. Initial validity data suggest that only the latter two are associated with the self-reported experience of stress.

Primary appraisal is associated with the stressful characteristics of situations: secondary appraisal is concerned with the question: "What, if anything, can be done to resolve them?". As such, it is a decision-making process (Cox, 1987) which must take into account the coping resources and options available to the person, their preferred style(s) of coping and the nature of the stressful situation.

TRANSACTIONAL MODEL OF OCCUPATIONAL STRESS

Influenced by the work of Lazarus and his colleagues, and also by that of McGrath (1970), the theoretical contribution of Cox, and of Cox and Mackay, has attempted to set appraisal mechanisms in the wider context of the stress process and with particular reference to occupational health.

Originally their transactional model of occupational stress was set within "general systems theory", and was described in terms of five stages (Cox, 1978). The first stage, it was argued, represents the sources of demand faced by the person and reflects the characteristics of their environment. The person's perception of these demands in relation to their ability to cope represents the second stage: effectively primary appraisal. Stress was described as the psychological state which arose when there was a personally significant imbalance or mismatch between the person's perceptions of the demands on them and their ability to cope with those demands. The psychological and physiological changes which are associated with the self-recognition of such a stress state, and which include secondary appraisal and coping, represent the third stage of the model, which leads into the fourth stage, which is concerned with the consequences of coping. The fifth stage is the general feedback (and feed forward) which occurs in relation to all other stages of the model.

Development of Transactional Model

This model has been further developed in three respects. First, the authors have attempted to describe the process of primary appraisal in more detail (Cox, 1985; Cox and Mackay, 1981; Ferguson and Cox, 1991). They have argued that primary appraisal takes into account a number of different person and situational factors, and results in the person judging a particular situation as challenging, anxiety-producing or depressing. It is only the latter two appraisals which are experienced as stressful. The four factors which contribute to the appraisal process are:

- the external and internal demands that the person experiences, matched against

- their personal coping ability and resources,
- the control they have over coping, and
- the support that they receive from others in coping.

The concept of control, or conversely constraint, has been given increasing importance in the transactional model and its contribution to secondary, as well as primary, appraisal is now being considered.

Second, the stress process (including coping) has been set in the context of "problem solving" and a clear distinction has been made between primary appraisal (is there a problem?) and secondary appraisal (how and how well can I cope with it?) (Cox, 1987). Primary appraisal is seen as a continual process of monitoring while secondary appraisal is seen as a more discrete activity involving decision making and somewhat contingent on the outcome of primary appraisal. However, anecdotal evidence suggests that the interface between the two is "fuzzy".

Third, there has been some discussion of the problem of measuring stress based on this approach (Cox, 1985, 1990) with the development of possible subjective measures of its attributional and experiential (mood) correlates (see Mackay et al., 1978; Cox and Mackay, 1985; Cox, 1990; Ferguson and Cox, 1991).

Response to Stress: Stage 3

A stress state is usually accompanied by a characteristic mood change, and possibly by a more intense and focused emotional experience: the person feels anxious or tense, worn out or depressed. Such moods and emotions are unpleasant, and on many occasions serve to define the stress state for the individual (Cox, 1985, 1990).

Together, an awareness that a stressful problem exists and is anxiety producing or depressing normally initiates a cycle of changes in the person's perceptions and cognitions, and in their behavioural and physiological function. Some of these changes are attempts at attenuating the experience of stress and mastering the problem and have been termed "coping" by Lazarus (1966). Coping usually represents either an adjustment *to* the situation or an adjustment *of* the situation. There are marked individual differences in how people attempt to cope with stress.

In addition to these psychological responses to stress, there may be significant changes in physiological function, some of which might facilitate coping, at least in the short term, but in the longer term may threaten physical health.

ROLE OF INDIVIDUAL DIFFERENCES

In 1988, Payne suggested that individual differences might be involved in the stress process in at least five different ways. He presented these in the form of