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CONSEQUENCES AND MODERATORS OF INDUSTRIAL RELATIONS STRESSORS

Stephen David Bluen

Thesis submitted to the Faculty of Arts, University of the Witwatersrand, in Partial Fulfilment of the Requirements of the Degree of Doctor of Philosophy.

Johannesburg, 1986

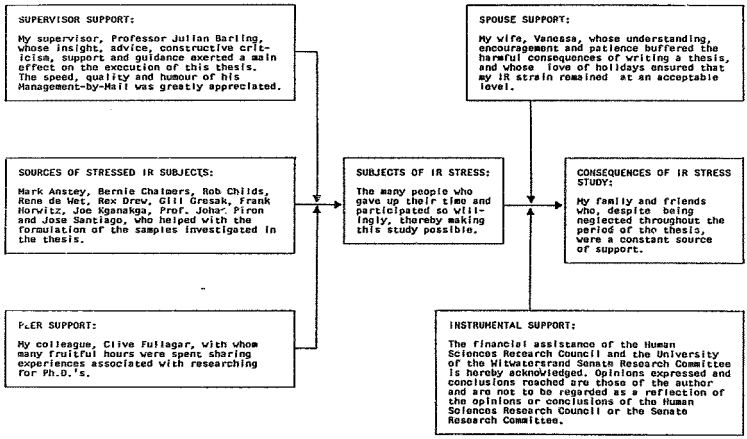
I hereby declare that this thesis is my own work and that I have not submitted it for the Degree of Doctor of Philosophy to any other University.



S. D. BLUEN

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ABSTRACT

The aim of the present thesis was to develop and test a process model of the consequences and moderators of industrial relations stressors. A review of the literature revealed that conflict and change represent central dimensions of both industrial relations and stress theory. Furthermore, the practice of industrial relations is inherently stressful: Forming a labour-management relationship, joint decision-making, implementing industrial relations decisions and breakdowns in the labour-management relationship are all potentially stressful activities for members of management and labour alike. However, despite the strong theoretical and practical association between industrial relations and stress, no attempt has been made to conduct a comprehensive empirical investigation of the stress associated with the practice of industrial relations. Accordingly, in the present thesis, the stress associated with a wide range of industrial relations events was examined.

Before investigating the industrial relations stress process, it was necessary to develop an appropriate instrument to measure the stress associated with industrial relations practice. Thus the initial study was aimed at developing the Industrial Relations Event Scale. This was done using the life events approach, a well-documented means of measuring stress. Within the life events paradigm, Sarason's approach has been well-received as it overcomes many of the criticisms levelled against earlier life event scales. Consequently, Sarason's format was adopted for the development of the Industrial Relations Event Scale. The 63-item Industrial Relations Event Scale contains three subscales, the occurrence, negative and positive scales. The occurrence scale assesses retrospectively the number of industrial relations events that have occurred over a 12-month period. As such, the occurrence score provides an index of objective stressors. Subjective measures of stress are provided by the positive and negative subscales of the Industrial Relations

Event Scale. These scales reflect the perceived positive or negative impact that each occurring event exerted on the respondent.

Internal and temporal consistency were found to be satisfactory for the Industrial Relations Event Scale. Concurrent validity was assessed by correlating the three Industrial Relations Event Scale subscales with measures of conceptually-related constructs (i.e., role stress, job and supervision satisfaction and propensity to leave the organisation). Significant correlations were found for the occurrence and negative scales, but no significant correlates of the positive scale were recorded. Discriminant validity of the three Industrial Relations Event Scale subscales was determined by comparing responses across conceptually different groups (i.e., race, union membership, union position, job category and degree of involvement in industrial relations). The results revealed that the occurrence and negative scales discriminated consistently between groups. The positive scale did not discriminate consistently between groups.

Because excessive questionnaire length can be a problem, a 20-item short form of the Industrial Relations Event Scale was developed by selecting those items from the main scale that displayed the best psychometric properties. As with the 63-item Industrial Relations Event Scale, the 20-item version of the scale yielded satisfactory reliability and validity figures for the occurrence and negative scales, but not for the positive scale. From the results it was concluded that the occurrence and negative scales were psychometrically acceptable. Conversely, the positive scale was considered unacceptable and was excluded from further use in the thesis.

In the main study, a causal model of industrial relations stress was developed and tested using a longitudinal design. The impact of industrial relations stress (negative subscale of the Industrial Relations Event Scale) and three moderator variables (personality hardiness, supervisor support and family support) on three measures of strain (psychological health, job satisfaction and propensity to leave the

organisation) was assessed using moderated multiple regression. The sample consisted of 452 people involved in diverse aspects of industrial relations practice.

Results indicated that the only significant predictor of psychological health was supervisor support. Regarding job satisfaction, three significant interaction terms were identified (i.e., stress x hardiness, stress x supervisor support, and stress x hardiness x family support). To determine directionality, subgroup means were calculated. Both hardiness and family support were found to exert a positive effect on the stress-job satisfaction relationship. However, no clear findings were discernable regarding the moderating effect of supervisor support. One significant interaction term was found for the propensity to leave measure of strain (i.e., stress x hardiness). Subgroup calculations revealed that hardiness moderated the impact of stress on propensity to leave.

Although significant results were found in the main study, only a small amount of variance in the respective measures of strain was explained. Conceptual and methodological reasons for the findings were offered and a revised model of industrial relations stress was proposed. The expanded model includes diverse moderators, physical, psychological, behavioural and organisational manifestations of strain, an additional dimension, illness, and a feedback loop between all stages of the model. Finally, implications of the present study were discussed and future research guidelines were suggested.

TABLE OF CONTENTS

Chapter		Page
1.	INDUSTRIAL RELATIONS THEORY	1
	Historical perspectives of IR theory	2
	The Webbs	2
	John Commons	2
	Karl Marx	3
	Current approaches to IR theory	4
	Frames of Reference in IR	5
	The unitary frame of reference	5
	The unitary perspective and IR	6
	The pluralist frame of reference	7
	The pluralist view of conflict	8
	The role of trade unions in the pluralist perspective	9
	A radical critique of the pluralist perspective	10
	The balance of power	10
	The underlying consensus between labour and management	12
	Bargaining under duress	13
	The systems approach: Dunlop's model	14
	The actors	15
	The environmental contexts	15
	Rules	15
	Ideology	15
	Appraisal of Dunlop's model	16
	Conclusion	19
2.	STRESS THEORY	21
	Introduction	21
	Ambiguity surrounding the definition of stress	22
	Historical overview of the study of stress	23
	Contemporary approaches to the investigation of stress	24
	Stress as a response: The work of Hans Selye	25
	The general adaptation syndrome	26
	Appraisal of Selye's work	28
	Stress as a stimulus: The life events approach	29
	Stressful life events	31
	Appraisal of the life events method of assessing stress	33
	Types of life events to be studied	34
	Stressfulness of life events	35
	Moderating factors influencing the life events-consequences process	39
	Stress as a person-environment interaction:	
	The work of Richard Lazarus	41
	Stress appraisal	42
	Coping with stress	44
	Appraisal of Lazarus's work	46
	Conclusion	49

Chapter Page

3. ORGANISATIONAL STRESS 53
The organisational stress process 53
Stressors, moderators and outcomes of organisational stress 55
Organisational stressors 57
Role ambiguity 57
Role conflict 59
Role overload 62
Organisational territoriality 64
Responsibility for people 65
Relations with others 66
Participation 68
Occupational differences 70
Consequences of organisational stress 75
Physical consequences 76
Psychological consequences 79
Behavioural consequences 80
Organisational consequences 82
Moderators of the organisational stress-strain relationship 86
Psychological moderators 87
Physical condition 92
Demographic variables 92
Situational moderators 94
Conclusion 97

4. PSYCHOLOGICAL STRESSORS ASSOCIATED WITH IR 99
The practice of IR in South Africa 100
Conflict in South African IR 100
Change as a dynamic of IR in South Africa 105
Practical examples of the stress of IR involvement 107
The stress associated with the labour-management relationship 108
Establishing the relationship 109
Labour-management decision-making 111
Implementing the agreement 117
Breakdowns in the labour-management relationship 118
Stress associated with different labour roles 122
Stressors encountered by the union leader 122
Psychological stressors encountered by the shop steward 126
IR stressors encountered in the worker role 130
IR stressors associated with management roles 132
Stress in the management role 133
Stress in the supervisory role 135
Stress associated with the IR practitioner role 137
Conclusion 140

5. AIM AND THEORETICAL RATIONALE OF THE THESIS 142

Chapter Page

6. DEVELOPMENT OF THE INDUSTRIAL RELATIONS EVENT SCALE 145
Method 150
Subjects 150
Procedure 150
Measuring instruments 153
Role stress 153
Job satisfaction 154
Supervisory leadership 155
Withdrawal behaviour - propensity to leave the organisation 156
Results 157
Initial item analysis 157
Reliability of the IRES 157
Validity of the IRES 158
Construct validity: Correlates of the IRES 158
Construct validity: Known group differences 161
Short form of the IRES 166
Discussion 168

7. THE INDUSTRIAL RELATIONS STRESS MODEL 175
A model of IR stress 175
Independent variable - IR stressors 176
Occurrence and impact of stressful IR events 176
Dependent variable - consequences of IR stress 179
Psychological health 179
Job satisfaction 180
Propensity to leave the organisation 180
Moderator variables 181
Hardiness 181
Social support from supervisors 182
Family support 182
Combined impact of hardiness and social support 183
Covariates of IR strain 183
Age 184
Race 184
Sex 185
Job position 185
Union-related demographic variables 185
Rank ordering of the variables 187
Method 190
Subjects 190
Design 193
Measuring instruments 193
Dependent variables 193
Psychological health 193
Job satisfaction 195
Withdrawal behaviour - propensity to leave the organisation 197
Independent variable 198
IR stress 198
Moderator variables 199
Hardiness 199
Social support from supervisors 201
Social support from family 202
Procedure 203

Chapter | Page

Statistical analysis 204
Results 215
Results of assumptions tests 216
Reliability of the instruments 216
Inclusion of relevant demographic variables 216
Tests for linearity 219
Tests for multicollinearity 219
Results of the moderated multiple regression analyses 222
Psychological health 222
Job satisfaction 222
Proponsity to leave 224

8. DISCUSSION OF RESULTS 229
Discussion of the results 230
IR stress 230
Moderator variables 236
Hardiness 236
Social support offered by supervisors 239
Social support offered by the family 247
Consequences of IR Stressors 250
Limitations of the study 255
The sample 255
Measurement 257
The measuring instrument 258
Problems with the overall research strategy 260
Statistical issues 262

9. TOWARD A MODEL OF INDUSTRIAL RELATIONS STRESS 265
A revised model of IR stress 266
IR stressors 266
Strain and illness caused by IR stressors 270
Moderators of IR stress 271
Hardiness 271
Social support 272
Covariates 275
Feedback loops 275
Practical implications of the study 279
Implications for future research 284
The measurement of stressful IR events 285
Outcomes of the IR stress process 286
Moderators of the IR stress process 287
Demographic variables 288
Future research strategy 289
Summary and conclusion 290

REFERENCES 292

APPENDIX 1
Covering letter, demographic checklist, and instruments used in the first study 331

APPENDIX 2
Covering letters, demographic checklists, and instruments used in the main study 343

LIST OF TABLES

Table		Page
4.1	Stressors experienced by people involved in the practice of IR	123
6.1	Demographic details of the sample	151
6.2	Correlations between the three IRES subscales and role conflict and ambiguity, job and supervision satisfaction and propensity to leave	160
6.3	T-test comparisons for contrasted groups on the three IRES subscales	162
6.4	Oneway analysis of variance between occupational categories for the three IRES subscales	165
6.5	Correlations between the three subscales of the IRES-Short Form and role conflict and ambiguity, job and supervision satisfaction and propensity to leave	167
6.6	T-test comparisons for contrasted groups on the three IRES-Short Form subscales	169
6.7	Oneway analysis of variance between occupational categories on the three subscales of the IRES-Short Form	170
7.1	Demographic details of the initial and final sample	192
7.2	Internal and temporal consistency of the measuring instruments	217
7.3	T-tests of the dichotomous demographic variables for the dependent variables	218
7.4	Oneway analysis of variance of demographic variables for the dependent variables	219
7.5	Pearson correlations of dependent variables (Time 1 and Time 2), independent variables and continuous demographic variables	220
7.6	Tests for linearity	221
7.7	Moderated multiple regression for psychological health	223
7.8	Moderated multiple regression for job satisfaction	225
7.9	Moderated multiple regression for propensity to leave	227

LIST OF FIGURES

Figure		Page
2.1	The stress process	50
3.1	House's (1974) paradigm for stress research	55
3.2	A model of the organisational stress process	56
7.1	A theoretical model of the IR stress process	177
7.2	Diagrammatic representation of significant interaction effects for the job satisfaction dependant variable	226
7.3	Diagrammatic representation of the significant interaction effect for the propensity to leave dependent variable	228
9.1	A revised model of the IR stress process	267
9.2	An open systems model for the analysis of IR	277

That the birds of worry and
care fly above your head,
this you cannot change.
But that they build nests
in your hair,
This you can prevent.
(Chinese proverb)

CHAPTER 1

INDUSTRIAL RELATIONS THEORY

Although there are many industrial relations (IR) theories (cf. Jackson, 1977), they are not adequate in accounting for the complex interactions of structures, processes and people associated with the practice of IR (Bain & Clegg, 1974; Scheinstock, 1981; Wood & Elliott, 1977). Two opposing responses to this situation have been suggested. On the one hand, there is the belief that the lack of theory is desirable and inevitable (Clegg, 1975). Many specialists distrust theory because they see IR as a practical subject that should focus on solving problems in the real world (Wood & Elliott, 1977). Consequently, there are those IR academics who have concentrated on gathering data and have attempted to develop practical solutions to current problems in the field (Strauss & Feuille, 1978).

On the other hand, many academics are unhappy with the lack of adequate theories in IR and recognise the important contribution theory can make to the discipline (Bain & Clegg, 1974; Blain, 1978; Dunlop, 1958; Hyman, 1975; Walker, 1977). Hyman (1975) points out that theory and action are not divorced. People need theory to help them see, understand and plan. Similarly Walker (1977) regards theory as a means of helping IR practitioners understand the current situation, predict trends, effect change and thereby avoid undesirable outcomes. In the present thesis the latter view which explicitly recognises the need for IR theory is accepted.

Several academics who saw the need for IR theories developed their own theoretical approaches to the subject. Before examining any specific theoretical approach to IR, certain historical developments in IR are outlined to gain some understanding of the evolution of the present state of IR theory in the Western world.

CHAPTER 1

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Historical Perspectives of IR Theory

During the nineteenth century there was no specific discipline for studying the role of people at work. Instead, the classical economic laws of supply and demand were applied to labour in much the same way as they were applied to other factors of production (Dalton, 1974; Kochan, 1980).

The classical economic approach to the study of labour has been criticised widely. Critics such as Marx, the Webbs and Commons each subsequently developed their own specific theoretical orientations to the investigation of IR (Kochan, 1980). Underlying their criticisms were two common themes: First, they all saw the role of work as being too important in the lives of workers and workers' families to be treated merely as another factor of production. Secondly, they recognised that under conditions of free competition advocated by the classical economic approach, individual workers were economically weaker than their employers. Consequently, employers could dictate the terms of the employment contract to their own advantage at the expense of the workers. Once again, the specific qualities of labour precluded it from being treated as another factor of production (Kochan, 1980).

The Webbs. The husband and wife team of Sidney and Beatrice Webb advocated evolutionary strategies for improving the miserable lot of the working class in their two famous works *A history of trade unionism (1896), and Industrial democracy* (1902). They saw trade unionism as a means of improving the material position of wage earners within the capitalist system. The Webbs were the first people to develop theories of trade unionism and collective bargaining wherein the imbalance of power between workers and management was addressed (Allen, 1971; Flanders, 1968; Kochan, 1980).

John Commons. A second response to the classical economist's view of labour came from Commons (1925, 1934), leader of the so-called 'Wis-

consin School' or institutional economics approach (Strauss & Feuille, 1978). Commons (1934) shifted the focus of attention from commodities, individuals and exchanges to transactions and working rules of collective action. The institutional school advocated compromise as a means of dealing with the diverse interest of labour, management and the wider society (Kochan, 1980). Commons' work resembles the pluralist ideology which views society as consisting of several different interest group each competing to have their interests reflected in the rules that govern the society. In IR, groups reach consensus *via* collective bargaining (Flanders, 1965). The Winconsin school also advocated social reform. Contrary to the sentiments of their times, Commons (1925) and Perlman (1928) recognised the important role of trade unions in worker-management relations.

Both the Webbs and the Winconsin school saw the amelioration of the working class occurring in an evolutionary manner via trade unions and collective bargaining. This view, later modified by writers such as Flanders, Ross, Kerr and Chamberlain, underlies many of the present approaches to IR (Blain & Gennard, 1970; Strauss & Feuille, 1978).

Karl Marx. Toward the end of the nineteenth century, Marx was developing his own alternative perspective to classical economics (Marx, 1885-1890). Although he was also concerned with improving the position of the wage workers, his approach was radically different to those of both Commons or the Webbs (Kochan, 1980). Marx's writings were based on certain assumptions (Kochan, 1980):

1. Workers should not have to live with the negative consequences of the market economy.

2. The capitalist society was made up of two classes: the owners of the means of production and the workers. These classes had inherently conflicting interests.

3. Although union negotiations with management could provide short-term solutions, the only real long-term solution was to overthrow the capitalist society and replace it with a classless egalitarian society.

4. Trade unions serve as a means of achieving short-term economic improvements within a particular system. However, their prime function is to act as a vehicle for overthrowing the existing system (Kochan, 1980).

The Webbs, Commons and Marx all sought to improve the position of the worker. However, whereas the Webbs and Commons examined ways of improving various institutions within the society, Marx believed that the legitimacy of the entire society needs to be questioned if an acceptable solution to the worker's plight is to be found.

Current Approaches to IR Theory

From these early approaches, several modern theories have been developed. It is hard to discern set schools of thought clearly from contemporary theories. Several writers have attempted to identify and classify the various trends in current IR theory (Blain, 1978; Blain & Gennard, 1970; Jackson, 1977; Scheinstock, 1981; Walker, 1977). Some of the approaches identified include the systems, frames of reference, institutional, sociological, industrial sociological, exchange theory, Marxist, radical, Oxford, action theory, politico-economic and industrial government approaches. There is no consensus on the nomenclature of the approaches. For example, what Blain and Gennard (1970) call the industrial sociology approach, Schienstock (1981) calls the politico-economic or Marxist approach. Furthermore, there has been no agreement of the classification of these approaches into a scheme. Of the various approaches to the study of IR, the frames of reference and the systems approaches are particularly relevant to this thesis and are discussed below. Within the frames of reference approach, the role of conflict (and therefore, change) in IR is examined while in the systems approach, the

relevance of change is discussed. Both conflict and change are seen to be important sources of stressors in IR.

Frames of Reference in IR

One influential approach has been to distinguish different frames of reference that underlie much of IR theory (Jackson, 1977). Fox (1966, 1973, 1974) attempts to demystify the role of ideology in IR by setting out clearly the various frames of reference that abound. Initially, Fox (1966) distinguished two frames of reference, the unitary and the pluralist perspectives. Later, however, a radical critique of pluralism was presented (Fox, 1971; 1973, 1974; 1975; Hyman, 1975; Hyman & Brough 1975).

The Unitary Frame of Reference

Fox (1966) states that an organisation adopting a unitary ideology is analogous to a healthy functioning sports team. There is one source of authority and one focus of loyalty. Management and workers strive jointly to meet company goals which are harmonious with the personal goals of the employees. Once these objectives are achieved, all parties share the rewards. People accept their positions in the organisation and do not question the leadership of those placed in positions of authority. The leaders, i.e., management, are perceived by all to be best qualified to run the organisation effectively. There is no challenge to managerial authority either from within the organisation or from external sources.

Management owe reciprocal allegiance to the workers. They motivate, promote harmony of purpose and build up *esprit de corps* among the workforce. Generally, there is a sense of unity and partnership propagated in an organisation adhering to a unitary ideology. In industrial psychology, much of the work of the human relations school adheres to the unitary frame of reference (Jackson, 1977).

The unitary perspective and IR. Because the unitary ideology emphasises harmony, the validity of conflict in organisations is denied. Any conflict that does occur is seen as being negligible, caused by faulty communications, stupidity, or by the work of agitators. Management do not recognise the existence of more than one source of loyalty and authority in the organisation. Therefore, no cognizance is given to the pluralistic notion of structural conflict which views conflict as a natural consequence of the plurality of forces, each with its own interests, that operate in any organisation.

Collective bargaining is mistrusted in the unitary perspective because "it encourages the 'two sides' mentality" (Fox, 1966, p. 12). Although both collective bargaining and trade unions are regarded by subscribers of the unitary perspective as unnecessary encroachments that compete illegitimately for control over employee loyalty, these institutions are entrenched elements of an IR system.

Subscribers to the unitary perspective offer three explanations for the presence of trade unions in the IR system. First, trade union are seen as historical carryovers that have no real rationale for existence in today's times of enlightened management. Fox observes that the entire point of the representative principle, whereby workers have a say in the decisions that directly affect their working lives, is overlooked in this articulation. Second, the rationale of trade unions is questionable. Unions are borne out of sectional greed, misunderstandings of elementary economics or a disregard for the national interest. They must be endured but their legitimacy is dubious. Third, unions are seen to pursue the covert function of undermining the existing social order. Thus trade unions and collective bargaining are tolerated and seen at best as unfortunate necessities whose suspect legitimacy goes against sound business logic and at worst as a threat to the *status quo*.

The unitary ideology differs from observable practice (Fox, 1966). Yet management often subscribe to the unitary ideology because it serves managerial interests in the short-term: The unitary ideology (a) pro-

motes managerial self-reassurance, (b) acts as a tool of persuasion to ensure that workers persist with their undivided loyalty to the organisation, and (c) legitimises managerial prerogative. Given this rich yield, it is not surprising that many management teams still adhere to the unitary ideology.

The Pluralist Frame of Reference

The pluralists argue that in any system there are various groups, each with its own interests and beliefs. Government, regardless of the form it takes, relies on the consent and co-operation of these groups. Instead of definite decisions by final authorities, continuous compromises between the groups occur (Clegg, 1975).

Within IR, pluralism can be traced back to the origins of collective bargaining and the Webbs (1902). However, pluralism had not received much attention until Fox (1966) submitted his evidence to the Donovan Commission wherein he clearly set out an interpretation of the pluralist frame of reference within the IR context (Hyman, 1978). Several other versions of pluralism in IR have been suggested by writers such as Clegg, Flanders, Kerr, and Ross (Hyman, 1978; Jackson, 1977). Fox's (1966, 1973, 1974) pioneering work in setting out the pluralist perspective (Jackson, 1977) is examined in the present discussion.

According to Fox the essence of a pluralist ideology is that within a system there exists several different interest groups each with its own leaders, loyalties and objectives - a dramatic shift from the unitary perspective. In IR, the two interest groups that are of particular importance are management and employees. Management and worker groups each attempt to ensure that their points of view are accepted in the organisation and, because these groups often have competing interests, the groups are frequently in conflict with one another.

The pluralist view of conflict. As opposed to the unitary ideology, in the pluralist analysis conflict is seen as a natural outcome of the system and requires appropriate handling. Within the unitary perspective, conflict is regarded as being unnatural and needs to be eliminated from the organisation.

Fox states that all conflicts between labour and management can be resolved if handled by skilled practitioner, in an appropriate and patient manner. This assertion, strongly attacked by the critics of pluralism (e.g., Hyman, 1975; Hyman & Brough, 1975), leads to one of the central assumptions contained in the pluralist ideology: Although both sides have separate interests which may be in conflict, the conflict does not necessarily lead to a breakdown of the labour-management relationship. Labour and management recognise that at some level it is in their mutual interest to see the organisation operating effectively Therefore, the differences between their respective positions cannot be insurmountable if a pluralist system is to work. They strive to reach consensus via the process of collective bargaining.

Fox identifies two types of industrial conflict - unorganised and organised. Unorganised conflict is manifest in personal forms, (e.g., absenteeism, labour turnover and negative work attitudes). Organised conflict manifests in group behaviour (e.g., strikes, boycotts and work-to-rule), and is far more dramatic and visible than unorganised conflict. Organised conflict is not necessarily indicative of ill health in an organisation: Fox makes the point that a certain amount of overt conflict is welcomed as a sign that not all aspirations are being drained by hopelessness or suppressed by power.

A further assumption underlying conflict resolution via collective bargaining is that there is a balance of power between management and labour. If there is no such balance, negotiations become bargaining under duress: The powerful group dominates the negotiations and suppresses the subordinate group's aspirations. Bargaining under duress entails coercion and as such, the resulting agreements are not morally binding.

However, one of the cornerstones of the pluralist perspective is the existence of a balance of power, which allows for collective bargaining (rather than bargaining under duress) to occur. Within the pluralist perspective, trade unions serve to maintain this balance of power.

The role of trade unions in the pluralist perspective. Individual workers are powerless relative to management. But by joining a trade union, workers redress this power imbalance. Trade unions challenge managerial rule concerning market relations and managerial prerogative. Also, union members forge links with workers and union leaders outside their organisation. Thus they only have partial allegiance to the organisation.

Consequently, management in a pluralist organisation can experience problems when making worker-related decisions unilaterally. Worker-related decisions need to be taken jointly by management and trade union representatives. Furthermore, trade union influence extends beyond the individual organisation, and therefore, the joint labour-management decision-making process may take place at many levels from the shopfloor through to the national level.

Certain writers (e.g., Fox, 1973; 1974; Hyman, 1975; Hyman & Brough, 1975) believe that the entire pluralist perspective is an illusion created by the controllers of society to support the *status quo*. The pluralist criticism that the unitary perspective is a convenient ideology to promote managerial aims at the expense of the workforce has subsequently been levelled against the pluralists themselves. It appears that the initial claims that pluralism is at the opposite pole of the ideological continuum to the unitary perspective is incorrect. Rather, pluralism falls somewhere in the middle of an ideological continuum that extends beyond the limits initially envisaged by Fox (1966).

A Radical Critique of the Pluralist Perspective

Fox (1966) began his quest to demystify IR by setting out the unitary and pluralist perspectives. In his later works, Fox (1973, 1974) criticised pluralism from a more radical perspective. Fox's and similar critiques (e.g., Hyman, 1975; Hyman & Brough, 1975) form the basis of the present discussion. They maintain that pluralism is an illusion created by the controllers of the society to support the *status quo*, thereby enhancing the position of the ruling class (Fox, 1973, 1974; Hyman, 1975; Hyman & Brough, 1975). Fox (1973, 1974) presents his critique by examining certain fundamental aspects of pluralism and criticising the underlying assumption from a radical view.

The balance of power. The fundamental assumption of pluralism is that industrial society is made up of a multiplicity of pressure groups competing for scarce resources, status or influence. Fox maintains that this is incorrect. Rather, the primary dynamic is that there are two classes in society. The capitalist class own the means of production and exploit the less powerful labour class. The notion of balance of power between the groups is refuted. Fox offers three explanations why the myth of a power balance still persists.

First, because of the scope of their power, the upper strata of society do not need to display their power overtly. Their control extends beyond the economic sphere to influence the political, educational, social, legal and cultural institutions and the media. Hyman and Brough (1975) quote Marx and Engels who state that those who control the means of material production in society, control the means of mental production. Ideologies are designed to justify the privileged position of the powerful class. People of the subordinate class are conditioned to accept the dominant class values via socialising agents such as the family, education and the media.

Thus there is no need for the ruling class to use their power openly. Their desired objectives are being achieved effectively through the broader society which they manipulate. Hyman and Brough (1975) observe that there are no clear boundary lines between authority where power is justified by the beliefs of the voluntarily obedient, and manipulation where power is wielded in ways that are not perceived by the powerless. Through ideological socialisation, a subordinate value system is created which inhibits any serious challenge of the prevailing social and economic hierarchy. Any discontent is restricted to focusing on specific parochial issues.

Second, Fox likens the influence of the ruling class to the air we breathe: It is so pervasive that we are unaware of its presence. Consequently there is no need for overt expression of power. The manifestation of ruling class power lies in the way people behave, which reflects a tacit awareness of its existence. The absence of blatant evidence of power influences the popular misconceptions of the balance of power.

Third, the limited scope of items negotiated by the two parties reflect the unobtrusive power of the ruling class that is brought to bear on labour-management relationships. The pressures from labour for change are limited to what Fox terms 'fine tuning' of the system. Worker groups, through their conditioning and their tacit awareness of employer's powers, restrict their demands to marginal matters such as wage increases and improvements in conditions of employment. They do not negotiate for the change of fundamental characteristics of the system (e.g., eliminating private property and organisational hierarchies).

By negotiating with management (on issues that they do not recognise to be marginal) the aspirations of labour are being satisfied. Consequently, worker needs at the marginal level are met. Their level of discontent does not rise to the point where they criticise the more fundamental assumptions of the society.

Thus management share the decision-making function with workers on uncontentious issues and thereby management increase workers' view of

the legitimacy of the system. Far from being weakened, management's position is strengthened through collective bargaining. The pluralist position, therefore, can be criticised because joint decision-making does not imply major changes in the distribution of power in organisations. Pluralism provides a convenient ideology for dealing appropriately with marginal discontent via collective bargaining while the essential structures of control are left intact. Collective bargaining, therefore, is an important bulwark for the preservation of private enterprise.

There is a further aspect of Fox's 'fine tuning' concept: When negotiating marginal issues, the entire worker strength is pitted against that portion of managerial power perceived to be necessary for the situation. However, only those topics acceptable to management are negotiated in the first place. Furthermore, only if some of the more fundamental issues that seriously threaten management's position were to be negotiated, would management be required to use more of its power reserves.

Thus by veiling the gross disparities of power and perpetuating the belief that management and labour compete fairly for rewards, pluralism helps to legitimise the system. It keeps the society safe for the privileged class.

The underlying consensus between labour and management. The next important pluralist assumption that is questioned in the radical critique is that labour and management can resolve their differences and reach a consensus agreement because they recognise their mutual dependence. When workers break the moral obligation of observing agreements, it is because of ill-will on their part. The transgressors are seen to reject the admirable system of labour-management negotiations and instead favour anarchy and disorder. This intolerant managerial attitude adopted toward nonconformists perpetuates and justifies the existing social order. Far from being a radical alternative to the unitary ideology, in this light pluralism appears merely as a more realistic and effective means of de-

the legitimacy of the system. Far from being weakened, management's position is strengthened through collective bargaining. The pluralist position, therefore, can be criticised because joint decision-making does not imply major changes in the distribution of power in organisations. Pluralism provides a convenient ideology for dealing appropriately with marginal discontent via collective bargaining while the essential structures of control are left intact. Collective bargaining, therefore, is an important bulwark for the preservation of private enterprise.

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scribing and dealing with IR from a *status quo* managerial perspective. Instead of looking at the arguments raised by non-conformists, the pluralist ideology categorises non-conformers as having psychological problems. This is an extremely conservative approach to the entire question of absence of consensus.

Bargaining under duress. Fox states that the so-called free and equal joint regulation of industrial agreements can be interpreted in fact as bargaining under duress - the very concept the pluralist ideology attempts to overcome. Fox supports the duress assertion by raising two points. First, labour has been conditioned to negotiate only those items that are acceptable to management. Furthermore, worker demands are not necessarily excessive because of their limited aspiration level. Second, those workers that are able to resist the influence of the dominant ideology and challenge the system, soon become aware of the tremendous odds against them. It is futile to challenge the greatly superior power of the employer group whose power extends beyond the sphere of economics to incorporate the entire society.

Consequently, critics of the pluralist ideology see joint regulation as yet another mystification to confuse workers about the true nature of the system. Collective bargaining is nothing more than disguised coercion. If this criticism is accepted, then the pluralist description of negotiation is really bargaining under duress, which implies that there is no commitment to observe the resulting agreements (Fox, 1973). This means that the entire process of joint regulation, a cornerstone of all pluralist IR systems, crumbles.

In the past, pluralism was seen by Fox (1966) as an acceptable alternative to the restrictive views embodied in the unitary frame of reference. The pluralist perspective served to explain industrial society realistically and accurately. There was no need to look beyond pluralism for an ideological framework for IR. Subsequently, however, Fox (1973, 1974) claims that pluralism only addresses *some* of the important as-

sumptions underlying industrial societies. Within the pluralist ideology, the social order is accepted and not questioned. Thus a particular value bias is presented which is far from the opposite end of the ideological continuum to the unitary perspective.

From the discussion on frames of reference certain conclusions can be drawn. The unitary idea that the organisation is a harmonious entity provides an inaccurate description of organisations within the IR context. Whether adopting a pluralist or a radical perspective, conflict is a central component in IR (cf. Bluen, 1983a, 1986). Conflict is at the basis of the labour-management relationship and, as will be demonstrated in Chapter 4, is evident in most aspects of labour-management interactions.

Shalev (1980) identifies two general approaches to IR theory, 'reformist', based on the assumptions of consensus and stability, or 'critical', where conflict and change are the dominant assumptions. Cox (1977) criticises 'reformist' IR theory for its failure to question the potential to change the *status quo*. Thus conflict and change are inextricably related: The object of conflict is to change the *status quo* (Hyman, 1975).

The Systems Approach: Dunlop's Model

The centrality of the role that change plays in IR can be understood further by examining IR from a systems perspective. John Dunlop (1958) pioneered the application of systems theory to the study of IR (Jackson, 1977). Unlike his predecessors, Dunlop did not view IR as part of an existing discipline but as a separate discipline in itself (Jackson, 1977). IR forms a subsystem of the society in much the same way, for example, as does economics or politics. It overlaps with these other subsystems but it remains independent of them. Dunlop (1958) identifies four common features of any IR system viz. actors, environmental contexts, an ideology and a body of rules.

The actors. Dunlop distinguishes three groups of actors in the IR system: a hierarchy of managers, a hierarchy of workers, and specialised government agencies concerned with the workplace and work community (the State). The behaviour of management, workers and the State is not entirely autonomous. Environmental pressures determined by factors in the wider society influence the interactions between the actors.

The environmental contexts. Dunlop maintains that there are three kinds of environmental pressures that are relevant to the IR system. First, there are the technological characteristics of the workplace which may influence factors such as the style of management, work and the organisation of employees in an enterprise. Second, there are market or budgetary constraints. These economic factors dominate decisions about wage rates, expansion or retrenchment and influence the supply and demand of labour. Third, the locus and distribution of power in the wider society influences the IR system.

Rules. Rules are the most important aspect of an IR system (Dunlop, 1958). In any IR system, a network of rules exist which governs the relationship between the actors. Dunlop distinguishes between two types of rules: Substantive rules which deal with the content of IR agreements (e.g., wage rates, working hours) and procedural rules which regulate the IR process (e.g., regulating the labour-management negotiation procedure - outlining when, where, how often, for how long, and under what specific conditions the negotiations will take place).

Ideology. The most controversial aspect of Dunlop's work is his claim that the IR system is held together by a common ideology which, at some level, is ascribed to by all three groups of actors. The common set of ideas and beliefs defines the role and place of each actor in the system.

This does not mean that the groups cannot have their own separate ideologies but there must be some common ideological ground if a stable IR system is to be maintained.

Appraisal of Dunlop's Model

Dunlop's work is widely acclaimed and has influenced the work of many IR specialists (Blain, 1978; Blain & Gennard, 1970; Craig, 1975; Shimmin & Singh, 1973; Somers, 1969; Wood, Wagner, Armstrong, Goodman & Davies, 1975). Dunlop's model offers the discipline the prospect of academic respectability and is still the most widely used model (Jackson, 1977; Wood *et al.*, 1975). Blain and Gennard (1970) state that by shifting the focus of IR from collective bargaining and industrial conflict to rule determination, Dunlop has broadened the perspective of IR. With modifications, Gill (1969) regards Dunlop's systems concept as a useful analytical tool because it provides a framework within which facts can be organised.

However, Dunlop's work has been criticised for (a) assuming a common ideology in IR, (b) adopting a static, closed-system approach rather than a dynamic, open-system analysis of IR, and (c) for placing such emphasis on rules at the expense of considering the role of conflict in IR (Jackson, 1977). Indeed, the role of psychology in IR would be greatly enhanced if more focus was placed on conflict in labour-management interactions. Wood *et al.* (1975) note that there is no consensus that rules are necessarily the central feature of an IR system. Both Fatchett and Wittingham (1976) and Margerison (1969) state that by limiting the handling of conflict to the formulation of rules, Dunlop has not considered the causes of conflict - an essential feature of IR theory. Any theoretical approach should look at the causes and the resolution of conflict in the system. As such, Dunlop has only considered part of the problem (Margerison, 1969). Similarly, Shalev (1980) states that Dunlop erred by regarding rules as the major output of the system and also, by stating

that conflict and change are aberrations from (as opposed to central features of) labour-management relations.

Like Dunlop, Hyman (1975) also regards rules (more specifically defined as job regulation) as central to the study of IR. However, Hyman (1975) states that to look solely at job regulation is conservative and inaccurate. Hyman (1975) sees job regulation as one of several forms of conflict-inducing control evident in industry. Indeed, in Hyman's approach job regulation represents a potential source of conflict rather than a means of preventing conflict.

Dunlop's conservative approach has been widely criticised for suggesting that labour-management and the state all subscribe to a common ideology which binds the system together (Bain & Clegg, 1974; Eldridge, 1968; Fatchett & Wittingham, 1976; Hyman, 1975; Jackson, 1977; Margerison, 1969; Scheinstock, 1981). This implies that an IR system is 'naturally' stable and integrative and 'necessarily' strives to maintain itself. These conservative implications are unacceptable (Margerison, 1969).

One criticism of Dunlop's work is of particular relevance in the present thesis: Dunlop fails to present the dynamics of the IR system (Walker, 1977). Paradoxically, although a '*systems*' approach, his systems approach does not deal adequately with environmental or within-system pressures that influence, and are influenced by the IR system. Both Craig (1975) and Kochan (1980) address this criticism in their respective works derived from Dunlop's original theory (Adams, 1983).

Craig (1975) extends Dunlop's environmental contexts to include the ecological, economic, political, legal and social system, all of which interact with the IR system. Similarly, Kochan (1980) describes the interaction between collective bargaining and the economic, public policy, demographic, social and technological contexts. Thus both Craig (1975) and Kochan (1980) extend the range of environmental forces interacting with IR beyond Dunlop's technological market and power contexts. In so

doing, Craig (1975) and Kochan (1980) provide for a greater array of forces that might influence and change the IR system.

Both Craig (1975) and Kochan (1980) also demonstrate how the outputs of the system (e.g., wages, condition of employment) influence the various environmental systems which in turn cause changes in the IR system. In this way Craig and Kochan make pr ision for a feedback loop, thereby emphasising the dynamics of the IR system (Bluen & Fullagar, 1986; see Chapter 9).

The importance that Kochan (1980) places on change in the IR system can be seen from the fact that he lists 'change in union-management relations' as one of the four dependent variables in his model of the collective bargaining system. He states that a central attribute of a viable collective bargaining system is its ability to adapt to the changing pressures it faces continually from diverse sources (e.g., technological advancements, updated public policies and changes in worker attitude and expectations). Changes affect the IR system at every level, from the national to the interpersonal (Kochan, 1980). Kochan (1980) recognises that change in the IR system involves economic and political risk and creates internal conflict. Yet the demands for change will intensify in the years ahead (Kochan, 1980). Therefore, it is imperative that both union and management leaders seek ways of overcoming the obstacles to change if the status of IR in the society is not to become endangered (Kochan, 1980). Failure to adapt to change will prompt policy makers to look elsewhere (e.g., government) to satisfy their IR concerns (Kochan, 1980).

Dunlop's (1958) pioneering work of developing a systems model of IR provided the groundwork for later theorists such as Craig (1975) and Kochan (1980). One refinement of Dunlop's contribution has been to demonstrate the importance of change in any analysis of IR (Kochan, 1980).

Conclusion

From this chapter two trends emerge concerning the role of conflict and change in IR. First, both conflict and change are central to the study of IR. Whether one adopts a pluralist or a radical perspective, conflict is a prominent issue in IR (cf. Bluen, 1983a, 1936). Conflict defines the relationship between the two sides (Kornhauser, 1947). However, conflict is not restricted solely to labour-management relations (Jackson, 1977). Fox (1971) identifies four categories of conflict in IR, viz., (a) conflict between individuals, (b) conflict between management and a non-unionised worker, (c) conflict between a union and the management group or individual manager, and (d) conflict between collectivities. Change too is a major concept in IR (Goldenberg, 1978) both from the ideology and the systems perspectives. Ideologically, different interest groups (at whatever level) exert pressure for change so that the *status quo* will reflect more closely the particular group's interests (Hyman, 1975). From a systems viewpoint, a host of external and internal forces exert pressure on the IR system which must change to meet their demands (Craig, 1975). Thus both conflict and change are central to the study of IR.

Second, conflict and change are closely interrelated concepts. Conflict causes change (Etzioni-Halevy, 1975) but change leads to conflict (Kochan, 1980; Ratajczak, 1981). For example, within the pluralist perspective conflict in IR is converted to changes in job regulation through collective bargaining (Flanders, 1968). Also, from the radical standpoint the intended aim of the labour movement in its fight against the ruling class is to replace the existing social order (capitalism) with a new social order (socialism) (Hyman, 1975). Thus it appears that in IR, the object of conflict is change, whether at the micro or the macro level.

Conversely, Kochan (1980) points out that the implementation of change causes conflict. The idea that people resist change is not new

(e.g., Coch & French, 1948): Change usually entails reallocation of power, and increased costs and uncertainty (Kochan, 1980). Goldenberg (1978) cites rising expectations, the generation gap and technological advancements as sources of change that cause conflict in IR. Regarding technological advancement, besides the psychological and political resistance inherent in any form of change, technological change adds a further source of resistance because it implies a change in the nature and often the number of jobs available. Such changes fuel worker fears of job loss (Kochan, 1980). Eighteenth century British workers physically destroying newly-invented machines (Piron, 1981) further illustrates how technological change causes fear and conflict in IR.

The importance of conflict and change in IR theory has been determined. Yet there is a total disregard within the literature on the psychological consequences of conflict and change in the IR process for the individual (cf. Bluen, 1983a, 1986). The aim of this thesis is to redress this situation by examining, conceptually and empirically, conflict and change in IR as a psychological stressor. It is suggested that conflict and change are both important sources of stress that lead to strain. However, before discussing the specific stressors inherent in IR, the stress process itself must be examined.

CHAPTER 2

STRESS THEORY

Introduction

The popularity of the field of stress has increased considerably in the last few years (Goldberger & Breznitz, 1982; Selye, 1983). For example, Selye (1982) claims that there are over 120 000 publications dealing with stress from medical and behavioural perspectives. The stress concept has been used to explain a variety of outcomes, usually negative, that otherwise defy explanation (Baum, Singer, & Baum, 1981).

> "In the scientific realm, stress has been used as a psychological precursor of illness, as a result of any number of conditions, or as a catch-all for anxiety reactions, discomfort, and the like. It is also fashionable to attribute erratic or unexplainable behavior of friends and acquaintances to the fact that 'they are under a lot of stress' " (Baum *et al.*, 1981, p.4).

Substantial empirical evidence exists linking a variety of stressors to negative physiological, psychological and behavioural consequences (e.g., Beehr & Newman, 1978; Cox, 1978; Dohrenwend & Dohrenwend, 1974; Eysenck, 1983; House, 1974; Kasl, 1984). The heightened awareness of the deleterious consequences of stress is consistent with the growing concern about physical and mental illness and health maintenance (Goldberger & Breznitz, 1982).

Despite its popularity, there is still much confusion surrounding the concept of stress. The aim of the present chapter is to attempt to clarify the meaning of stress. To achieve this objective, a brief statement of the problem will be set out, followed by an historical account of stress research. Three distinct approaches to the study of stress (i.e., response-based, stimulus-based and person-environment interaction) will then be discussed. Finally, a model of the stress process that applies to the present thesis will be suggested.

Ambiguity Surrounding the Definition of Stress

The concept of stress suffers the fate of being too well known yet too little understood (Selye, 1980). Ivancevich and Matteson (1980) claim that the word 'stress' has been described as the most imprecise in the scientific dictionary, with a wide variety of different meanings. Reviewers of the stress concept find it almost impossible to define what is meant by stress other than in extremely vague terms (cf. Appley & Trumbull, 1967; Cofer & Appley, 1964; Lazarus, 1966; Levine & Scotch, 1970; McGrath, 1970).

One reason for the absence of a clear, universal definition of stress is because stress has been examined within at least three disciplines; physiology, psychology, and sociology (Chalmers, 1981; Cox, 1978; McGrath, 1970). A further unresolved issue hampering the formulation of an accurate definition of stress is the focus of stress research: There is disagreement regarding whether stress is a stimulus, a response, or an interaction between individual and environmental factors (Cox, 1978; Lazarus, 1966; McGrath, 1970). Furthermore, there is even disagreement regarding the classification of the different approaches to investigating stress: Lazarus (1966) adopts a trichotomous classification of stress (i.e., stimulus, response, person-environment interaction) whereas McGrath (1970) adds a fourth category, the engineering analogy. Conversely, House (1974) claims that there are five classes of variables necessary in any stress definition (i.e., objective stressors, subjective perceptions of stress, responses to stress, consequences of stress, and conditioning variables). Further confusion is added by McLean (1974) who states that stress is neither a stimulus, nor a response or person-environment interaction. Rather, stress is a collective term for an area of study that can be differentiated in that it deals with any demands that place pressure on the system, and the system's responses to such demands. However, the wide scope of McLean's (1974) approach does not contribute to the accurate formulation of a definition of stress.

Thus there is no agreement about what stress means. To gain a clearer understanding of the stress concept, the history of the study of stress will be examined. From such an analysis, certain underlying trends can be identified.

Historical Overview of the Study of Stress

Although the stress concept has become popularised only recently, the term 'stress', probably derived from the term 'stringere' (to draw tight; Cox, 1978), was first used around the fourteenth century (Ivancevich & Matteson, 1980). In those times the term was applied in an engineering sense and was defined as a physical strain or pressure that is exerted on a material object (Strumpfer, 1983). The object is distorted by this external force. If there is overloading, the object may be crushed or torn apart (Strumpfer, 1983).

The term, stress, was introduced into the medical literature in the nineteenth century by Claude Bernard who suggested that external environmental changes can disrupt the organism (Ivancevich & Matteson, 1980; Strumpfer, 1983). To deal with these changes it was essential that the organism achieve stability of the 'internal environment' (Bernard, 1867). "It is the fixity of the *milieu interieur* which is the condition of free and independent life" (Bernard, 1874, p. 564). This appears to be the earliest documented recognition of the possible disfunctional human consequences of stress (Ivancevich & Matteson, 1980). Bernard's work stimulated subsequent researchers to investigate further the particular adaptive changes people make to maintain their steady internal states (Selye, 1982).

The American physiologist Walter Cannon (1922, 1929) introduced the term 'homeostasis' to designate the maintenance of the internal milieu. His research established the existence of many highly specific mechanisms for protection against external demands that threaten to disturb the homeostatic balance of the organism (Selye, 1982). To survive environ-

mental threats, the organism must adopt the appropriate reaction: either to fight or to take flight (Cannon, 1922). This fight-or-flight reaction is associated with a stimulation of the sympathetic nervous system causing hormonal discharge which prepares the body to cope with prevailing emergencies (Chesney & Rosenman, 1983; Selye, 1982; Strumpfer, 1983). Although Cannon's research focused on specific reactions necessary to maintain homeostasis during an emergency, he was clearly dealing with stress as we know it today (Ivancevich & Matteson, 1980).

The first modern usage of the term 'stress' is associated with the endocrinologist, Hans Selye (1936) who observed that organisms exhibit the same response to any stressful stimulus. Selye (1936) termed this response reaction the general adaptation syndrome. Selye's work provided the first breakthrough in stress research and formed the foundation for later research in the field (Ivancevich & Matteson, 1980).

Within the past three decades there has developed an interest in stress from the behavioural science perspective (Ivancevich & Matteson, 1980). Contemporary psychological stress research was originally stimulated by the desire to understand breakdowns in adaptive behaviour in extreme situations such as wars, concentration camps, bereavement and traumatic injuries (Holroyd & Lazarus, 1982). Subsequently, much research has focused on the adjustment demands of everyday life events which lead to harmful physical, psychological and behavioural consequences (e.g., Dohrenwend & Dohrenwend, 1974; Holmes & Rahe, 1967). Another current approach is to focus on the role of psychological processes such as appraisal and coping in the stress process (Baum *et al.*, 1981).

Contemporary Approaches to the Investigation of Stress

From the historical account of the study of stress, at least three broad concepts of stress can be derived: (a) From the medically-orien-

tated research (e.g., Bernard, 1867; Cannon, 1922; Selye, 1936), stress can be seen as a physiological response to environmental demands. (b) From both the original engineering concept of stress (cf. Strumpfer, 1983) and the life events paradigm (e.g., Dohrenwend & Dohrenwend, 1974; Holmes & Rahe, 1967) stress is conceptualised as an environmental stimulus that acts on the organism and causes strain. (c) Finally, from the person-environment interaction approach (e.g., Cox, 1978; Lazarus, 1966) stress is seen as an interactional process whereby the prevailing stress level is mediated by environmental and individual characteristics, and as such, will be unique for each circumstance.

This trichotomous classification schema of approaches to studying stress is reflected in the work of various authors (e.g., Appley & Trumbull, 1967; Chalmers, 1981; Lazarus, 1966; Levine & Scotch, 1970; McGrath, 1970). For example, Lazarus (1966) defines stress as " a generic term for the whole area of problems that includes the stimuli producing stress reactions, the reactions themselves and various intervening processes" (Lazarus, 1966, p. 27). As such, Lazarus (1966) identifies the three main variations of the meaning of stress: as a stimulus, which places some form of demand for adjustment on the organism; as a response which investigates the stress adjustment process; or as a transactional concept where the focus is on the interplay between the person and the environment. Lazarus' (1966) trichotomous conceptualisation of stress provides a comprehensive yet manageable view of stress. Therefore, it is used as the basis for explaining the stress concept in the present chapter.

Stress as a Response: The Work of Hans Selye

Response-based definitions of stress focus on the responses which are taken as evidence that the organism has been under some form of stress

(McGrath, 1970). Hans Selye (1936, 1956, 1974, 1975, 1976, 1979, 1980, 1982, 1983), the pioneer of modern stress research (Baum *et al.*, 1981; McGrath, 1970), defines stress as "the non-specific response of the body to any demand" (Selye, 1979, p. 12). As such, Selye clearly adopts a response-based definition of stress. Consequently, his work is examined as an example of the response-based conceptualisation of stress.

The general adaptation syndrome. Central to Selye's model is the general adaptation syndrome, which consists of three sequential stages, namely, alarm, resistance and exhaustion. Strumpfer (1983) points out that before Selye, Yerkes and Dodson (1908) had observed that performance increases as the level of stress rises, but only up to a certain level. Thereafter, as stress levels increased performance tapered off. This inverted-U shaped response pattern is called the 'Yerkes-Dodson Law' (Strumpfer, 1986).

In Selye's model of the general adaptation syndrome, performance levels also resemble an inverted U-shaped curve. During the first stage, the alarm stage, the organism's resistance to the stressor initially falls below normal response level. Then the body's defences are mobilised to deal with the stressor. Thus the alarm stage can be divided into two phases. The initial shock phase involves the immediate reaction to the stressor whereby the organism experiences a decrease in resistance. The countershock phase is a rebound reaction characterised by the mobilisation of defensive forces. This countershock phase leads to the second stage, the stage of resistance, where the organism fully adapts to the stressor and the symptoms improve or disappear. During the resistance stage the organism performs considerably above its normal level of functioning for an extended period. However, there is a concurrent decrease in resistance to other stressors. The final stage is the exhaustion stage: Because the organism's adaptive resources are finite, exhaustion invariably follows if the stressor is sufficiently severe and/or is applied for a long period. The organism's resources become overtaxed and

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the demands become unhealthy. If the stress continues unabated, eventually death ensues.

Although the general adaptation syndrome consists of three stages Selye points out that most stressors act on us for limited periods and produce changes corresponding only to the first and second stages. Initially the stressors may alarm us but we adapt to them. This two-stage adaptive process occurs countless times in our lives and is essential for our successful adjustment to the environment. Selye also points out that not all stress is harmful. He distinguishes positive stress (eustress), which occurs in the stage of resistance, from negative stress (distress), which occurs during the stage of exhaustion. However, the adaptive response can break down because of innate defects, over- or understress, or psychological mismanagement. Furthermore, although rest can restore one's resistance almost to previous levels, complete restoration is impossible - our biological activities associated with adaptation leave irreversible 'chemical scars' (Selye, 1983). Selye states that imperfections of the general adaptation syndrome (i.e., the body's inappropriate adjustment to stressors) leads to 'the disease of adaptation'.

From his early animal experiments, Selye (1936) observed that organisms respond in a stereotypical manner to diverse sources of stress. Regardless of the stressor introduced, the organism's responses yielded three clear physiological reactions: (a) the cortex of the adrenal gland becomes enlarged and hyperactive, (b) the thymus and lymph structures shrink, and (c) gastro-intestinal ulcers develop. These changes were recognised as objective indices of stress and provided a basis for developing the entire stress concept (Selye, 1982). Selye cites as common stress diseases peptic ulcers, high blood pressure, heart diseases and nervous disturbances. However, because the stress response is non-specific, it can influence any disease: "stress plays some role in the development of every disease; its effects - for better or worse - are added

to the specific changes characteristic of the disease in question" (Selye, 1983, p. 12).

Appraisal of Selye's Work

The main criticism of Selye's work is his claim that the stress response is non-specific: Regardless of their diversity, all demands made on the organism require the same adaptive response to re-establish normality (Selye, 1982). Although non-specificity was popular for many years, there is increasing criticism of this position (e.g., Mason, 1968, 1971, 1975). Mason argues that the relationship between physiological response and emotional arousal is specific rather than non-specific. Empirical evidence supports this claim: Rose, Poe and Mason (1968) found that physiological responses are mediated both by the specific demands of different stressors and by individual differences in coping styles. House (1974) observes that the belief in a general decline in health is an oversimplification. Empirical evidence shows notable stress response differences due to demographic factors and type of stressor (House, 1974). Furthermore, Mason notes that certain demands placed on the organism (e.g., fasting, heat, exercise) do not produce the general adaptation syndrome.

Second, although Selye acknowledges that the general adaptation syndrome can be activated by psychological stressors, most of his work focuses on the physiological activation of the general adaptation syndrome (Baum *et al.*, 1981). Selye has been criticised on several accounts for neglecting the role of psychological factors in the stress process (Cox, 1978). For example, from the person-environment interaction concept of stress (cf. Lazarus, 1966), the stress response is most clearly moderated by psychological processes (e.g., coping and appraisal). Also, Selye's claim that pathogens are sufficient for pituitary-adrenal arousal is refuted by Mason (1975), who points out that psychological processes are in fact essential for adrenal activity in the stress response. Thus

by failing to take adequate cognizance of moderating factors, notably psychological variables, Selye's model of the non-specific response to stress does not adequately or accurately describe the stress process. Consequently, the alternate stress paradigms (i.e., stimulus and interaction approaches) require examination so that a clearer understanding of the stress process can be obtained.

Before discussing the stimulus and interaction approaches, some concluding remarks about response definitions of stress in general are presented. The importance of the response-based definition of stress is that it provides an explanation of the stress-related physiological processes (non-specific or specific) that link stressors to physical and psychological ill-health. But McGrath (1970) identifies at least three weaknesses in response-based stress concepts: First, diverse activities (e.g., excessive passion or surprise) might not be meaningful stressors, yet they cause typical stress response patterns and therefore would be regarded as stressors. Second, the same response pattern may arise from different stressors but the meanings may be entirely different. For example, blood pressure and heart rate will increase either if a person exercises or if a person is frightened. Yet the interpretation of these two situations could be radically different. Third, although the physiological stress symptoms are all supposed to occur together, empirical evidence suggests that this is not so even in a phenomenon as well researched as the general adaptation syndrome (Chalmers, 1981; McGrath, 1970). Moreover, not only does this criticism apply to the physiological symptoms but it applies to the psychological and behavioural symptoms as well (McGrath, 1970).

Stress as a Stimulus: The Life Events Approach

In the response-based definition, stress is seen as a dependent variable. Conversely, when viewing stress as a stimulus, it is treated

as an independent variable (Cox, 1978): The focus is on determining the disruptive stressful environmental characteristics and the individual consequences thereof. Thus the stimulus-based model deals with the activation of stress, and thereby emphasises an integral part of the stress process that the response-based models neglect.

The stimulus model of stress is derived from the engineering analogy of stress, specifically Hooke's Law of Elasticity (Cox, 1978): If the strain (the deformation of a metal) produced by a stress (load or demand placed on the metal) falls within the 'elastic limit' of the metal, it will return to its original condition once the stress is removed. But if the strain is greater than the 'elastic limit', permanent damage will result. The analogy is that people also have a built-in resistance to stress which varies from person to person. If the stress becomes too great, it causes permanent damage (Cox, 1978).

Much of the stress research in the past 25 years has focused on the stimulus-based definition of stress (Chalmers, 1981). The diversity of topics investigated in this research include sensory deprivation or overload (e.g., Goldberger, 1982), marital stress (e.g., Ilfeld, 1982), the stress of war (e.g., Blank, 1982; Swank, 1949), urban stress (Glass & Singer, 1972), and disaster studies (e.g., Chisholm, Kasl & Eskenazi, 1983; Malick, Logue & Frederic., 1982; McCaughey, 1985). One area of stimulus-based stress research that is of particular relevance in the present thesis is organisational stress: Work-related physical (e.g., heat, light, noise) and psychosocial factors (e.g., organisational roles, tasks and behaviour) affect people's well-being (e.g., Beehr & Newman, 1978; Kahn, Wolfe, Quinn, Snoek & Rosenthal, 1964; McGrath, 1976; see Chapter 3).

However, there are several criticisms of stimulus-based definitions of stress (McGrath, 1970). First, the taxonomy and properties of stressful situations are not clearly specified (McGrath, 1970). Second, there is a problem with quantifying the precise amount of stress present in any given situation (Cox, 1978). Without such a calibration system

it is impossible to develop a situation-based stress definition that unifies a range of stressful situations other than arbitrarily (McGrath, 1970). This problem is exacerbated because of individual differences (Cox, 1978; Lazarus, 1966; McGrath, 1970). Third, within the stimulus-based concept of stress, it is implied that an undemanding, stress-free situation is desirable. Yet such an assumption overlooks the harmful consequences associated with sensory deprivation (Cox, 1978).

During the last two decades many of the criticisms levelled against the situation-based stress model have been addressed within the ambit of life events research (e.g., Dohrenwend & Dohrenwend, 1974; Holmes & Rahe, 1967; Monroe, 1982b). It is to this research application that the attention is directed.

Stressful Life Events

Few research areas have expanded as rapidly as the study of stressful life events (Monroe, 1982b). The antecedents of life event research can be traced back to the 1920's (Perkins, 1982). Cannon's (1929) observations of bodily changes related to emotional fluctuations; Selye's (1936) concept of the general adaptation syndrome; and Meyer's (1951) advocacy of life charts as a medical diagnostic tool, provided the foundations for the stressful life events concept. The life events field first received formal recognition at the 1949 Conference of Life Stress and Bodily Disease (Rabkin & Streuning, 1976). Shortly thereafter, Wolff and his associates (Grace, Wolf & Wolff, 1951; Holmes, Goodale, Wolf & Wolff, 1950; Wolff, Wolf & Hare, 1950) elaborated on Meyer's work by incorporating concepts derived from the theories of Freud, Pavlov, Cannon and Skinner into the life chart schema (Holmes & Masuda, 1974). Wolff's research showed that stressful life events played an important causal role in the natural history of many diseases (Holmes & Masuda, 1974).

Most of the life events literature shares a conceptual framework wherein life events are regarded as stressful (Vinokur & Selzer, 1975).

Life events are life changes that require some form of adjustment. Excessive changes hamper adjustment efforts and cause the experience of strain (Rabkin & Streuning, 1976). Dohrenwend and Dohrenwend (1974) identify two common themes underlying life events research: First, the focus is on a class of stressful stimuli (life events) to which most people are exposed in varying degrees during the natural course of life (e.g., marriage of a spouse, job loss, or marriage). Second, these life events play a role in the aetiology of physiological and psychological disorders - a claim that has enjoyed extensive empirical support (e.g., Dohrenwend & Dohrenwend, 1974, 1978; Rabkin & Streuning, 1976; Perkins, 1982). Thus the purpose of life events research is to establish temporal links between increases in the number and perceived impact of events that require some form of social readjustment, and illness onset (Rabkin & Streuning, 1976). The events are presumed to exert an additive impact, influencing the timing but not the type of illness experienced (Rabkin & Streuning, 1976).

Many contemporary life events researchers measure the stress of life events using the Holmes and Rahe (1967) scale, the Schedule of Recent Events or a derivative such as the Life Experiences Survey (Sarason, Johnson & Siegel, 1978). The Schedule of Recent Events developed and modified by Holmes and Rahe and their colleagues (Holmes, 1979, Holmes & Masuda, 1974; Holmes & Rahe, 1967; Rahe, 1978), consists of 43 life events each adjudged to require social readjustment, and each event found to correlate with illness onset. Life stress scores are calculated simply by totalling the number of events experienced during a specified time (usually between six and 24 months; Perkins, 1982).

Holmes and Rahe (1967) soon realised that the amount of adjustment associated with different events varied dramatically. Consequently, they developed the Social Readjustment Rating Scale (Holmes & Rahe, 1967), which improved the Schedule of Recent Events by weighting each event according to normative estimates of the amount of readjustment the event required. In the Social Readjustment Rating Scale, the item 'death of

a spouse' was adjudged to involve the greatest amount of social readjustment and was assigned a value of 100 life change units, whereas the item 'minor violations of the law' was adjudged to require the least amount of adjustment of the 43 items and was assigned a value of 11 life change units. The total stress impact experienced was derived by summing the life change units for all events reported, irrespective of desirability or lack thereof.

Appraisal of the Life Events Method of Assessing Stress

The popularity of the Social Readjustment Rating Scale is that it provides a convenient measure of the extent of life changes experienced by the individual and its cumulative impact regardless of the desirability or lack thereof (Johnson & Sarason, 1979). Holmes (1979) estimates that there are over 1 000 publications based on the Social Readjustment Rating Scale alone. Empirical evidence suggests that a significant relationship exists between stressful life events as measured by the Social Readjustment Rating Scale or other comparable life event scales (cf. Zimmerman, 1983) and a variety of adverse physical and psychological conditions (Perkins, 1982). Physiological correlates of life events include heart disease (e.g., Rahe & Lind, 1971; Theorell, 1974), tuberculosis, arthritis, cancer, multiple sclerosis childhood leukemia, diabetes and other less serious conditions (e.g., Holmes & Masuda, 1974; Rabkin & Streuning, 1976). Psychological disorders associated with life events include anxiety and depression (Hudgens, 1974; Paykel, 1979; Vinokur & Selzer, 1975), schizophrenia (Brown, Sklair, Harris & Birley, 1973), and neurosis (Tennant & Andrews, 1978). Behavioural correlates of life events include accidents (Selzer & Vinokur, 1974), suicide attempts (Paykel, 1974) and poor academic (Lloyd, Alexander, Rice & Greenfield, 1980) and work performance (Johnson & Sarason, 1979; Keenan & Newton, 1985; Weiss, Ilgen & Sharbaugh, 1982).

However, recently there has been a tempering of enthusiasm about the use of the life events method for assessing stress (Perkins, 1982). Certain negative findings have been reported where hypothesised life events-illness relationships were not found to be significant (e.g., Gersten, Langer, Eisenberg & Simcha-Fagan, 1977; Goldberg & Comstock, 1976; Wershow & Reinhart, 1974). For example, Gersten *et al.* (1977) conducted a five year study on mothers of 732 children. They found no significant differences between correlations of event scores with behavioural pathology before and after the occurrence of the events. Multiple regression analyses revealed that life events did not contribute meaningfully to the prediction of disturbed behaviour. Gersten *et al.* (1977) suggest that their findings are attributable to methodological confounds inherent in life events research. Furthermore, Dohrenwand and Dohrenwend (1978) conclude that although life events are associated with diverse disorders, the research fails to present a clear picture of the nature and strength of the life events-illness relationship. To clarify the life events-illness relationship, certain methodological and substantive problems need to be discussed (Dohrenwend & Dohrenwend, 1978). Considerations of these issues are particularly relevant in the present thesis which includes the development of a life events scale to measure stress in IR. From the literature (e.g., Dohrenwend & Dohrenwend, 1974, 1978; Monroe, 1982b; Rabkin & Streuning, 1976; Zimmerman, 1983) three such issues are identified: (a) types of life events to be studied, (b) the stressfulness of events, and (c) mediating factors influencing the consequences of life events.

Types of life events to be studied. Dohrenwend and Dohrenwend (1978) propose that there are three distinct types of life events: (a) events confounded with the psychiatric condition of the subject, (b) events confounded with the subject's physical illness and (c) events independent of either the subject's physical or psychological condition. The Dohrenwends (1978) claim that to assess the aetiological link between life

events and pathology, items in a life event scale should be limited to one of the three types of events. Failure to keep classes of life events separate may lead to cause-effect confusion (Dohrenwend & Dohrenwend, 1978; Monroe, 1982b; Zimmerman, 1983). Monroe (1982b) points out that when trying to establish the cause of pathology, life event items that directly reflect dysfunction (e.g., physical illness) must be avoided. Also, subjective events such as sexual difficulties or changes in sleeping habits are most probably responses to, or manifestations of underlying pathology rather than causes of such pathology (Dohrenwend & Dohrenwend, 1978). Similarly, contamination can occur if the cause and the effect of a life event are both partially attributable to the subject's behaviour: The life event 'divorce' can lead to depression, but in certain cases depression might be the cause of a later divorce (Rabkin & Struening, 1976). Indeed, Hudgens (1974) noted 29 of the 43 events of the Social Readjustment Rating Scale could be seen as symptoms and/or outcomes of illness instead of causes of illness. Zimmerman (1983) criticises recent life event scales (e.g., Sarason, et al., 1978) for containing symptom-like events. Such symptom-like events have been found in certain cases to confound the stress-symptom relationship (Lehman, 1978; Thoits, 1981).

Stressfulness of life events. A second unresolved methodological issue concerns calibrating the stress potential of life events. Several alternate strategies have been adopted (cf. Holmes & Rahe, 1967; Sarason *et al.*, 1978; Vinokur & Selzer, 1975). The initial approach (e.g., Schedule of Recent Events) involved simply adding the events experienced. Subsequently, standardised weighting were assigned to each event (e.g., Social Readjustment Rating Scale). This second approach was seen as an advancement over the first (Dohrenwend, 1973). However, Zimmerman (1983) found that in 14 out of 17 empirical studies reviewed, consensus weights did *not* improve the stress-illness relationship as compared to simple occurrence summations. Consequently, certain investigators have adopted

the earlier event occurrence approach rather than the weighting approach (e.g., McFarlane, Norman, Streiner, Roy & Scott, 1980; Rahe, 1978).

A possible explanation for the poor performance of standardised weighting scales may lie in the criterion used to define stress. In standardised scales such as the Social Readjustment Rating Scale, stress is operationalised as the amount of adjustment associated with each item, regardless of considerations of its desirability (Holmes & Rahe, 1967). Recently however, the utilisation of readjustment as a criterion to measure stress has been criticised (Sarason *et al.*, 1978; Vinokur & Selzer, 1975). Research results suggest that it is the desirability rather than simply the adjustment potential that contributes to the stress of an event: Undesirable events are superior to desirable events as predictors of later illness (Mueller, Edwards & Yarvis, 1977; Sarason *et al.*, 1978; Vinokur & Selzer, 1975). Johnson and Sarason (1979) conclude that life event stress may be conceptualised most accurately as events that exert negative effects on people.

However, Zimmerman (1983) points out that it is possible that undesirable event are more highly related to pathology simply because of the greater amount of social readjustment they require. One way of assessing whether change *per se* or undesirability of the event is more closely associated with illness is to correlate separataly the ratings based on readjustment and those based on distress respectively with the dependent variables (Zimmerman, 1983). From the four studies that adopt such an approach Zimmerman (1983) tentatively concluded that undesirability, rather than change *per se* was more highly related to psychological impairment.

A further issue about event weighting is whether standard or individually assigned subjective weighting should be used. There are advantages and disadvantages of each approach. The standardised weighting procedure is reminiscent of the 'black box' approach to studying psychology (Zimmerman, 1983): The effects of life events are independent of individual and situational variables (Perkins, 1982). Holmes and Rahe

(1967; Masuda & Holmes, 1978; Rahe, 1974, 1979) support the use of standardised weights by demonstrating the Social Readjustment Rating Scale's high degree of generalisability of rank-order correlations of events across different subject populations. Holmes and Rahe conclude that the events possess some near-universal relative stress values.

Holmes and Rahe's universality claims imply that life events are not person-specific. Just as Selye's response-based definition of stress has been criticised for being non-specific (e.g., Mason, 1968, 1971, 1975), so too has Holmes and Rahe's approach to measuring life event stress been criticised for failing to pay adequate attention to individual differences (Perkins, 1982). Individual differences do play a role in the relationship between life events and disorder. Consequently, Holmes and Rahe's findings are seen to be incorrect because of methodological flaws in their research (Askenasy, Dohrenwend & Dohrenwend, 1977; Zimmerman, 1983). Zimmerman (1983) notes that although intergroup rank-order correlations were found to be high, when the absolute weights assigned to events are compared, between-group differences are evident. Also, doubt has been expressed about the sampling techniques adopted in those studies that support the universality of events claim. Askenasy *et al.* (1977) contend that the reported high intergroup agreement was attributable to using 'samples of convenience': All samples were middle-class and were not representative of the general population. Where markedly divergent groups have been compared, consistent between-group differences were recorded (cf. Dohrenwend & Dohrenwend, 1978). The Dohrenwend's (1978) conclude that if standard weights are to be used they should only be applied to the specific population group for which they were designed.

Individual ratings of events is regarded as a more sensitive measure of life event stress because individual differences in the perceived impact of each event is taken into consideration (Monroe, 1982b). Zimmerman (1983, p. 353) states:

"the amount of stress produced by a life event cannot be accurately determined without assessing the meaning of the event to the individual who experiences it or the context in which it occurs".

By adopting a subjective rating approach it is possible to link stimulus-based and person-environment interaction definitions of stress: Instead of simply listing the number of events that have been experienced, subjects are required to appraise the impact of each event. The additional variance introduced by each subject's individual rating represents important systematic variance in the subject's experience of stress (Perkins, 1982; Sarason, de Monchaux & Hunt, 1975; Sarason *et al.*, 1978).

Subjective ratings are not without methodological problems (Dohrenwend & Dohrenwend, 1978; Monroe, 198 _; Perkins, 1982). One criticism concerns the accuracy of self-rated measures in retrospective studies: When reflecting personal vulnerability, recently ill people might magnify their impact ratings to rationalise or explain their illness (Monroe, 1982b; Zimmerman, 1983). However, Zimmerman (1983) points out that in several empirical investigations the claim that patients magnify the perceived impact of events was not supported. Also, even if this 'retrospective contamination' claim was valid, it does not necessarily follow that subjective ratings should be discarded, especially in studies using prospective rather than retrospective research designs (Johnson & Sarason, 1979).

Finally, for both standardised and individual weighting, the life events index is calculated by adding the scores for each event experienced in the scale. Implicit in the life events approach is that the stress-illness relationship is linear, and that negatively perceived life events, no matter how minor, entail more stress and risk for disorder than no events. Perkins (1982) notes that absence of life events may either entail as much stress as is created by the presence of certain events, or the absence of the event may itself constitute an event (e.g., failure to get an increase). Thus most life event scales are deficient

because they do not include certain non-event sources of stress (Perkins, 1982).

Moderating factors influencing the life events-consequences process. Rabkin and Streuning (1976) comment that the size and practical significance of the correlations between life event scores and illness is extremely small, usually less than 0,3, accounting for less than nine percent of shared variance. They conclude that in practical terms, life event scores cannot be seen as predictors of the probability of future illness (Rabkin & Streuning, 1976). If the predictive utility of life event measures is improved, moderating variables influencing the life event-illness relationship must be considered (Dohrenwend & Dohrenwend, 1978).

Two broad classes of moderator variables have been found to influence the life event-illness relationship, personal variables (either demographic or personal attributes), and situational variables such as social support (e.g., Dohrenwend & Dohrenwend, 1978; Rabkin & Streuning, 1976; Kobasa, 1982a; see Chapter 7). One group of personal variables that influence the event-illness relationship is demographic characteristics (Perkins, 1982). For example, Dohrenwend and Dohrenwend (1969) report that people from lower classes experience more severe stressful events than middle-class people and that blacks experience more frequent and more severe stress than whites. Holmes and Masuda (1974) report that age and marital status influence life events stress: single, married and divorced patients experienced 50% more life changes than widowed patients; and patients in their 20's experienced 50% more life changes than people between the ages of 45 and 60, and twice as many changes as people over the age of 60.

Of greater interest to many psychologists is the role of personality and behaviour patterns in moderating the life events-illness relationship (Perkins, 1982). For example, Smith, Johnson and Sarason (1978) found a significant relationship between negative life events and neuroticism

for low sensation seekers but not for high sensation seekers. Kobasa and her associates (e.g., Kobasa, 1979a, 1979b, 1982a, 1982b; Kobasa, Maddi & Courington, 1981; Kobasa, Maddi & Kahn, 1982; Kobasa & Puccetti, 1983; Maddi & Kobasa, 1984) have found consistent influences of personality on the life events-illness relationship. Kobasa has identified three personality traits that appear to moderate the personal effects of stress (i.e., high levels of commitment, an internal locus of control and a great sense of challenge) and called the particular personality style 'hardiness'. In one five year study Kobasa, Maddi and Kahn (1982) found that hardiness decreases the effects that stressful life events exert on later illness.

Concerning situational moderators of the life events-illness relationship, Dohrenwend and Dohrenwend (1978) provide empirical support for the existence of at least four relevant factors: past experience in dealing with the event, anticipation of the event before its occurrence, controllability of the event, and the protective effect of social support. Social support has received much attention in the literature dating back to Swank's (1949) observations of the important role of social support in combat situations. Inspection of some recent review articles reveals that social support can be offered successfully by any number of people with differing relationships to the person experiencing stress, and that such support is effective in reducing the harmful consequences traditionally associated with stressful life events (Cobb, 1976; Dean & Linn, 1977; Leavy, 1983; Thoits, 1982).

Once cognizance is taken of the role of moderator variables, life events research moves from focusing solely on the harmful effects of stressful stimuli to include certain intervening variables in the life event-illness process. Cobb (1974) sets out a metatheoretical model of the life events-illness relationship. In this model, Cobb (1974) includes life events (stimulus), illness (response) and intervening variables such as personal characteristics (psychological defences, coping strategies, abilities, needs, genetic predisposition and past experience), social

support and current life situation variables. By including aspects of person-environment interactions, Cobb's (1974) model moves life events research into the domain of the third definition of stress, the person-environment interaction perspective, to which the focus now shifts.

Stress as a Person-Environment Interaction: The Work of Richard Lazarus

The person-environment interaction approach represents a synthesis of the stimulus and the response-based definitions of stress (Cox, 1978; Ivancevich & Matteson, 1980). As such, it is the most widely accepted concept of stress (Chalmers, 1981). For this approach, stress is seen as the unique interaction between stressful environmental stimuli and the resultant consequences which are moderated by intervening psychological processes (Cox, 1978; Ivancevich & Matteson, 1980; Lazarus, 1966; McGrath, 1970, 1976).

Several person-environment interaction models have been developed. For example, Cox (1978) conceptualises stress as the imbalance between perceived individual capability and environmental demands facing the individual. McGrath (1976) and Lazarus (Coyne & Lazarus, 1981; Holroyd & Lazarus, 1982; Lazarus, 1966, 1976, 1981; Lazarus, Averill & Opton, 1974; Lazarus, Cohen, Folkman, Kanner & Schaefer, 1980; Lazarus, Kanner & Folkman, 1980; Lazarus & Launier, 1978) also focus on the demand-capability discrepancy: Stress occurs when demand exceeds individual adjustment resources. In his model, Lazarus details the psychological processes involved in the stress process. As such, his work is of great heuristic value for any psychological investigation of the stress process. Consequently, Lazarus' approach is set out below.

Lazarus criticises both stimulus and response-based definitions of stress for being too simplistic (Coyne & Lazarus, 1980). He offers an alternative interactional definition of stress that incorporates aspects of both the person and the environment. "Psychological stress requires

a judgement that environmental and/or internal demands tax or exceed the individual's resources for managing them" (Holroyd & Lazarus, 1982, p. 22). The judgement (appraisal) and the management (coping) of stress are conceptualised as the two central, interrelated processes in Lazarus' work.

Stress appraisal. People continually re-evaluate both the environmental demands they face and their coping resources for managing the demands. These evaluations determine people's reactions to stress, and their emotions and adaptational outcome associated with the stress (Coyne & Lazarus, 1980).

The role of cognitive appraisal in the stress process was originally demonstrated in a series of studies involving film-induced stress (Lazarus *et al.*, 1965; Lazarus, Averill & Opton, 1970; Lazarus & Launier, 1978). Typically, subjects were shown a stressful film of workshop accidents (e.g., a worker being killed by a wooden plank driven through his body). The sample was divided into three groups: The first group were told that the situation had been staged and no-one really sustained any injury. The second group were informed that the film was real, but that it would serve to reduce future accident rates. No explanation was given to the third group. The two groups receiving explanations displayed lower levels of stress response than the uninformed group. Lazarus, Opton, Norrikos and Rankin (1965) concluded that the information allowed the subjects to appraise the film in a less threatening way than those who received no such explanations. These film studies showed consistently that cognitive appraisal influences subject's stress responses (Lazarus *et al.*, 1970): How a person appraises a stressor influences subsequent emotional and adaptational outcomes (Coyne & Lazarus, 1980).

Lazarus distinguishes two types of appraisal, primary and secondary appraisal. Primary appraisal answers the question "Am I okay or in trouble?" A situation will be appraised to be stressful if it is perceived to involve one of three components: harm or loss, threat, or

challenge. Harm-loss refers to damage already sustained (e.g., death of a loved-one), whereas threat refers to the same sort of potential damage but that has yet to occur (e.g., impending retrenchment). Thus it is the time perspective that distinguishes harm-loss from threat. Although it can be difficult to distinguish harm-loss from threat empirically, the distinction is theoretically important. Harm-loss appraisals will focus on *curative* coping strategies whereas threat appraisals will concentrate on *preventative* coping strategies.

The distinction between threat and challenge appraisals is based on whether the demand is appraised as being either desirable and presenting an opportunity for mastery and gain (challenge), or as being undesirable and potentially harmful (threat). Challenge also implies that the desired mastery of the demand can be influenced by the individual. Lazarus claims that people who usually appraise situations as challenges rather than as threats are invariably confident of their ability to adapt to stressful demands. Lazarus predicts that challenge-orientated people would cope more successfully with stress. Consequently, challenge-orientated people will be less prone to stress-induced illness than threat-orientated people. In distinguishing between threat and challenge, Lazarus clearly shows the importance of moderating factors such as personality in the stress process, an assertion that has received extensive empirical support (e.g., Kobasa, 1982b). People with predispositions toward challenge (rather than threat), and personal control (rather than environmental control) cope best with stress (Kobasa, 1982b).

Whereas primary appraisal focuses on the demand characteristics of the situation, secondary appraisal refers to ongoing evaluations of alternate coping strategies to deal with the demand. The two forms of appraisal are closely related. For example, if people believe that their coping resources are no longer effective then they may reappraise a challenging demand as a threat. Secondary appraisals shape subsequent coping strategies. Factors considered during secondary appraisal include relevant past experience, generalised beliefs about oneself and one's

environment, and the availability of personal (e.g., physical health, morale, problem-solving skills) and environmental (e.g., money, social support) resources (Coyne & Lazarus, 1980; Holroyd & Lazarus, 1982).

Because the stress process is not static, Lazarus states that cognitive appraisals shift under internal and external changes. Consequently, reappraisals occur, whereby depictions of either the situation or the changes in emotional responses and coping strategies are updated. Thus, reappraisal entails an ongoing feedback loop between appraisals of the stressor, the individual, the individual's coping resources and strategies, and resulting changes in the stressful situation.

Coping with stress. Coping involves action-orientated and intrapsychic efforts to manage (i.e., to master, tolerate, reduce or minimise) environmental and internal demands and conflicts that lay claim to a person's resources (Lazarus & Launier, 1978). Coping serves two basic functions, modifying the stressor (instrumental coping) and regulating emotions (palliative coping). Instrumental coping entails dealing with the actual source of stress. Attempts are made to manipulate or change the relationship between the person and the stressor by either altering the setting, fleeing, or removing the stressor if possible.

Palliative coping involves accommodating to (rather than manipulating) the stressful situation by changing one's internal environment. Examples of palliative coping strategies include relaxation techniques and using psychological defence mechanisms. The aim of palliative coping is to reduce emotional distress and to maintain a satisfactory internal state so that appropriate stress-related information and action decisions can be processed.

Instrumental and palliative coping often occur simultaneously. For example, coping with extreme stress involves both an initial phase of minimising the impact of the event (palliation), followed by a reorganisation phase where the person adopts a coping strategy to deal with the actual source of stress (instrumental coping). However, Lazarus

(Coyne & Lazarus, 1980) notes that the two modes of coping can be in conflict. For instance, excessive alcohol intake as a (disfunctional) means of coping emotionally with job loss could reduce the person's chances of finding another job, which could further aggravate his/her psychological well-being.

Coping strategies have also been classified according to the coping method employed. Lazarus and Launier (1978) identify four coping methods: direct action, action inhibition, information search and the cognitive mode. Direct action, as noted in instrumental coping, involves coping by dealing directly with the stressor (e.g., evacuation from a disaster area). Action inhibition may be appropriate in certain situations (e.g., not forcing the pace in congested traffic). In such cases, people choose not to do anything as the most applicable coping strategy. Information search can help people to make appropriate decisions regarding how to deal with stressors and/or avoid similar situations in future. Finally, the cognitive coping mode, as noted in palliation, is designed to make people feel better about their situation. This method of coping will entail cognitive reappraisal of a stressful situation, using psychological defence, or by creating artificially-induced states through drugs or alcohol ingestion.

The coping strategies adopted influence subsequent health. Holroyd and Lazarus (1982) note that in the last decade health outcomes are increasingly being attributed to effective coping rather than simply to the existence or absence of stress. Holroyd and Lazarus (1982) suggest four general pathways in which coping affects health.

1. Coping influences the neuroendocrine stress response. Effective instrumental coping may eliminate the source of a stress and thereby reduce the need to mobilise for action in future. Reducing physiological adaptive responses (e.g., noradrenal activity) means that the frequency of a response associated with the aetiology of a range of diseases (cf. Selye, 1956) would be lowered.

2. Coping influences health when the illness behaviour serves as a coping strategy (Holroyd & Lazarus, 1982). For example, illness behaviour such as seeking medical treatment may be maintained because of the secondary gain or reinforcements that such behaviour secures (Whitehead, Fedoravicius, Blackwell & Wooley,1979).

3. Coping may cause illness if the coping strategy leads to the introduction of noxious substances such as alcohol and nicotine into the system (Holroyd & Lazarus, 1982).

4. The way a person copes (or fails to cope) with illness can influence the course of the illness (Holroyd & Lazarus, 1982). For example, Jones, Kinsman, Dirks and Dahlem (1979) found that asthmatics who ignored early warning signs of an attack needed to be readmitted to hospital because they failed to take the necessary preventative medication.

Appraisal of Lazarus' Work

Lazarus' work provides an important contribution to the study of stress (Baum *et al.*, 1981). However, empirical validation of Lazarus' work presents researchers with a formidable challenge: It is difficult to operationalise the complex psychological processes involved in appraisal and coping (Lazarus, 1976). Consequently, traditional research methods are not adequate for the investigation of stress within the interactional perspective (Coyne & Lazarus, 1980). Instead of using well delineated, rigid structural concepts in an unnatural experimental setting, an interactional explanation entails the identification of psychological processes, their fluctuations over time and their relationships with the environment and with the specific circumstances surrounding the particular stress episode (Coyne & Lazarus, 1980). In so doing, closer approximations to real-life settings can be obtained.

Methodological problems are also encountered when assessing cognitive appraisal, which, although cognitive in nature, may be influenced by unconscious or impulsive appraisals (Coyne & Lazarus, 1980). Self-reports

of one's cognitive appraisal tend to be inaccurate, reflecting *a priori* theories about causal stimulus-response connections rather than accurately describing the appraisals that occurred at the time of the stress episode (Coyne & Lazarus, 1980).

Despite the problems inherent in conducting appropriate person-environment interaction research, empirical evidence supports the relevance of both appraisal (e.g., Coyne & Lazarus, 1982; Frankenhauser, 1980) and coping (e.g., Coyne & Lazarus, 1982; Moos, 1982); in the stress process. In fact the findings cited in this chapter represent an extremely small percentage of the research that exists supporting Lazarus' work. For example, the importance of psychological appraisal of a stressor rather than the mere presence of a stressor was demonstrated 30 years ago by Symington *et al.* (1955). They found that unconscious, dying patients showed no signs of endocrinal activation associated with the general adaptation syndrome, whereas comparable conscious dying patients did show adrenal cortical changes associated with the general adaptation syndrome. Frankenhauser (1980) provides empirical support for Lazarus' claim that challenged individuals will cope better than threatened individuals: Threat was found to be associated with raised catecholamine and cortisol levels (both hormones are associated with the general adaptation syndrome response (Selye, 1982)), whereas challenge was found to be associated only with increases in catecholamine levels; cortisol levels remained constant or decreased. The impact of threatened stressful events was demonstrated by Baum and Greenberg (1975). They found that people will experience stress when they expect a situation to occur that they appraise to be stressful (i.e., crowding) even if the situation (crowding) never actually occurs (Baum & Greenberg, 1975). There is also empirical support for the claim that the stress process will be moderated by people's appraisal of their personal (e.g., Kobasa, 1982b) and situational (e.g., House, 1981) resources available to deal with the pending stress situation. Folkman and Lazarus (1980) provide support for the use of both instrumental and palliative strategies in coping with stress. There is

also empirical support for the relationship between coping and disease (Glass, 1977). For instance, Obrist, Light, Langer, Grignolo and McCubbin (1978) found that active coping strategies produced harmful cardiovascular responses, whereas passive coping yielded no such effect.

Finally, from a theoretical perspective, Cox (1978) criticises the interactionist approach for not dealing adequately with stressful situations where the demand is so great that damage is caused directly without involvement of psychological processes. Cox (1978) also notes that the interactionist approach does not contribute much to the definition of stress derived from the stimulus and response-based approaches. However, Cox (1978) acknowledges that the interactionist approach deals with central aspects of the stress process such as appraisal and coping in a superior manner. Indeed, the interaction approach accounts for more of the stress data than either the stimulus or the response approaches to stress (Cox, 1978). Consequently, from both a theoretical and an empirical point of view, the interactionist perspective of stress (specifically, the work of Lazarus and his associates) is a useful framework for understanding the stress process.

Aspects of Lazarus' work are especially relevant to the present thesis. Specifically, Lazarus provides insight into the psychological processes involved in the relationship between the person and the environment within the stress context. As such his work identifies the need to look beyond mere stimulus and response variables when conducting stress research. In the present thesis therefore, individual appraisal of stressors and personal, demographic and situational variables are included in the empirical investigation of stress in IR. Consequently, because the interaction approach integrates positive features of both the stimulus and the response-based approaches, it has been chosen as a basis for the theoretical model of stress developed in the present thesis.

It must be noted that Lazarus did express reservations about adopting a moderator approach to assess coping (Holroyd & Lazarus, 1982). First, as they are only weakly related to coping activity, moderators are likely

to share minimal variance with adaptational outcomes that are shaped by the coping process. Second, even if moderator variables predict individual differences in the stress process, the actual moderator process would remain unclear. We would not know exactly what occurs in specific types of situations that cause the observed differences in outcome (Holroyd & Lazarus, 1982). However, in the present thesis, the inclusion of moderator variables is aimed at understanding appraisal rather than coping responses.

Conclusion

From the stimulus, response and interaction perspectives reviewed, it is possible to extract and combine the important elements of each approach into one comprehensive model for investigating the stress process. However, because the interaction approach already entails such a combination of elements (Cox, 1978), the present model closely resembles Lazarus' interaction approach.

From the response approach, the fact that stress can cause pathogenic responses is extracted. From the stimulus approach, a greater understanding is obtained of what constitutes a stressor. From the interaction approach, the importance of person-environmental interactions in the stress process is acknowledged. A diagrammatic representation of the stress process developed from the three approaches is presented in Figure 2.1.

Objective environmental stressors impinge on the individual whose perceptions of the stressor will be influenced by his/her unique set of personal, demographic and situational characteristics (i.e., moderating factors). It must be noted that people with high levels of moderating factors (e.g., hardy people who also receive much social support) do not experience less stress: They just interpret the stress differently. The person's coping response will be shaped by these moderating factors. The consequences of the stress process will be determined by a combination

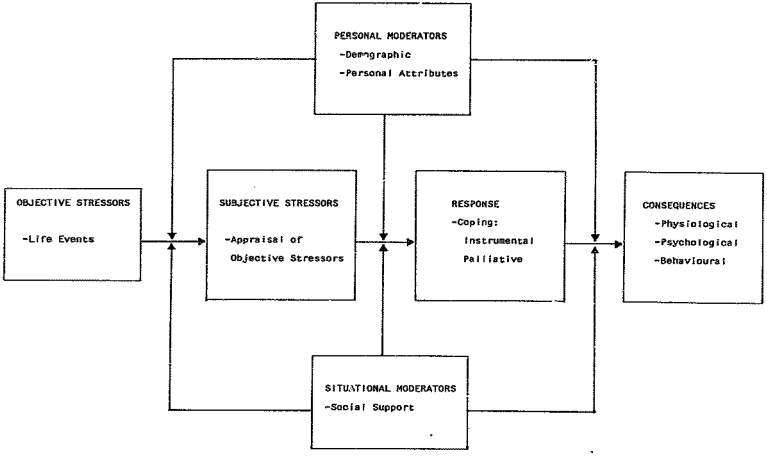


Figure 2.1: The stress process

of stressors and the environmental (social support) and personal (subjective perceptions of stress, coping responses and personal moderators) factors. These consequences can manifest in physiological (e.g., heart disease, ulcers), psychological (e.g., depression, anxiety) and/or behavioural (e.g., increased smoking or accident levels) forms. The concept of the feedback loop in the stress process is important (Cox, 1978): Feedback occurs at all stages in the stress system and is instrumental in shaping the outcome at each stage of the stress process (Cox, 1978).

This conceptualisation of the stress process complies with McGrath's (1970) seven prescriptions which he claims must be considered when formulating stress theories or designing stress research.

1. The focal organism (e.g., an individual or a group of people) can be situated at any level (e.g., intrapersonal, personal, interpersonal)

2. The stress process involves at least four stages: environmental demands (stressors), reception of the demands (perceived stress), responses to the subjectively defined demand (coping strategies), and finally, consequences of the response.

3. Properties or attributes of the focal organism (personal moderators) influence the stress process in several ways, including how the environmental stressor is perceived, the selection and effectiveness of responses to the demand and finally, the extent of the consequences of the coping process.

4. When conducting stress research, focus must be placed on examining the stress processes that link the environmental stressors through to the personal consequences of stress.

5. Stress research therefore goes beyond examining the state of individual and/or the environment to investigating the relationship between focal organism and environment.

6. The implications of these prescriptions are that people are conceived of as active, adaptive coping organisms rather than merely being seen as passive within the stress process.

7. Finally, when conceptualising the stress process in such a sequential manner, appropriate attention must be given to the temporal dimension. Also, feedback loops are necessary to show the flow of events through time (McGrath, 1970).

The conceptualisation of the stress process in the present thesis (see Figure 2.1) and the research design (see Chapter 7) take account of the seven prescriptions set out by McGrath (1970). To gain a clearer understanding of the specific content of the stress model of the present thesis, it is necessary first to examine the stressors, moderators and consequences found in the organisational stress literature (see Chapter 3). Thereafter, an understanding of the specific stressors associated with the practice of IR can be obtained (see Chapter 4). Finally, a model of the stress process applicable to the practice of IR has been set out (see Chapter 7).

CHAPTER 3

ORGANISATIONAL STRESS

The aim of this chapter is to apply the basic theoretical concepts of stress covered in Chapter 2 to organisational settings. First, the organisational stress process will be outlined. Thereafter, certain facets of the process will be discussed. In keeping with the aims of the thesis, particular attention will be placed on causes, consequences and moderators of organisational stress. This focus will provide the general framework within which specific applications to industrial relations stressors can be investigated in Chapter 4.

The Organisational Stress Process

From a review of the literature in Chapter 2, it was concluded that the most fruitful way of investigating stress is by adopting an interaction perspective which incorporates features of the stimulus and the response-based stress models (Lazarus, 1966; see Figure 2.1). To what extent has this person-environment interaction process model been applied to organisation stress? Inspection of major organisational stress theories (e.g., Beehr & Newman, 1978; Cooper & Marshall, 1976; French & Caplan, 1973; House, 1974; Ivancevich & Matteson, 1980; Kahn *et al.*, 1964; McGrath, 1976; McLean, 1974; Schuler, 1980) reveals several patterns closely linked to the person-environment interaction model. First, the theories differentiate between objective environmental stressors and subjectively perceived stressors. Second, stressors are potential causes of adverse physiological, psychological and behavioural consequences. Third, the seriousness of the consequences of stress will be moderated by the coping mechanisms adopted, and the personal, demographic and situational characteristics of the individual experiencing the stress. Finally, from the previous points, it can be concluded that organisa-

tional stress is conceptualised as a dynamic process. It takes place over time and the stages are causally linked.

An example of an organisation stress model is presented to demonstrate the process. Although House (1974) focuses specifically on the link between occupational stress and coronary heart disease rather than on the more diverse outcomes of stress, the general process of his model is well presented and represents organisational stress theory. Also, his model bears a close resemblance to the person environment interaction model presented in Figure 2.1. Consequently, House's work is set out below.

House identifies five classes of variables necessary for a comprehensive organisational stress model:

> " (1) Objective social conditions conducive to stress; (2) individual perceptions of stress; (3) individual responses (physiological, affective, and behavioural) to perceived stress; (4) more enduring outcomes of perceived stress and responses thereto; and (5) individual and situational conditioning variables that specify the relationships among the first four sets of factors" (House, 1974, p. 13).

House goes on to relate the five facets of his model diagrammatically (see Figure 3.1).

House (1974) points out that the traditional approach of linking environmental conditions conducive to stress (objective stressors) with outcome variables yielded inconclusive empirical findings because other important elements of the stress process had not been considered. First, the perceptions rather than the mere existence of a social condition determines its stress potential. Second, the manner in which the person responds to, and copes with the perceived stress will influence the outcome. Third, each stage of the stress process will be mediated by the person's specific individual (e.g., abilities, needs, values, personality, health, genetic predisposition) and situational (e.g., family, work group, supervisor) conditioning variables. Thus, when investigating organisational stress, cognizance needs to be given to all five sets of variables included in the model if meaningful answers are to be achieved.

The brief account of House's model as an illustration of typical organisational stress theories establishes the fact that organisational stress is a complex, multifaceted process that has its roots in the conventional interaction model of stress (e.g., Beehr & Newman, 1978; House, 1974; Ivancevich & Matteson, 1980). The discussion now turns to the relevant variables included in each facet of the organisational stress the model.

Stressors, Moderators and Outcomes of Organisational Stress

Because the psychological dynamics of appraisal and coping discussed in Chapter 2 are not directly examined in this thesis, the present discussion will focus only on the stressor, moderator and outcome facets of the organisational stress process (see Figure 3.2).

Furthermore, although a plethora of recent literature has been devoted to the subject of managing organisational stress (e.g., Everly &

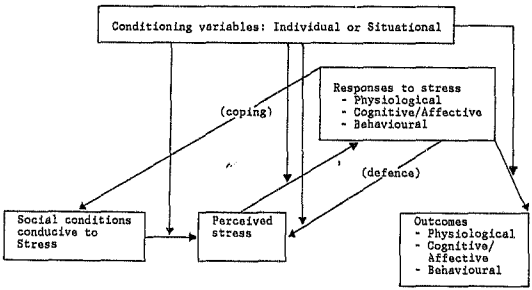


Figure 3.1: House's paradigm for stress research (House, 1974, p. 13).

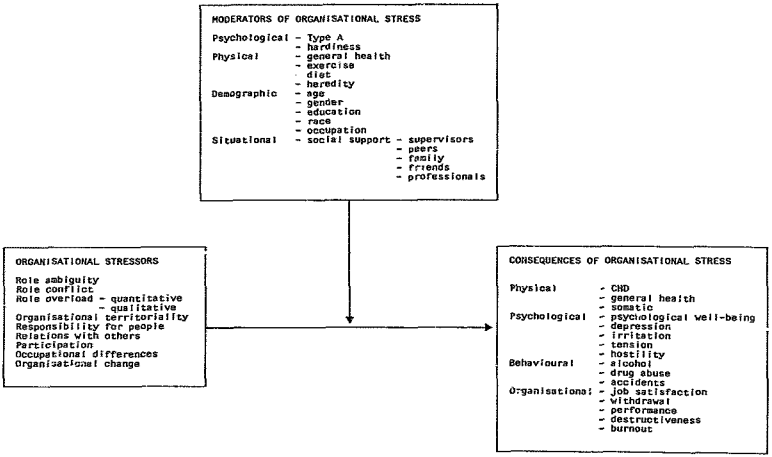


Figure 3.2: A model of the organisational stress process

Gordano, 1980; Greenberg, 1980; Veninga & Spradley, 1981), these publications focus on practical strategies for dealing with stress, which is beyond the scope of the present thesis, and therefore will not be discussed.

Organisational Stressors

There have been various attempts to classify organisational stressors (e.g., Beehr & Newman, 1978; Cooper & Marshall, 1976; French & Caplan, 1973; Ivancevich & Matteson, 1980; McGrath, 1976; Sharit & Salvendy, 1982). However, no consensus has been reached regarding the scope, boundaries, levels of analysis or nomenclature of these classification schemes. French and Caplan (1973) present a useful formulation of organisational stressors which contains many of the elements covered in other models. Furthermore, their framework for analysing organisational stress has been quoted extensively. Consequently, their classification of organisational stressors serves as the basis of the present discussion.

French & Caplan (1973) identify eight major sources of organisational stress:

Role ambiguity
Role conflict
Role overload - quantitative
- qualitative
Crossing organisational boundaries
Responsibility for people
Relations with others
Participation
Occupational differences

Role ambiguity. Role ambiguity occurs when a person has inadequate information to perform his/her role (French & Caplan, 1973; Kahn, 1973).

Three organisational conditions contribute to role ambiguity: organisational complexity, managerial philosophies about communication, and rapid organisational change (Kahn *et al.*, 1964). Change as a source of role ambiguity is especially important in the present thesis because it forms one of the two basic concepts underlying both stress and IR. Kahn *et al.* (1964) differentiate objective from subjective role ambiguity. Objective ambiguity refers to environmental properties likely to influence the perceptual and cognitive processes of a 'normal' person, w[illegible] was subjective ambiguity is the actual perception of ambiguity experienced by the individual. Similarly, Lichtman and Hunt (1973) propose that role stress occurs as a) objective features of a role, or b) as the role incumbent's perceptual responses, which may be linked to the objective characteristics of the role. Thus objective and subjective role stress refers to two distinct yet related variables (Van Sell, Brief & Schuler, 1981). This subjective-objective distinction applies equally to the other seven stressors and fits neatly into the objective and subjective stressor facets of the organisational stress model (see Figure 3.2).

Kahn *et al.* (1964) identify at least four kinds of information necessary for an individual to perform effectively in a work role: (1) Expectations concerning the rights, duties and responsibilities of the job. (2) Activities required to fulfil the job's responsibilities and how best to perform these activities. (3) Consequences of role performance and non-performance for the incumbent, the role senders and the organisation. (4) Kinds of behaviour rewarded or punished, the nature of the reward or punishment and the likelihood of their occurrence. If information about these areas is not available either because it is non-existent or it is communicated inadequately, role ambiguity will ensue. Role ambiguity reduces the incumbent's effectiveness and adversely influences the well-being of the individual (French & Caplan, 1973; Kahn *et al.*, 1964).

Findings from the many empiri[illegible] studies on role ambiguity suggest that it is associated with deleterious personal and organisational out-

comes (e.g., Bedeian & Armenakis, 1981; Keenan & Newton, 1985; Seers, McGee, Serey & Graen, 1983; Shamir, 1980; Van Sell, *et al.*, 1981). For example, French & Caplan (1973) conclude, on the basis of their own work and Kahn *et al.*'s (1964), that role ambiguity produces psychological strain and job dissatisfaction, and leads to under-utilisation of human resources and feelings of futility.

Subsequent research findings yield similar conclusions. Role ambiguity correlates with psychological variables such as anxiety and depression (Beehr, 1976; Caplan & Jones, 1975), lowered self-esteem (Beehr, 1976), resentment (Caplan & Jones, 1975), general life dissatisfaction (Beehr, 1976; Seers *et al.*, 1983); work-related attitudes such as job dissatisfaction (Bedeian & Armenakis, 1981; Bedeian, Armenakis & Curran, 1981; Beehr, 1976; Brief, Aldag, Van Sell & Malone, 1979; Johnson & Stinson, 1975; Miles, 1976; Schuler, 1975), work-related tension (Bedeian & Armenakis, 1981; Keenan & Newton, 1984; Miles, 1976a), resentment (Caplan & Jones, 1975), propensity to leave the job (Gupta & Beehr, 1979); and work- related behaviour including absenteeism (Gupta & Beehr, 1979) and job performance (Beehr, 1976; McEnrue, 1984; Miles, 1976a; Schuler, 1975). Role ambiguity is also correlated with interpersonal variables associated with the work group (Bedeian *et al.*, 1981; Beehr, 1976; Randolph & Posner, 1981) and supervision (e.g., supervisory interaction, goal emphasis, work facilitation and support (Bedeian *et al.*, 1981; Seers *et al.*, 1983). Finally, role ambiguity has been associated with dimensions of perceived organisational climate (i.e., motivational conditions, decision-making practices and human resources primacy (Badeian *et al.*, 1981). Thus the uncertainty surrounding a work role represents an important source of strain which can lead to diverse deleterious consequences for the individual and the organisation.

Role conflict. Kahn *et al.* (1964) define role conflict as "the simultaneous occurrence of two (or more) sets of pressures such that compliance with one would make more difficult compliance with the other"

(p. 49). The most prevalent manifestation of role conflict occurs when the incumbent is caught between two groups of people who demand different kinds of behaviour or expect that the job entails different functions (Cooper & Marshall, 1976). Typical feelings and experiences associated with role conflict include being torn by conflicting demands, 'having to get along' with people, experiencing differences of opinions with superiors and being expected to perform tasks one really dislikes (French & Caplan, 1973; Kahn, 1973). Kahn *et al.* (1964) identify at least four types of role conflict:

1. Intra-sender conflict occurs when conflicting messages are sent from one person. For example, a supervisor may impose an unrealistic work deadline, but at the same time limit the subordinate's decision-making latitude relating to the execution of set tasks (Kanasek, 1979).

2. Inter-sender role conflict arises when the pressures from one role sender oppose demands from other role senders, e.g. a foreman might be pressurised by his/her superiors to introduce closer supervision. At the same time, he/she might be asked to adopt a more *laissez faire* style of supervision by his/her subordinates. Of particular relevance to stress in IR is the finding that the greater the power and authority of the people sending conflicting role messages the greater the job dissatisfaction (Kahn *et al.*, 1964).

3. Inter-role conflict ensues when the role pressures associated with one role are in conflict with those of another role. For example, work role demands for overtime conflict with the demands of one's role as family member.

4. Person-role conflict occurs when role requirements violate one's personal needs and moral values. An example is being forced to evict striking workers from their dwellings against one's beliefs.

According to French & Caplan (1973), 48% of the general working population experience role conflict. In one investigation at the Goddard Space Flight Center, French & Caplan (1973) report that two-thirds of

the male employees in their sample experienced role conflict. What then are the consequences of this widespread phenomenon?

From their research, French & Caplan (1973) found that role conflict causes job dissatisfaction, job tension, physical anxiety, poor relations with peers and subordinates, a sense of futility, job related threat, and an increase in heart rate. Subsequent investigations into the correlates of role conflict yield similar findings. Role conflict is associated with personal manifestations of strain such as job dissatisfaction (Bedeian & Armenakis, 1981; Brief *et al.*, 1979; Miles, 1976a; Seers *et al.*, 1983; Schuler, 1975), work-related tension (Batlis, 1980; Bedeian & Armenakis, 1981; Miles, 1976b), propensity to leave the organisation (Batlis, 1980; Bedeian & Armenakis, 1981), and work performance (Schuler, 1975). Role conflict also exerts a negative effect on intergroup relations (Bedeian *et al.*, 1981; Randolph & Posner, 1981; Seers *et al.*, 1983), and perceptions of supervisory interaction, goal emphasis, support and work facilitation (Bedeian *et al.*, 1981; Randolph & Posner, 1981). Bedeian *et al.* (1981) also report significant correlations between role conflict and perceptions of various dimensions of organisational climate including communication flow, motivational conditions, decision-making practices and human resources primacy.

Although the role conflict and ambiguity literature has been criticised for lack of consistency of findings and methodological rigour (e.g., Fisher & Gitelson, 1983; Van Sell *et al.*, 1981), there is a certain amount of agreement regarding the correlation of these forms of role stress. Van Sell *et al.* (1981), after reviewing the literature, conclude "Role conflict and ambiguity appear to cause lower productivity, tension, dissatisfaction and psychological withdrawal from the work group" (p. 66). In their meta-analysis of role stress research covering 59 separate samples, Fisher & Gitelson (1983) note that ambiguity is negatively and consistently related to commitment, involvement, promotion, tenure, boundary spanning and satisfaction with co-workers, whereas conflict is

negatively related to commitment, involvement, participation in decision-making and satisfaction with pay, co-workers and supervision.

Role overload. Kahn *et al.* (1964) regard role overload as a form of inter-sender conflict, whereby different role senders each hold legitimate expectations about a person's performance. However, taken collectively, the assigned tasks become impossible to complete within the given time limits; role conflict, then, manifests as a conflict of priorities. French & Caplan (1973) differentiate between quantitative and qualitative overload: Quantitative overload occurs when the sum total of work expected of the individual (regardless of its difficulty) is more than can be done within the set time period. Qualitative overload occurs if the incumbent lacks the necessary skills, abilities or knowledge to perform the tasks at hand. French & Caplan (1973) further differentiate between overload and underload. If there is insufficient work (quantitative) or the work is too easy (qualitative), the person will experience underload. Both overload and underload are potentially stressful (French & Caplan, 1973). Indeed, Selye (1956) referred to overload and underload as hyperstress and hypostress respectively.

The extent to which the job demands are too large or too small is dependent on the role incumbent's perceptions and abilities. Again this raises the objective-subjective stressor distinction. Following from Lazarus' (1966) theory, it is the appraisal (rather than the mere existence) of the workload that determines its stress potential.

A useful approach to organisational stress is the person-environment fit model (see Argyris, 1964; Caplan, 1983; Harrison, 1978) which has been used extensively at the Institute of Social Research by French and his co-workers (e.g., Caplan, Cobb, French, Harrison & Pinneau, 1975, 1980; French, Rogers & Cobb, 1974; Harrison, 1976). The person-environment fit approach is to compare the level of workload preferred by the incumbent to the actual workload expected of the role. The greater the discrepancy, the greater the stress potential (French, 1974).

The application of the person-environment fit concept extends beyond role overload to any organisational stressor. Harrison (1976), for example, found that, while neither the subjective nor the objective stress measures were associated with depression, the person-environment fit measure yielded a significant curvilinear relation: when the fit matched exactly, depression was smallest. Harrison (1976) reports similar findings for the person-environment fit measure of job complexity and other measures of strain (i.e., job dissatisfaction, boredom, anxiety, somatic complaints and irritation). Finally, Harrison (1976) reports that, regardless of occupational group investigated, approximately the same number of people were dissatisfied because of either too much or too little job complexity or work load. Thus the person-environment fit concept represents a useful way of measuring any type of organisational stress.

From their research on role overload, French & Caplan conclude that a) quantitative and qualitative role overload are two distinct variables; b) both forms of overload are prevalent in Western, achievement-oriented societies; and c) both lead to forms of strain such as job dissatisfaction, job tension, lowered self-esteem, job-related threat, embarrassment and increased cholesterol, heart rate and smoking levels.

Schuler, Aldag and Brief (1977) note that most studies on role stress use Rizzo, House and Lirtzman's (1970) Role Ambiguity and Role Conflict Scales (e.g., Batlis, 1980; Bedeian & Armenakis, 1981; Bedeian, Armenakis & Curran, 1980; Bedeian *et al.*, 1981; Brief *et al.*, 1979; Johnson & Stinson, 1975; Keenan & Newton, 1984; McEnrue, 1984; Miles, 1976a, 1976b; Shamir, 1980). Similarly, Fisher and Gitelson (1983) note that 54 of the 59 samples included in their meta-analysis of role stress studies used the Rizzo *et al.* (1970) scales or derivatives thereof. However, Rizzo *et al.* (1970) incorporate role overload into the role conflict scale. Consequently, less research has been conducted specifically on the independent effects of role overload than on ambiguity and conflict.

Subsequently, however, scales have been developed that assesses role overload independently of role conflict (e.g., Beehr, Walsh & Taber, 1976; Caplan, 1971). Reported consequences of role overload include job dissatisfaction, environmental frustration and latent hostility (Keenan & Newton, 1984), increased levels of cholesterol (Sales, 1969) and coronary heart disease (Ivancevich & Matteson, 1980), work-related tension (Caplan & Jones, 1975; Keenan & Newton, 1984; Sales, 1970), depression (Caplan *et al.*, 1975), lowered levels of self-esteem and work performance (Margolis, Kroes & Quinn, 1974; Sales, 1970), increased propensity to leave and absenteeism (Gupta & Beehr, 1979; Margolis *et al.*, 1974).

Role underload is also a potential source of stress (Schuler, 1980). Levi (1972) notes that both overload and underload are associated with the person's need for stimulation. Overload entails too much stimulation whereas underload entails too little stimulation. Thus both underload and overload are stressful (Frankenhauser & Gardell, 1976; French, 1974). For example, Keenan and Newton (1984) found that role underload is associated with job dissatisfaction, environmental frustration and emotional reactions. Similarly, Caplan *et al.* (1975) found that work underload leads to increased job dissatisfaction.

From this discussion, role stress emerges as an important source of organisational stress which is negatively associated with a) psychological, behavioural and physical manifestations of strain; and b) work-related attitudes, behaviour and performance. However, the role stress-strain relationship is moderated by individual differences, work settings and social support systems (e.g., Fisher & Gitelson, 1983; French & Caplan, 1973; Van Sell, *et al.*, 1981). The influence of moderator variables will be discussed later in the chapter.

Organisational territoriality. French and Caplan (1973) suggest that each person in the organisation develops their own 'territory' and personal space in which they feel the most comfortable. Crossing boundaries either within the organisation (e.g., being located in a part of the

organisation where the predominant work is different from your own), or beyond the organisation (e.g., the sales representative whose customer's demands conflict with those of his/her superior) constitutes a source of stress. "Indeed, every time a person moves out of his territory he invades the territory of someone else, potentially putting the other person as well as himself under stress" (French & Caplan, 1973, p. 45). Quick and Quick (1984) identify six factors that make boundary-spanning activities extremely stressful:

1. Performing set, non-routine activities.
2. Maintaining frequent and long-term relations with individuals in other organisations.
3. Relating to dynamic complex environments.
4. Dealing with very diverse organisations.
5. Lacking screening mechanisms like secretaries.
6. Being evaluated with very exact, precise performance standards (Quick & Quick, 1984, p. 25).

French and Caplan (1973) report positive correlations between time spent on external pursuits (i.e., extra-organisational tasks) and deadline pressures, job-related tension and low self actualisation. As regards extra-organisational territoriality, working in alien environments was associated with increased role overload, blood pressure, and pulse rate, less opportunity for advancement and lower self actualisation (French & Caplan, 1973).

Responsibility for people. Work responsibilities represent a further source of organisation stress. French and Caplan identify two sources of responsibility: 1) for people (i.e., their work, development, job security), and 2) for things (i.e., budgets, projects, property, equipment). Responsibility (particularly for people) increases as people move up the organisation hierarchy. Indeed, Strumpfer (1983) states "respon-

sibility for people is perhaps one of the most difficult burdens an executive can bear, a heavier one than responsibility for things" (p. 11). Responsibility for people entails large amounts of time interacting with people, reduced time spent on actual working, and therefore leads to increased role overload (French & Caplan, 1973). Ivancevich and Matteson (1980) postulate two major reasons why responsibility for people is stressful: a) It takes up time and therefore increases overload, deadline pressures, and the potential for role conflict and ambiguity; b) it often entails making unpleasant interpersonal decisions.

Correlates of responsibility for people found by French and Caplan include increased smoking, serum cholesterol levels and blood pressure. Pincherle (1972) found that coronary heart disease risk factors were closely associated with the age and level of responsibility in executives. Similarly, Wardwell, Hyman and Bahnson (1964) found that responsibility for people was significantly more likely to lead to coronary heart disease than responsibility for things. Cooper and Payne (1978) report that jobs with substantial responsibility for other people contribute to ulcers and hypertension.

Relations with others. Failure to meet individual needs for interpersonal recognition, acceptance and equity in interpersonal relationships constitutes a source of stress (French & Caplan, 1973; Kahn *et al.*, 1964). In the work situation, then, poor relations with one's boss, subordinates and colleagues are another important source of stress (French & Caplan, 1973). This stressor is particularly relevant to stress in IR. French and Caplan note that organisation theorists such as Argyris, Likert and McGregor all suggest that good relations between members of an organisation can play a major role in improving individual and organisational health.

Cooper (1981) points out that poor relations might also be a source of stress because they entail a lack of social support. For example, at competitive managerial levels, peers might not share their problems for

fear of appearing weak. The importance of social support as a moderator of stress will be demonstrated later in the chapter.

Characteristics of poor work relations include "low trust, low supportiveness, and low interest in listening to and trying to deal with the problems that confront the organisation member" (French & Caplan, 1973, p. 48). Schuler (1980) states that poor interpersonal work relations can promote stressful ripple effects. For example, poor trust between two colleagues may affect teamwork and subsequent performance which may then intensify the intragroup animosity. This vicious circle can harm other interpersonal and organisational qualities.

Quick and Quick (1984) identify five interpersonal stressors:

1. Status incongruence occurs when there is an incongruence between actual and entitled social status.
2. Social density - either too much or too little personal space and distance can cause stress. Cox, Paulus, McCain and Karlovac (1982), for example, found that crowding leads to psychological strain which, in turn, induces physical illness. Conversely, insufficient social contact is also stressful.
3. Abrasive personalities are a source of stress for others because they ignore the interpersonal aspects of human intercourse and are insensitive to their fellow employees (Levinson, 1978). Abrasive personalities also can be condescending, striving for perfection, self-centred, and unable to delegate, which induce feelings of inadequacy and uselessness in their colleagues.
4. Style of leadership (e.g., authoritarian behaviour) has long been identified as a source of subordinate tension (e.g., Lewin, Lippett & White, 1939).
5. Group pressures constitute an aspect of the informal organisational network of rules to which the individual is expected to adhere. Violation of such norms leads to group sanction to conform. Quick and Quick (1984) cite a case of a 'rate buster' who was

'counselled' by his peers to conform in a manner that caused him sufficient tension and anxiety to ensure that he didn't over-produce again!

Despite its importance as a source of stress, surprisingly little research has been conducted in the area of relationships at work (Cooper, 1981). Both French & Caplan (1973) and Kahn *et al.* (1964) found that poor work relations are often precipitated by conditions of role ambiguity: lack of information leads to misconceptions about others and how to deal with them. Disagreement over how to practice and/or perform tasks serves as a source of poor relations. The resultant misunderstandings and conflicts negatively affect trust, supportiveness and willingness to listen to organisation members' problems, which in turn increase job dissatisfaction and job-related threat. Interestingly, French and Caplan also found that poor relations with subordinates do not produce feelings of threat, whereas poor relations with colleagues and superiors do affect threat (French & Caplan, 1973).

Buck (1972) examined workers' and managers' attitudes toward their immediate superiors and found that workers who rated their superiors low on consideration reported greater job pressure. They felt their superiors did not offer constructive criticism took advantage of them, and showed preferential treatment to 'favourites'. Buck (1972) concludes that the considerate behaviour of superiors contributes significantly to subordinates' feelings of job pressure.

Participation. Participation refers to the extent to which people influence organisational decision processes. The stress associated with participation occurs when people are excluded from those job-related decisions in which they might want to be involved (French & Caplan, 1973). Jackson (1983) suggests that participation reduces strain because it is a source of power, influence, information and social support. Belief in personal control is associated with feelings of reduced threat (Anderson,

Hellreigel & Slocum, 1977). Both Averill (1973) and Miller and Norman (1979) state that the mere belief in personal control shapes responses to stressors (Jackson, 1983). Conversely, Karasek (1979) suggests that participation in decision making provides workers with the opportunity to remove barriers to effective performance and thereby reduces frustration. Participative decision making entails repeated information exchanges between organisation members, thereby increasing the potential for mutual understanding (Schuler, 1979). "When conflicts workers face become clear, perhaps for the first time, negotiation is likely to begin over which expectations should be changed in order to reduce inherent conflicts" (Jackson, 1983, p. 6).

Participation leads to greater communication and thereby reduces isolation and role ambiguity (Jackson, 1983). Because participation entails greater communication and may therefore lead to improved interpersonal relations, it also increases the opportunity for social support, an important moderator in the stress-strain relationship (Jackson, 1983).

Schuler (1980) states that participation in organisational decision making is related to one's needs for meaningfulness, responsibility, autonomy, certainty, predictability and ownership. He concludes "because of the large number of needs related to participation it is not surprising to find many studies suggesting and finding the benefits of participation in reducing stress" (p. 198).

French and Caplan (1973) conclude that high participation is associated with a) low psychological strain, b) a high sense of responsibility, c) a lack of role ambiguity which allows people to utilise their skills, and d) positive work attitudes and career prospects, low turnover and high productivity and performance.

Other studies report similar relationships between participation and manifestations of strain. For example, Margolis *et al.* (1974) report that non-participation is associated with poor physical health, escapist drinking, depression, propensity to leave the job, absenteeism and low self-esteem, motivation, and life and job satisfaction. Kasl (1973) found

non-participation to be associated with job dissatisfaction and Quinn, Seashore and Mangioni (1971) found poor mental health to be associated with non-participation. Morris, Steers and Koch (1979) examined the effects of six organisational structural variables on role stress and found that only participation in decision making was consistently related to role conflict and ambiguity. Schuler (1977) found that participation interacts with role stress to influence job satisfaction and performance. In a longitudinal study over six months, Jackson (1983) concludes that "participation in decision making appears to be an important (negatively-related) causal determinant of role strains, which are, in turn, important precursors of both individual and organizational outcomes" (p. 3).

Occupational differences. The final source of stress in French and Caplan's model is occupational differences. They claim that different occupational groups experience a) different quantities of the same stressors (e.g., three deadlines per year vs. three deadlines per day); b) different forms of stress (e.g., responsibility for people vs. responsibility for things); c) different amounts of strain (e.g., high vs. low levels of job dissatisfaction); and d) different forms of strain (e.g., coronary heart disease vs. low self-esteem).

French and Caplan (1973) found that scientists, engineers and professors experienced *qualitative* role overload which was associated with lowered self-esteem. Conversely, administrators experienced *quantitative* overload derived from their workload which included responsibility for people and considerable boundary spanning activities. In a study of 22 000 individuals in 130 occupations, Caplan *et al.* (1975) were able to distinguish high (e.g., office managers, first-line supervisors, administrators and secretaries) from low (personnel employees, craftsmen, university professors) stress occupations in terms of incidence of stress related disorders.

One way in which occupational differences are categorised in the literature is by occupational level. The consensus is that the risk of coronary heart disease rises with occupational level (see Marks, 1967). Indeed, the plethora of executive stress literature would support this claim (e.g., Moss, 1981).

Schuler (1980), for example, concludes that managerial (and health care) professions are the most stressful occupations. He suggests that these positions are associated with needs for autonomy and responsibility, yet they require much dependence on others. The discrepancy between needs and practice is stressful (Schuler, 1980). Caplan *et al.* (1975) list managerial jobs twice among the 12 most stressful occupations. Reasons for the high stress potential of managerial jobs could be that they involve a) stress related components such as taking responsibility for people (French & Caplan, 1973); b) time deadlines and performance evaluation activities (Cooper & Marshall, 1978); c) decision making activities (Karasek, 1979); and d) keeping pace with ever-changing business practices (Moss, 1981). Strumpfer (1986) reports that in a sample of black male patients at Baragwanath Hospital, those suffering from duodenal ulcers were employed in significantly higher occupational levels than control patients without gastro-intestinal conditions (see Segal, Dubb, On Tim, Solomon, Sottomayo & Zwane, 1978). In a study of stressors facing middle and top management, Kiev and Kohn (1979) found that the political climate of the organisation was rated as the most stressful aspect of the job by approximately half the respondents. Other important managerial stressors were lack of feedback, responsibility without authority, uncertainty about the organisations or the industry's future, and unsatisfactory relationships with superiors (Kiev & Kohn, 1979). Thus the management role contains diverse sources of stress.

Recently, though, the focus has shifted to stressors facing lower level blue collar workers (e.g., Axelrod & Gavin, 1980; House, Wells, Landerman, McMichael & Kaplan, 1979; Jamal, 1985; Poulton, 1978; Shostak, 1980; Smith, Colligan & Hurrell, 1980). For example, Smith *et al.* (1980)

found that in a cross-section of occupational levels, unskilled labourers reported the highest rate of physical and mental strain. Shostak (1980) identifies specific blue collar stressors including four objective stressors (i.e., compensation, health and safety hazards, conditions of the workplace and the threat of unemployment); four subjective stressors (i.e., inferior status, problems with supervision, vulnerability within the workgroup and job dissatisfaction); and various stressors associated with unionisation (e.g., conflict, union elections, politics, labour-management relations).

Therefore, when considering organisational stress it is unwise to focus solely on traditional managerial levels. Rather, there are stressors particular to each level in the organisation which demand that the entire hierarchy be considered in organisation stress research.

Besides occupational level, the stress associated with specific occupations have been investigated (Cooper & Marshall, 1978; French, Caplan & Harrison, 1982). Colligan, Smith and Hurrell (1977), for example, examined admission records in mental health centres covering people employed in 130 occupations. After controlling for general population distributions of occupations, they found that health technologists, nurses, waiters and waitresses led the list based on hospital admission rates. Specific occupations that have been investigated in the stress literature include police officers (Davidson & Veno, 1980; Lester, 1982; Lester & Mink, 1979; Reiser, 1974), lawyers (Kobasa, 1982a), school administrators (Tung, 1980) and teachers (Brenner, Sorbom & Wallius, 1985; Hembling & Gilliland, 1981; Phillips & Lee, 1980), engineers (Keenan, 1980; Keenan & Newton, 1985), air traffic controllers (Cobb & Rose, 1973; Crump, 1979) and accountants (Kemery, Bedeian, Mossholder & Touliatos, 1985).

Special attention has been focused on the stressors of helping professions such as nurses (Bedeian & Armenakis, 1981; Bedeian *et al.*, 1980, 1981; Marshall, 1980), dentists (Cooper, 1980), doctors (de Sole, Singer & Aronson, 1969; Murray, 1977), and social workers (Jayratne &

Chess, 1984). The strain experienced by members of the helping professions has been called 'burnout', a syndrome of emotional and physical exhaustion characterised by negative job attitudes, a lowered professional self-concept and a loss of empathy for clients (Cherniss, 1980; Maslach, 1978, 1979).

Thus, whether concentrating on organisational level or occupational type, one consistent finding is that different occupations place unique stressful demands on the incumbent. Any organisational stress investigation should therefore note these differences.

That then completes the review of French & Caplan's categorisation of organisational stressors. But it must be noted that the list of organisational stressors goes far beyond French and Caplan's classification. In fact, a great deal has been written about other stressors including a) physical working conditions (e.g., McCormick & Saunders, 1982), such as temperature extremes (Biersner, Gunderson, Ryman & Rahe, 1971; Holt, 1982), illumination (Ivancevich & Matteson, 1980), noise (Cohen, 1980; Glass & Singer, 1972; Holt, 1982), physical dangers and disorders (Althouse & Hurrell, 1977; Chisholm *et al.*, 1983; Holt, 1982), bad office design (Quick & Quick, 1984) and poor 'man-machine' design (Holt, 1982; Swain & Guttman, 1980); b) career development characteristics (Blau, 1978), such as over-promotion (Brook, 1973; Greenberg, 1983; Holt, 1982), underpromotion (Greenberg, 1983), demotion (Kasl & French, 1962), job transfer (Renshaw, 1976), thwarted ambitions (Greenberg, 1983), retirement (Hall, 1976) and job loss (Bluen, 1983b; Jahoda, 1981; Kasl & Cobb, 1970, 1979, 1980; Kinicki, 1985; Tiggemann & Winefield, 1984); c) organisational setting, structure demands and climate variables such as routine or monotonous jobs (Quick & Quick, 1984; Quinn, 1975), performance appraisals (Quick & Quick, 1984), job insecurity and uncertainty (Greenberg, 1983; Greenhalgh & Rosenblatt, 1984; McGrath, 1976; Moss, 1981), machine pacing (Holt, 1982; Murphy & Hurrell, 1980; Schuler, 1980), and shift work (Holt, 1982; Rentos & Shepard, 1976; Tasto & Colligan, 1978, Zedeck, Jackson & Summers, 1983). In addition, several au-

thors (e.g., Cooper & Marshall, 1976; Ivancevich & Matteson, 1980; Martin & Schermerhorn, 1983) acknowledge the importan role that non-work related stressors such as stressful life events (e.g., Dohrenwend & Dohrenwend, 1974, 1978, 1981; Perkins, 1982) and family demands (Barling, 1986; Waldron, 1978) play in the organisational stress process. Although it would be beneficial to examine each of these stressors individually, French and Caplan's stressors are of particular importance to the present thesis. Thus for the sake of parsimony the remaining stressors are not discussed here. (For reviews of such stressors, see Beehr & Newman, 1978; Ivancevich & Matteson, 1980).

There is, however, one source of stress that French and Caplan omit which is particularly important in the present thesis, namely, the stress associated with organisational change (Keenan & Newton, 1985; Schuler, 1982). As noted in Chapter 2, change (specifically, in the form of life events) represents a major source of stress which has definite deleterious psychological consequences (e.g., Dohrenwend & Dohrenwend, 1974, 1978, 1981; Perkins, 1982; Rabkin & Streuning, 1976). Stressful life events have also been examined within the work context. Indeed, Kobasa's research (e.g., Kobasa, 1979a, 1982b; Kobasa & Puccetti, 1983) is based on a derivation of Holmes and Rahe's Schedule of Recent Events. Furthermore, Bhagat (1983) developed a conceptual model for the effects of stressful life events on work outcomes such as reduced job involvement, performance effectiveness, and job satisfaction, and increased turnover, absenteeism and occupational hazards. Thus it appears that general life changes are associated with psychological and work-related strains.

However, barring some notable exceptions, surprisingly little research has been conducted examining the effects of organisational change as a source of work stress. To redress this situation, Sarason & Johnson (1979) developed the Organisational Change Inventory, a 30-item scale designed to assess the stressfulness of organisational changes (see Chapter 6). They found both life change and organisational change were negatively associated with job satisfaction, thus providing "support for

conceptualising organisational stress in terms of changes experienced within the working environment" (Sarason & Johnson, 1979, p. 79).

Weiss, *et al.* (1982) found that job-related stressful events correlated significantly with on the job information search, a recognised means of coping with job uncertainty. Similarly, Adams (1978) found organisational change events correlated with a variety of reported physical illnesses. Eden (1982), in an interrupted time-series study of acute rather than chronic change, found that critical job events caused anxiety, increased systolic blood pressure and pulse rate, qualitative overload and serum uric acid. Keenan & Newton (1985) found that acute stressful events at work were associated with feelings of anger, annoyance and frustration. They note that such responses differ from conventional strain reactions such as anxiety or tension (Keenan & Newton, 1985). Thus both from the application of life events theory to the work setting and from the empirical evidence, organisational change represents an important source of stress.

The list of potential organisational stressors is extremely long. Phenomena associated with every aspect of worklife emerge as potential stressors. What then are the consequences of such stressors?

Consequences of Organisational Stress

Several occupational theories (e.g., French & Caplan, 1973; House, 1974) focus on a specific outcome of organisational stress, namely, coronary heart disease. They maintain that stress causes strain which then leads to coronary heart disease. In the present thesis, responses to stress are seen to be non-specific, manifesting in a variety of forms (Selye, 1956). Consequently, a more diverse approach to organisational strain was sought. Beehr & Newman's (1978) four dimensions of strain (viz. physical health, psychological health, behaviour and organisational consequences), represents a tidy and comprehensive framework for analysing organisational strain, and will be adopted for use in the present

discussion along with other similar facet analysis models (i.e., Holt, 1982; Schuler, 1982; Shirom, 1982b). Although the effects of organisational stress extend beyond the organisation to impact on the family (Barling, 1986; Jackson & Maslach, 1982), such consequences are beyond the scope of the present thesis and therefore will not be discussed.

The aim of this section, then, is to outline briefly the many forms that organisational strain can take, using Beehr & Newman's (1978) model as a framework. No attempt is made to provide a detailed discussion of each variable. Rather, the focus will be on demonstrating the diversity of responses to organisational stress. It is noted, however, that although the dimensions of organisational stress consequences are presented separately here for the sake of clarity, in reality there exists considerable overlap. For example, several researchers suggest that psychological symptoms precede physiological consequences of job stress (Margolis *et al.*, 1974; Russek & Zohman, 1958).

Beehr and Newman acknowledge that human consequences can be either adaptive or maladaptive. However, for the present purposes, the focus is on maladaptive or undesirable consequences of stress that detract from employee health and effectiveness.

Physical consequences. The primary research focus of physical stress consequences has been related to the cardiovascular system. However, Strumpfer (1983) states that to consider work stress as a single factor causing coronary heart disease represents an oversimplification. Indeed, several stress related factors contribute to coronary heart disease (Cooper & Marshall, 1976; House, 1974; Strumpfer, 1983; Quick & Quick, 1984). For example, work (and non-work) stressors lead to increased blood pressure, cholesterol level, heart rate, smoking, escapist drinking, depression and job dissatisfaction, and reduced aspiration levels. These symptoms precipitate coronary heart disease (Cooper & Marshall, 1976; Strumpfer, 1983).

Typically, retrospective studies have been conducted because of the logistic problems associated with prospective studies of coronary heart disease (Beehr & Newman, 1978). Russek and Russek (1972), for example, found that coronary heart disease patients can be differentiated from healthy controls by demographic and occupation characteristics but Beehr and Newman note that such data are open to many alternate explanations.

Most coronary heart disease research has focused on risk factors clinically related to coronary heart disease (Beehr & Newman, 1978). For example, Friedman, Rosenman and Carroll (1957) found increases in the cholesterol levels of tax accountants as the tax deadline date approached. Once the deadline passed, cholesterol levels gradually receded to normal levels. Typical coronary heart disease risk factors associated with job stress include blood pressure (Cobb & Kasl, 1972; Kasl & Cobb, 1970), cholesterol level (Chadwick, 1980; Cobb & Kasl, 1972; Friedman *et al.*, 1957), pulse rate (Caplan *et al.*, 1975; Hennigan & Wortham, 1975), and electrocardiogram abnormalities (Reeder, Schrama & Dirken, 1973; Shirom, Eden, Silberwasser & Kellerman, 1973). However, Holt (1982) notes that neither Caplan *et al.* (1975) nor Chadwick (1980) found any correlations between risk factors (e.g., uric acid, cholesterol, pulse rate, blood pressure) and coronary heart disease. Furthermore, many of these studies compare incidence of physiological problems across occupations, making interpretations of results tentative (Beehr & Newman, 1978).

Besides being mediated through risk factors, organisational stress can exert a direct effect on coronary heart disease (Quick & Quick, 1984). Russek and Zohman (1958) found that 91% of their sample of young coronary heart disease victims experienced prolonged job-related emotional strain before the coronary, compared to only 20% of their control group who had not suffered a heart attack. Similarly, Siegrist, Dittmann, Rittner and Weber (1982) found that specific work stressors were more prevalent in a sample of patients with myocardial infarction than among healthy control subjects.

Conversely, most extensive reviews linking organisational stress to coronary heart disease acknowledge the important affect of moderating variables, notably Type A behaviour patterns on this relationship (e.g., Cooper & Marshall, 1976; House, 1974). The role of Type A behaviour in organisational stress will be discussed later in the moderator section.

Quick and Quick (1984) note that the coronary heart disease risk factors are similar to those leading to strokes (i.e., smoking, hypertension, poor diet and diabetes). Consequently, to the extent that organisational stress influences these risk factors, it can be expected to impact on the onset of strokes (Quick & Quick, 1984). However, there is a paucity of research directly linking organisational stress and strokes (Quick & Quick, 1984).

Other reported physical consequences of job stress include deteriorations in general health (Hinkle, 1974; Rahe, Gunderson, Pugh, Rubin & Arthur, 1972), uric acid levels (Caplan *et al.*, 1975; Cobb & Kasl, 1972; Shirom *et al.*, 1973), blood sugar (Caplan *et al.*, 1975; Schar, Reeder & Durkin, 1973), peptic ulcers (Cobb & Kasl, 1972; Cobb & Rose, 1973; Greenberg, 1983; House *et al.*, 1979), somatic complaints (Caplan *et al.*, 1975), impaired lung functioning (House *et al.*, 1979), increased catecholamine excretion (Frankenhaeuser & Gardell, 1976), headaches (Quick & Quick, 1984), fatigue (Cameron, 1971), various forms of psychogenic illness (Colligan & Murphy, 1979) and death (Cobb & Rose, 1973; Sales & House, 1971).

However, the costs associated with obtaining objective medical information (i.e., individual medical examinations, blood tests, X-rays and so forth) preclude wide scale usage of such methods of data collection (Beehr & Newman, 1978; Holt, 1982). Yet alternative sources of medical information (e.g., self-reports, medical visits, organisational records) can be unreliable (Beehr & Newman, 1978). Thus data collection remains a problem when investigating the physiological consequences of job stress.

Psychological consequences. Beehr and Newman (1978) state that because most job stress studies assessing psychological strain rely on self-report, paper-and-pencil tests, their findings are to be regarded with caution, given the inherent methodological problems associated with this form of data collection. Holt (1982) points to another problem associated with investigations of psychological consequences of organisational stress:

> "Faced with the choice of being considered a 'mental patient' or being regarded as someone with a somatic illness, most people consciously or unconsciously choose the latter, socially more acceptable patient role. Small wonder, therefore, that there is a great deal of (organisational stress) literature in which the dependent variables are bodily diseases or their precursors and very little in which specific neuroses, psychoses or other established psychodiagnostic categories play that role" (Holt, 1982, p. 432).

Conversely, Cooper and Marshall (1976) state that many of the recent stress studies have used two primary indices of occupational disease, coronary heart disease and mental illness. Many studies link organisational stress to psychological symptoms such as depression (Caplan & Jones, 1975; Caplan *et al.*, 1975; French *et al.*, 1982; Ilfeld, 1976; Quinn & Shepard, 1974), nervous strain and tension (Batlis, 1980; Bedeian & Armenakis, 1981; Miles, 1976a; Sales, 1970), low self-esteem (Beehr, 1976; French & Caplan, 1973; Margolis *et al.*, 1974), sense of futility (French & Caplan, 1973), anxiety (French *et al.*, 1982), resentment (Caplan & Jones, 1975; House & Harkins, 1975), overall life dissatisfaction (Seers *et al.*, 1983), irritation (French *et al.*, 1982), frustration (Keenan & Newton, 1985), hostility (Keenan & Newton, 1984), embarrassment (French & Caplan, 1973) and general mental illness (Smith *et al.*, 1978).

Ivancevich and Matteson (1980) note that the worrying aspect of these psychological outcomes is that they can form a closed loop of increasing seriousness, leading to a vicious circle of psychological ill health. Thus more serious unreported psychological disorders may be indirectly linked to occupational stress. Conversely, Strumpfer (1986) observes that work stress probably cannot be more than a precipitating factor of psychotic conditions.

Behavioural consequences. Behavioural consequences of organisational stress are the least studied consequence, perhaps because of the greater time, effort and ingenuity required for their measurement (Beehr & Newman, 1978). Many theorists rely on macroeconomic data to support the stress-behavioural strain relationship. For example, Ivancevich and Matteson state:

> "When 6% of the population are alcoholics; another estimated 10% are problem drinkers, and wh . 6 billion doses of prescription tranquillizers and 9 billion doses of amphetamines and barbiturates are consumed annually, the e is strong evidence that people are experiencing high levels of tension, anxiety and stress. And a recent New York State Narcotic Addiction Control Commission report that 36% of regular tranquillizer users used the drug at work is additional evidence that stressors in the work environment play a significant role" (Ivancevich & Matteson, 1980, p. 96).

There are two criticisms of Ivancevich and Matteson's approach. First, they assume that people drink and use drugs because they experience stress. However, the problems of alcoholism and drug addiction are multifaceted phenomena with many non-stress-related causes (e.g., Klagsbrun & Davis, 1977; Stanton *et al.*, 1978; Ward & Faillace, 1970). In fact in their statement, Ivancevich and Matteson erroneously regard stress as a 'catch-all' for any psychological malady; an approach that adds to the confusion but not to the body of knowledge about stress. Second, swallowing pills during working hours does not entail that work stressors necessarily precipitate such actions. Those workers may be on a medically prescribed course of tranquillisers that require several time specified daily doses. Because such findings are subject to confusion, an alternate research strategy is required to establish the relationship between occupational stress and behavioural consequences.

The most studied behavioural consequence of organisational stress is smoking (Beehr & Newman, 1978). In a sample of 12 000 professional men, Russek (1965) found 46% of men in high stress occupations smoked and only 32% men in low stress occupations smoked. Similarly, Conway *et al.* (1981) found significant correlations between smoking and occupa-

tional stress. Furthermore, smoking level has been shown to increase proportionately to stressors experienced (Lindenthal, Myers & Pepper, 1972), and giving up smoking has been negatively related to stressors (Caplan, Cobb & French, 1975). Not Caplan *et al.* (1975) found no job stress level differences between smokers, ex-smokers or non-smokers.

"Alcohol consumption is one of the most widely recognised and probably the most common serious stress reaction" (Quick & Quick, 1984, p. 51). Some researchers suggest that occupation is the most important factor determining drinking habits and related alcohol problems (Ojesjo, 1980; Plant, 1979). However, Quick and Quick (1984) note that factors other than stress (e.g., social climate, selection trends) contribute to the strong alcohol-occupation relationship. Nonetheless, direct associations between organisational stress and escapist drinking have been reported (Margolis *et al*, 1974; Shirom *et al.*, 1973).

Drug abuse is gaining increased attention as a behavioural consequence of stress, particularly amongst those people such as long distance drivers or night watchmen who are employed in monotonous jobs (Harris & Mackie, 1972). Yet no empirical studies could be found demonstrating the association between organisational stress and drug abuse.

Organisational stress has also been linked to an increased predisposition toward accidents (Quick & Quick, 1984). Work-related stressful events may immediately precede domestic, automobile and industrial accidents (Whitlock, Stoll & Rekhdal, 1977). Selzer and Vinokur (1974) report that job pressure is weakly associated with traffic accidents, whereas Brenner and Selzer (1969) found that drivers who experienced recent stress are five times more likely to cause fatal accidents than non-stressed drivers. Yet Isherwood, Adam and Hornblow (1982) found no relationship between stress and accidents. More evidence is required before the organisational stress-accident relationship is established with any degree of certainty (Holt, 1982).

Another behavioural consequence of organisational stress requiring further empirical validation is suicide (Seehr & Newman, 1978). Some

evidence for this relationship is provided by Holt (1982) who reviews several studies that have compared suicide rates across occupations and found that the stress-related variables of workplace social networks and anomie are associated with self destructive acts or attempts (e.g., Bsuglass & Duffy, 1978).

Other suggested behavioural consequences of organisational stress include violance, appetite disorders, vandalism, theft, poor interpersonal relations and risk-taking behaviour (Beehr & Newman, 1978; Quick & Quick, 1984). Yet no empirical support could be found linking these variables to occupational stress.

Organisational consequences. In the present discussion, various classes of organisational stress consequences are considered. These include work attitudes, withdrawal behaviour, performance, and general counter-productive work behaviour (Beehr & Newman, 1978; Perlman & Hartman, 1982).

Beehr and Newman (1978) state "the simplest and most obvious psychological effect of job stressors is dissatisfaction with the job" (p. 687). From the plethora of studies using job satisfaction as an outcome variable, a consistent inverse relationship emerges between organisational stress and job satisfaction (see Beehr & Newman, 1978; Cooper & Marshall, 1976; French & Caplan, 1973; House, 1974). Other work attitude variables found to correlate with organisational stress include work-related tension (Bedeian & Armenakis, 1981; Keenan & Newton, 1984; Miles, 1976a), organisational climate variables (Bedeian, *et al.*, 1981), and low self actualisation and motivation levels (Cooper & Marshall, 1976; French & Caplan, 1973).

Employee withdrawal from the job represents a further response to organisational stress (Beehr & Newman, 1978). Forms of withdrawal found to be associated with stress include absenteeism (Gupta & Beehr, 1979; Van Sell *et al.*, 1979), lateness (Adler & Golan, 1981), and labour turnover (Batlis, 1980; Bedeian & Armenakis, 1981; Gupta & Beehr, 1979;

Hamner & Tosi, 1974; Kemery *et al.*, 1985; Lyons, 1971). However, certain studies examining labour turnover do so by assessing self-reports of subjects' propensity to leave the organisation (e.g., Brief & Aldag, 1976; Bedeian & Armenakis, 1981; Bedeian, Mossholder & Armenakis, 1983; Rousseau, 1978). As such, these studies investigate a form of behavioural intention rather than an actual form of withdrawal behaviour.

The relationship between stress and performance is complex. One popular belief is that the relationship resembles an inverted U: At low arousal, performance is poor. As the stress level rises so does performance up to an optimal point. Beyond that point performance tapers off (e.g., Kalsbeek, 1981). McGrath (1976) refutes this claim stating that "at any given level of demand, including very high demand, the higher the arousal, the better the performance" (p. 1 361). Consequently, Beehr and Newman (1978) state that these competing formulations need to be tested rigorously under varying stressor, performance and moderator conditions. Although several studies have found significant stress-performance relationships (e.g., Beehr, 1976; McEnrue, 1984; Miles, 1976b; Sales, 1970; Schuler, 1975) no clear-cut resolution of the stress-performance debate can be found.

Holt (1982) notes that counterproductive behaviours represent a neglected organisational stress consequence variable. Counterproductive behaviours (e.g., deliberately trying to make trouble, spreading rumours, working badly or incorrectly, industrial sabotage, failing to report accidental damage, bribery, cheating and organised crime) may well represent forms of organisational strain, yet at this point they remain unresearched (Holt, 1982; Mangione & Quinn, 1975).

The term 'burnout' refers to the adverse effects of work where pressures are unavoidable and satisfaction unavailable (Moss, 1981). Maslach and Jackson (1981) identify four components of burnout. First, there is an increased feeling of *emotional exhaustion*: As individuals' emotional resources are depleted, they feel unable to give of themselves on a psychological level. The second component, *personal*

accomplishment, refers to an increased tendency to evaluate oneself and one's work negatively. Third, *depersonalisation* is characterised by the development of negative and cynical attitudes and feelings about one's clients. The final characteristic, *involvement*, refers to the decreased identification between the individual and his/her client (Maslach & Jackson, 1981). Since these four dimensions have been derived form research on over 1 000 subjects employed in diverse people professions, the validity of Maslach and Jackson's conceptualisation of burnout seems acceptable (Barling, 1986).

Burnout originally applied to organisational strain experienced by human service professionals. Of late, however, it has gained currency in the management literature (Strumpfer, 1983). Meier (1984) states that in the past decade, few psychological concepts as burnout have appealed to such a broad range of people - helping professionals and the public. Indeed, the treatment of burnout has been documented in at least 25 occupations (Meier, 1984). Despite its growing popularity there is little empirical research on the burnout phenomenon, most reports remain anecdotal (Meier, 1984).

In a comprehensive review of the burnout literature, only five articles presented statistical findings (Perlman & Hartman, 1982). From the findings of these five studies (Berkeley Planning Associates, 1977; Gann, 1979; Maslach & Jackson, 1981; Metz, 1979; Westerhouse, 1979) Perlman and Hartman (1982) note that burnout is associated with certain organisational characteristics (i.e., caseload, degree of formalisation, turnover rate and staff size), perceptions of the organisation (e.g., staff peer and administrative support, communication clarity, rules, and leadership), role perception (e.g., autonomy, work pressure, meaningfulness, feedback), individual characteristics (social support, sex, age, leisure, ego level), and outcome variables (satisfaction and turnover). Clearly, though, much more empirical research is required before burnout is fully understood.

Although many organisational consequences of stress have been identified, the empirical support for their relationship with organisational stress remains sketchy. Beehr and Newman (1978) note that many of these consequences are investigated but not in relation to job stress. Concerted investigations into the organisational stress-strain relationship are needed to redress this neglect. Such research should be designed in a way that overcomes many of the criticisms that can be labelled against studies reviewed in this chapter. One criticism is that there still exists conceptual ambiguity and confusion regarding central terms such as stress and strain (Beehr & Newman, 1978). For example, most studies treat job satisfaction (or dissatisfaction) as an outcome variable (e.g., Holt, 1982). Conversely, House (1974) includes job dissatisfaction as a stressor. On the other hand, Bateman and Strasser (1983) found job tension and satisfaction to be reciprocally caused. Clear universal operational definitions of the organisational stress terms are therefore needed. A related criticism is that many of the subjective measures of the stress process variables are so similar that significant findings are almost tautologous rather than meaningful (Firth, 1985).

Second, most studies investigate correlations between variables to describe the stress-strain relationship (Cooper & Marshall, 1976). As such, direction of causation cannot be determined (Parkes, 1982). Cross-sectional, retrospective studies should be replaced with prospective, longitudinal investigations designed to meet the prerequisites of causal analysis (James, Mulaik & Brett, 1983).

Third, a triangulated approach needs to be adopted (Smith, 1975). Instead of collecting only paper-and-pencil data where accuracy is at best questionable (Beehr & Newman, 1978), diverse sources of data should be collected. Sources of such information include peer, superior or subordinate ratings, interview data, objective organisational data (labour turnover, absenteeism, lateness, productivity, performance, accident and wastage rates), or medical data (e.g., medical files, hospital admissions, laboratory tests, x-rays, dispensary visits). For example, Za-

Iznik, Kets de Vries and Neeward (1977) measured the consequences of organisational stress using five syndromes: emotional distress, use of medication, cardiovascular, gastro-intestinal and allergy-respiratory disorders. They were then able to present a comprehensive overview of the consequences of organisational stress.

Fourth, Cooper and Marshall (1976) identify problems with sampling: some researchers generalise from highly specific samples, others, from diverse samples but using simplistic methodologies. Beehr and Newman (1978) caution against generalising across occupational groups. Also, it is not clear what constitutes an adequate control group; the general population, patients suffering from non-stress diseases, or the subjects themselves during periods of low stress (Cooper & Marshall, 1976).

Fifth, Schuler (1982) notes that the organisational stressor-strain literature is both limited and inconsistent. Furthermore, Gal and Lazarus (1975) note that the relationship between symptoms are inconsistent.

Sixth, many of the studies overlook the impact that personal and situational variables exert on the stress-strain relationship (Firth, 1985). Where cognizance is given to moderator effects, the designs of such studies fail to analyse the moderator affects appropriately (Zedeck, 1971). It is to this question of moderators that the focus now shifts.

Moderators of the Organisational Stress-Strain Relationship

> "A moderator is a condition, behavior, or characteristic that qualifies the relationship between two variables. The effect may be to intensify the relationship or to weaken it" (Ivancevich & Matteson, 1980, p. 167).

Organisational stress moderators can effect the stress-strain relationship in at least three ways: They influence a) subjective perceptions of objective stressors; b) coping with perceived stressors; and c) outcomes of the stressors (Schuler, 1982).

In the organisational stress literature the range of potential moderator variables is virtually infinite (Ivancevich & Matteson, 1980). Consequently, in the present discussion only those moderators adjudged as central to the stress-strain relationship will be discussed. From the literature (e.g.,. Beehr & Newman, 1978; Cooper & Marshall, 1976; French & Caplan, 1973; Holt, 1982; Quick & Quick, 1984; Schuler, 1980; 1982; Strumpfer, 1986), four classes of organisational stress-strain moderator variables are identified, psychological, physical, demographic and situational moderators.

Psychological moderators. Many psychological variables have been found to moderate the organisational stress-strain relationship. Examples include work values (Crain, 1974; Kahn *et al.*, 1964), work commitment (Jamal, 1985), individual need levels (Beehr *et al.*, 1976), flexibility/rigidity (French & Caplan, 1973; Kahn, 1973; Kahn *et al.*, 1964), work addiction (Ivancevich & Matteson, 1980; Theorell, 1974), resistance resources (Antonovsky, 1974), self-esteem (Chan, 1977, Holt, 1982; Kasl & Cobb, 1970; London & Klimoski, 1975; Petrie & Rotheram, 1982; Quick & Quick, 1984), locus of control (Beehr, 1983; Krause & Stryker, 1984; Sadowski & Blackwell, 1985), introversion-extroversion (French & Caplan, 1973), tolerance for conflict (Randolph & Posner, 1981), perceived competence (McEnrue, 1984), anxiety (Chan, 1977) and assertiveness (Petrie & Rotheram, 1982). Several authors have noted the effect of personal abilities, knowledge and experiences as moderators of the stress-strain relationship (McGrath, 1976; Schuler, 1980; Shirom, 1982). In this regard, the role of coping is crucial (Lazarus, 1966).

Two psychological moderators have been extensively investigated, namely Type A behaviour pattern and hardiness. In the late 1950's two cardiologists Friedman and Rosenman (e.g., Friedman *et al.*, 1957) recognised a behaviour pattern in their coronary patients (Quick & Quick, 1984). Since then the pattern has become known as Type A and "after twenty years of research Type A behavior remains one of the best predictors of

the likelihood of developing coronary disease" (Quick & Quick, 1984, p. 64).

The Type A behaviour pattern is

> "an action-emotion complex that can be observed in any person who is aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time, and if required to do so, against the opposing efforts of other things or other persons" (Friedman & Rosenman, 1974, p. 84).

The Type A, then, is hard driving and conscientious, excessively aggressive and competitive, has a chronic sense of time urgency and impatience, is preoccupied with deadlines, dislikes idleness, needs to be in control, and overreacts to uncontrollable situations (Jenkins, Rosenman & Zysanski, 1974; Strumpfer, 1983).

The Type B behaviour pattern, on the other hand, is typically less competitive, less hurried, more relaxed than Type A's. Type B's may be just as goal-orientated as Type A's, but they satisfy their needs in less stressful ways (Friedman & Rosenman, 1974). Indeed, Strumpfer (1983) cites evidence of a greater proportion of Type B's higher up the managerial ladder than lower down.

More work has been done on Type A and coronary heart disease than any other stress relationship (Ivancevich & Matteson, 1980). One longitudinal research project, the Western Collaborative Group study, was initiated in the early 1960's. Its aim was to assess the extent of Type A behaviour in over 3 000 male employees aged 39 to 59 who were free of coronary heart disease at the start of the study (see Ivancevich & Matteson, 1980). In the first follow-up after two year's (Rosenman, Friedman, Straus, Wurm, Jenkins & Moisinger, 1966), 70 participants had developed coronary heart disease of whom 77% were type A's (group average 50%). In the younger age group (39-49 years versus the older group, 50-59), the Type A-coronary heart disease link was particularly strong: Type A's experienced over six times the incidence of coronary heart disease than Type B's. After four and a half years Rosenman, Friedman, Straus, Jenkins, Zyzanski and Wurm (1970) report that 133 subjects had

suffered from coronary heart disease, and that the Type A-coronary heart disease link was significant for both age groups. In their final report after eight and a half years Rosenman, Brand, Jenkins, Friedman, Straus and Wurm (1975) found that 257 of the sample developed coronary heart disease. The coronary heart disease rate for Type A's was more than twice Type B's. Of the 1 500 Type A's 178 (12%) developed coronary heart disease.

The literature is replete with other studies linking Type A behaviour to coronary heart disease and coronary heart disease risk factors (e.g., Cooper & Marshall, 1976; French & Caplan, 1973; House, 1974; Rosenman & Chesney, 1982). More specifically, Type A's with high levels of competitiveness, impatience and hostility are particularly prone to coronary heart disease (Haynes, Feinlieb & Kaimel, 1980; Jenkins *et al.*, 1966).

Rosenman and Chesney (1982) state that Type A behaviour can be causally linked to coronary heart disease in several ways. First, Type A behaviour enhances catecholemine secretion and adrenergic output which precipitate fatal coronary events from ventricular fibrillation. Second, Type A is associated with accelerated blood clotting and increased platelet aggregation, causing myocardial infarction. Third, Type A is also associated with the severity of coronary atherosclerosis. Fourth, Type A is linked to other coronary heart disease risk factors, including serum cholestorol, serum triglyceride, excess plasma adrenocorticotropic hormones, lowered plasma growth hormone, and increased norephrine discharge. Also, under stress-induced situations, greater heart rate, blood pressure, peripheral vasoconstriction and EKG changes have been recorded for Type A's than Type B's (Rosenman & Chesney, 1982).

Although Type A behaviour typically has been treated as a main effect in the *general* stress literature (see Rosenman & Chesney, 1982), most *organisational* stress models consider Type A as a moderator variable (e.g., Beehr & Newman, 1978; Cooper & Marshall, 1976; House, 1974; French & Caplan, 1973; Strumpfer, 1983). Hence Type A behaviour is classed as

a moderator effect, rather than a main effect, in the present organisational stress model (see Figure 3.2).

Despite the strong association between Type A behaviour and coronary heart disease, no such relationship exists between Type A and measures of psychological or behavioural consequences of organisational stress (Rosenman & Chesney, 1982). Therefore, Type A has not been included as a moderator variable in the present empirical study which only assesses psychological outcomes of IR stress.

Kobasa and her associates (Kobasa, 1979a, 1979b, 1982a, 1982b; Kobasa, Hilker & Maddi, 1979; Kobasa Maddi & Courington, 1981; Kobasa, Maddi & Kahn, 1982; Kobasa, Maddi & Puccetti, 1982; Kobasa, Maddi & Zola, 1983; Kobasa & Puccetti, 1983; Maddi, 1980; Maddi & Kobasa, 1984) have developed and tested the moderating effect of hardiness, a combination of three existential constructs, namely, commitment (vs. alienation), control (vs. powerlessness), and challenge (vs. threat).

Commitment to self provides a sense of purpose that mitigates any perceived stressor.

> "Commitment is the ability to believe in the truth, importance, and interest value of who one is and what one is doing . . . and thereby the tendency to involve oneself fully in the many situations of life (Kobasa, 1982b, p. 6).

Furthermore, persons committed to others benefit from the knowledge that they can rely on people in stressful times, and that those people are counting on them not to give up under pressure. Committed persons have the skill and the desire to cope successfully with stress (Kobasa, 1982b).

Control, the tendency to believe and act as if one can influence the course of events (Kobasa, 1982b), serves as a moderator of stress in at least three ways: Following Averill's (1973) model, highly stressed but healthy people have a) decisional abilities - being able to choose among alternate courses of action how best to handle stress; b) cognitive control - to interpret, appraise and incorporate various stressors into an ongoing life plan and thereby deactivate any jarring effects; and c)

coping skill - a repertoire of suitable responses to stress (Kobasa, 1979a).

The importance of challenge as a stress resistor is based on the belief that change rather than stability is the norm. Thus, many of the disruptions accompanying stressful events are seen as an opportunity and incentive for personal development and not as a threat to security (Kobasa, 1982b). Because they value interesting experiences, change seekers have explored their environments and know where to find resources to aid them in coping with stress (Kobasa, 1979a). They are cognitively flexible and tolerant of ambiguity. This promotes effective integration and appraisal of the threat potential of even the most unexpected stressful events (Kobasa, 1982b).

Commitment, control and challenge represent interlocking parts of an orientation toward stress resistance known as hardiness (Kobasa, 1982b). The moderating effect of hardiness has been demonstrated by Kobasa and her associates in various settings. For example, Kobasa (1979a; 1979b; Kobasa & Puccetti, 1983) found that in samples of high stress executives, those classed as hardy reported significantly less illness over a three-year period than their low-hardiness counterparts. Similar trends were recorded in a five-year follow-up study (Kobasa, Maddi & Kahn, 1982).

However, only partial support for the moderating effect of hardiness was found when samples other than executives were tested. For example, Kobasa (1982a) found that only the commitment dimension of hardiness moderated the stress-strain relationship in a sample of lawyers. Ganellen and Blaney (1984), in a sample of female undergraduates, found that the commitment and challenge but not the control dimension significantly moderated the stress-strain relationship. Thus, although the initial findings of hardiness as a source of stress resistance are encouraging, more research in diverse settings is required before its applicability is finally confirmed.

Physical condition. Physical moderators of the organisational stress-strain relationship include general health (Hennigan & Wortham, 1975; Ivancevich & Matteson, 1980), physical exercise (Hennigan & Wortham 1975; Russek, 1965), diet (Halberg & Nelson, 1976; Holt, 1982; Russek, 1973), he[illegible]lity (Russek & Zohman, 1958) and family medical history (Ivance[illegible] Matteson, 1979). However, while these variables may be impo[illegible] present thesis focuses on psychological, rather than physic[illegible] a[illegible] tables, and therefore, space does not allow for detailed explanations of physical moderator variables.

Demographic variables. Several demographic variables impinge on the stress-strain relationship in a variety of ways. For example, age influences the stress process in age-related experiences (Ivancevich & Matteson, 1980). Thus age is correlated with career stage, a variable repeatedly found to moderate the stress-strain relationship (Ivancevich & Matteson 1980; Kellam, 1974). Also, Selye (1976) differentiates chronological age, (i.e., actual years lived) from physiological age (i.e., the rate of wear and tear of the body). In this regard adaptation to stress influences the discrepancy between chronologic and physiologic age (Ivancevich & Matteson, 1980).

Historically, women have neither experienced the organisational stress levels encountered by men, nor suffered their deleterious consequences (Ivancevich & Matteson, 1980). Furthermore, Ivancevich and Matteson note that for virtually all diseases of adaptation the incidence rates are significantly higher for males than females. For example, Tung (1980) found that, in a sample of school administrators, females experienced substantially lower levels of self perceived stress than males. One possible explanation for such findings is sex role difference. Men assume the more stressful roles in society (Ivancevich & Matteson, 1980). However, with women's expanding work roles, female exposure to organisational stress may become more prevalent. Chacko (1982) found that one consequence of the increased percentage of female executives is higher

female coronary heart disease rates; Jacobson (1981) reports that female managers smoke more than either their male counter-parts or non-managerial females; and Cooper & Melhuish (1980) found that female executives take more tranquillisers, antidepressants and sleeping pills than male executives. But female executives face an additional source of stress in the form of work-home role conflict (Barling, 1985; Hauenstein, Kasl & Harburg, 1977) which further aggravates the stereotyping, constraints, sexual harassment and discrimination problems facing working woman (Bluen, 1984; Brief, Schuler & Van Sell, 1981; Cooper & Barrett, 1984; Hemming, 1985).

Education, like age, may be an indirect moderator of stress (Ivancevich & Matteson, 1980). Ivancevich and Matteson suggest that variations in education are associated with different life experiences which entail differential stress reactions. More direct evidence of the influence of education on the stress process is provided by Selye (1976) who found that stress-related illness rates increased as people moved up in social status beyond where their educational level would normally dictate.

Race influences the stress process in at least two ways: the type of stressor experienced, and the social and cultural factors which magnify the impact of the stressors (Quick & Quick, 1984). Blatant prejudice is the most obvious source of work stress facing minority group members. The impact of workplace prejudice can be exacerbated by a sense of inadequacy, inferiority, or low self esteem which minority group members may bring from their social settings (Quick & Quick, 1984). Strumpfer (1983) notes that black South African managers face additional stressful circumstances such as inadequate education, and under-exposure to capitalist business environment, leading to problems with organisational socialisation and qualitative role overload; filling 'cosmeti posts especially created for blacks with no clear guidelines and objectives which cause role ambiguity and conflict and often task underload; and prejudice from threatened white employees and rejection from

fellow-blacks who regard black executives as sell-outs which further aggravates the situation (Strumpfer, 1983). In a sample of South African clerical employees, Orpen (1982) found that blacks reported significantly greater levels of role ambiguity and role conflict than their white counterparts.

Occupation type represents another moderator variable (Ivancevich & Matteson, 1980). Yet, in the present chapter occupation is viewed as a stressor (French & Caplan, 1973). Other possible demographic moderators include nationality (Orth-Gomer, 1979), domicile and socio-economic status. However, as Beehr & Newman (1978) note, empirical support for demographic moderators remains scant at this point. Further research is required before the moderating effect of there variables becomes clear.

Situational moderators. A variety of situational factors such as size of work unit, job autonomy, job enrichment; and past experience, and prediction, understanding and control of stressful events moderate the stress-strain relationship (Dohrenwend & Dohrenwend, 1978; Holt 1982). For example, Beehr (1976) found that autonomy and, to a lesser extent, group cohesiveness and supervisor support moderated the role ambiguity-psychological strain relationship. Similarly, Bedeian *et al.* (1983) report that supervisory interaction, peer interaction and organisational work facilitation significantly moderated the relationship between role stress and job performance, satisfaction and propensity to leave, respectively.

One class of situational variables, social support, has received extensive coverage and is recognised as a central situational moderator of the stress-strain relationship (e.g., Cooper, 1981; House, 1981).

> "Social support appears capable of reducing the level of at least some occupational stressors and of directly promoting aspects of health as well. The quantity and quality of people's social relationship with spouses, friends, co-workers and supervisors appear to have an important bearing on the amount of stress they experi-

ence, their overall well-being, and on the likelihood that stress will adversely effect their overall well-being" (House, 1981, p.7).

House's (1981) classification of social support, described as "the most useful typology of support content" (Tardy, 1985, p. 189), consists of four types of support (viz., emotional, instrumental, informational and appraisal support). Emotional support involves providing empathy, love, caring and trust, and is the most universally recognised form of support. Instrumental support involves behaviours that directly help the person in need. Yet such behaviour can be a sign of one of the other forms of support: giving money to someone may be a sign of caring, appraisal or information. Informational support occurs when information is given to a person to help them cope with their stressful situation (e.g., telling an unemployed person about job vacancies). Appraisal support also involves transmitting information, in this case as feedback relevant to self-evaluation (e.g., a supervisor telling a subordinate how good or bad his/her work is; House, 1981).

House (1981) also notes that social support can be offered by at least nine sources, some informal (i.e., spouse or partner, other family members, friends, neighbours, work supervisors, and co-workers), others, formal or professional (i.e., service or care givers, 'self-help' groups and health and welfare professionals). House (1981) argues that informal non-professional sources are particularly important in the organisational stress context because a) when asked to name actual sources of support subjects quote their informal sources most often; b) these sources, if effective, are preventative - they reduce the need for seeking more formal sources of support; and c) from the literature, informal sources can be most effective in reducing stressors and moderating the impact of stressors on health (House, 1981).

Although the research evidence suggests that social support moderates the effects of organisational stress (e.g., Billings & Moos, 1982; Cassel, 1976; Cobb, 1976; House, 1974, 1981; House & Wells, 1978; La Rocco, House & French, 1980; McMichael, 1978), the mechanisms and conceptuali-

sations of social support remain unclear (Tardy, 1985). Unresolved issues manifest in contradictory or inconsistent findings. For example, in comparing the relative importance of supervisors versus co-workers as sources of social support House and Wells' (1978) and Well's (1982) findings favour supervisors; La Rocco *et al.* (1980), favour co-workers, whereas Karasek, Triantis and Chaudhry (1982) report comparable support for both supervisors and co-workers. Other studies extend their focus beyond work resources but do not report non-work sources of social support as effective moderators of the industrial stress-strain relationship (Billings & Moos, 1982; Holahan & Moos, 1983).

A further unresolved issue is whether social support represents a main effect, a moderator, or both. Winnubst, Marcelissen and Kleber's (1982) results favour the buffering explanation. Conversely, Jayratne and Chess (1984) found no evidence for the buffering effects of emotional support, whereas La Rocco and Jones (1978) found support for the direct effects hypotheses but not for the buffering hypothesis. In a South African study Orpen (1982) found that both peer and leader support moderated the stress-strain relationship for black clerks but not for their white counterparts. Seers, *et al* (1983) add to the confusion: They divide moderators into two classes, buffer or coping variables. For role ambiguity Seers *et al.* (1983) found little evidence of any interaction effects whereas for role conflict, they found that coping but not buffering effects characterised the relationship.

Another criticism concerns the classification of social support. Tardy (1985) identifies five central dimensions along which social support variables should be classified, yet are often not:

1. Although most research deals with the receipt of support some studies also examine conveyance of support without clarifying this distinction.

2. A distinction must be drawn between the availability of support (i.e., the quality or quantity of available support) and support enactment (i.e., the actual utilisation of support resources).
3. Similarly, Tardy differentiates between descriptive studies which attempt only to describe social support, and evaluative research whereby people's appraisal of the support is assessed.
4. The content of the social support formulation remains confusing as many differing classification schemes have been offered.
5. The 'network', or social dimension of social support also is a source of confusion: Some studies merely describe the existence of the network whereas other evaluate the characteristics of the people in the support network.

Despite the above criticisms, social support represents a potentially important moderator of the industrial stress-strain relationship and warrants inclusion in any stress process model. More research is required before the exact mechanisms of social support are fully understood.

The same can be said of many of the other moderator variables discussed in this section. Sufficient empirical evidence exists to justify their inclusion in a model of moderating variables operating in the industrial stress process. Yet a great deal more research is required before the exact nature of the stress-moderator-strain interactions become clear.

Conclusion

In this chapter, support has been found for the existence of an organisational stress process and a variety of stressor, consequence, and moderator variables contained therein (see Figure 3.2). Obviously the inclusion of all such variables identified in Figure 3.2 in the research design goes beyond the scope of the present thesis. Instead, the current discussion was aimed at providing a framework from which relevant

variables can be chosen for inclusion in the final IR stress model. Additional clarification will be gained from subsequent chapters. A further outcome of the present chapter is the identification of certain recurring methodological problems inherent in organisational stress research. Cognizance of these problems will be taken when formulating the present research strategy. However, before discussing the empirical aspects of the thesis the contents of this and the preceding two chapters provides the groundwork for discussing stress specific to the practice of IR. It is to this end that the focus is directed in Chapter 4.

CHAPTER 4

PSYCHOLOGICAL STRESSORS ASSOCIATED WITH INDUSTRIAL RELATIONS

In the preceding chapters, some basic features of IR, stress and organisational stress have been outlined. Conflict and change are central to both stress and IR theory. It follows, therefore, that involvement in the practice of IR represents a potential source of stress. Indeed, IR events such as strikes (Barling & Milligan, 1985; Macbride, Lancee & Freeman), negotiations (Batstone, Boraston & Frenkel, 1978), and retrenchment (Kasl & Cobb, 1979) yield negative consequences for the individual. Yet, despite the personal strain associated with involvement in the IR process, no comprehensive, integrated approach to this issue has been undertaken. Even Gordon and Nurick (1981), in mapping out an agenda for the field of psychological approaches to union-management relations, did not consider the potentially stressful role of IR. The absence of any comprehensive IR stress research represents a serious omission if the deleterious personal consequences of such stressors are to be considered. Consequently, this chapter examines the stressors of IR.

The underlying assumption of this thesis is that IR is stressful because it entails conflict and change which are major sources of stress. The importance of conflict and change in IR was discussed in Chapter 1 and therefore will not be repeated here. However, what has not been discussed is the conflict and change that is central to the practice of IR in South Africa. The present chapter will begin with a brief overview of the role of conflict and change in South African IR. Thereafter, (a) specific stressors inherent in typical labour-management interactions and (b) the stress associated with key labour and management occupations will be presented.

The Practice of Industrial Relations in South Africa

In keeping with the open systems approach to IR (e.g., Bluen & Fullagar, 1986; Craig, 1975; Kochan, 1980), the examination of IR in South Africa must focus on both organisational and environmental inputs into the system. Most of the sources of conflict and change in the South African system of IR originate in the wider society and therefore cannot be overlooked. Thus in the present discussion macro-environmental sources of conflict and change that impinge on the IR process will be considered.

Conflict in South African IR

At this point in time, "the country is torn by widespread violence, resistance and state repression" (Foster, 1986, p. 35). At least 7 756 people have been arrested since the state of emergency was declared in 36 South African magisterial districts on the 21st of July, 1985 (Apartheid barometer, 1986).

Such pervasive and serious conflict in the broader society must influence the practice of IR. Foster (1986) divides South African organisations into two groups, those of the ruling class, and those of the working class which constitute the national liberation movement. Within this latter group the democratic trade unions are located (Foster, 1986). The emergent black labour movement is becoming increasingly assertive in challenging the racially exclusive political system (Lambert & Lambert, 1983), and a working class solidarity has become a priority amongst union leaders (Foster, 1982; Hindson, 1984). Thus the focus of the emergent union movement extends beyond workplace economic issues to include socio-political and cultural objectives and the formation of a working class consciousness that is committed to the struggle against apartheid (Foster, 1982; Webster, 1983, 1984). For example, shop stewards committees have been formed which consist of members from diverse companies and industries. Their aim is to deal with community issues such as pov-

erty, discrimination, social injustice, forced removals and rent increases (Webster, 1984).

The state's approach to emerging unions is contradictory. On the one hand, the Department of Manpower has endeavoured to deracialise labour legislation by scrapping Section 77 of the Labour Relations Act (job reservation) and allowing black trade unions to become registered, and thereby participate in the official system of collective bargaining. On the other hand, state repression in labour is clearly evident (Lambert & Lambert, 1983): Between 1979 and 1983 at least 127 union leaders had been detained by the Security Police (Bluen, 1986); numerous arrests of striking workers have been reported (Lambert & Lambert, 1983); and several union leaders including Niel Aggett and Andries Raditsela have died in detention. In the 'homelands', the growing trade union movement is a threat to the political power of the bantustan governments who consequently prevent or harass union affairs and detain union leaders (Cooper, 1984). In the Ciskei, recorded anti-union state actions include detention of union leaders, prohibition of union meetings and an outright ban of the South African Allied Workers Union (Cooper, 1984).

The vicious circle of escalating labour-state conflict was evidenced when the union movement responded to the deaths in detention of Aggett and Raditsela by conducting political strikes. Lambert and Lambert (1983) observe that the Aggett strike, which mobilised over 100 000 workers nation-wide, not only commemorated Aggett's death but also served as a warning that state repression against labour leaders will not be tolerated. Similarly, approximately 14 000 workers stayed away from work to attend Raditsela's funeral and approximately 107 500 organised workers (25% of the emerging union membership) took some form of commemorative protest action (South African Labour Bulletin, 1985).

Worker protest against state action manifests in forms that disrupt sound labour relations: Despite the recessionary climate, the incidence of strike activity in South Africa has increased in the last few years, contrary to expectations (Bluen & Fullagar, 1986). This trend suggests

that the traditional IR explanations for strikes (i.e., that strike incidence is inversely related to the economic climate (Allen & Keaveny, 1983)) is inadequate when trying to understand labour unrest in South Africa.

Macro-environmental forces are closely linked to the practice of IR and therefore must be considered. Two case studies illustrate socio-political influences on labour unrest. First, Van der Merwe (1983) explains the high incidence of unrest in the Eastern Cape. He begins by de-emphasising the traditional reasons for the unrest (i.e., that the Eastern Cape is particularly strike-prone; that the area is dominated by multinationals whose liberal policies predominate; and that the area is plagued by agitators). To understand the source of unrest Van der Merwe suggests that it is necessary to examine certain environmental factors.

First, the black population in the Port Elizabeth/Uitenhage area live in some of the worst socio-economic conditions in the country. Housing funds are inadequate and "lack of services, overcrowding and squalid shack areas are the norm. An estimated 250 000 people live in about 30 000 houses" (Van der Merwe, 1983, p. 9). Second, most of the population live in one contiguous area. This provides unique opportunities for the formation of solidarity movements. Indeed, strong community organisations such as the Port Elizabeth Black Civic Organisation have developed. Third, the Eastern Cape has been a seat of black political and intellectual thought. Political leaders (e.g., Buthelezi, Biko, Mandela, Matanzima, Mugabe, Sobukwe and Tambo) either were born or educated in the region. Fourth, the area housed three major motor companies that were situated close together, highly visible and anxious not to generate negative publicity in their overseas head offices. These companies afforded ideal opportunities for union organisation. Finally, Van der Merwe cites the relative deprivation concept to explain the industrial unrest: "It is not the most oppressed who rise first, but rather those whose further expectations are frustrated" (Van der Merwe, 1983, p. 11). During the early 1970's employment levels in the Eastern Cape

were high and workers experienc' ' real wage gains. Subsequent inflation and unemployment have corroded these gains while expectations, especially amongst the growing percentage of young, matriculated black workers, have risen. Consequently, the gap between expectations and actual need satisfaction is steadily widening, which has a profound impact on unrest. Gurr (1971) argues that relative deprivation is the "most common and potent accompaniment of political violence or revolutionary behaviour" (Schlemmer, 1983, p. 8).

The second case of environmental effects on labour unrest is Rigby, Radford and Bennett's (1986) account of the two-day mass stay-away in November, 1984. Approximately 90% of workers in the Vaal Triangle and East Rand responded to the call of trade unions and other organisations and stayed away from work. (Rigby *et al.*, 1986). Rigby *et al.* (1986) list several precipitating events leading up to the stay-away: Rent increases in September, 1984 initiated spontaneous protest and unrest in Transvaal townships, leading to security force clashes with residents. Student boycotts were in progress at the time and schools in troubled areas were closed early for the September holidays. Increased unrest was further aggravated by continued police presence in the townships and the seventh anniversary of Steve Biko's death on the 12th of September. Indoor gatherings were banned in 21 magisterial districts, and in the month of September, 65 people died because of the unrest. Damage to property was estimated at R30 million. During October, unrest continued. The police responded by conducting house-to-house searches at 3 am on the 23rd of October, arresting 358 people. In response to the continued security force presence in the townships, the escalation in conflict, and the rising black worker discontent the stay-away occurred. During the two days of the stay-away the accompanying unrest resulted in 22 deaths. One of the negative IR consequences of the stay-away was that Sasol summarily dismissed 6 000 employees for staying away from work for the two day period.

The accounts of unrest in the Eastern Cape and the Transvaal reveal a) that industrial unrest cannot be separated from the racial and political discontent that permeates the current South African society; and b) that the actions and counter-actions of the state and labour constitute a vicious circle of unrest in the society that influences *inter alia* the practice of IR. Thus the traditional conflict of interests that characterises IR (Fox, 1966) is exacerbated in South Africa by a system of racial capital (Foster, 1986). Historically, state policies of influx control, job reservation and restrictive IR legislation suppressed black workers and the development of black trade unions. At the same time, these policies have been of great benefit to the state and capital at the expense of black workers (Foster, 1986). Douwes Dekker (1981) identifies two racially discriminating systems operating in South Africa. The job colour bar ensures the privileged position of whites through black political disenfranchisement. The exploitation colour bar operates to restrict black acquisition of skills or freely selling labour. Other manifestations of structural racial discrimination in our society include disproportionate land allocation which causes an overcrowding of blacks into rural slums. Second, 30% of the national budget is spent on defence while amenities for blacks such as health care, education and housing remain totally unacceptable. Third, since 1960, approximately 3,5 million people have been forcibly relocated. Fourth, racially-discriminatory legislation is still evident on the Statute Book (Douwes Dekker, 1984).

The racial oppression in South Africa has led to high levels of socio-political discontent. Schlemmer and his associates (Schlemmer, 1983; Schlemmer, Geerdts & Van Schalkwyk, 1984) report that 80% of black workers surveyed are unhappy with the status quo, 50% expressed feelings of anger and impatience, 60% saw the mass strike as a political weapon, and virtually the entire sample discussed the potential for political violence and unrest, of which 25% adopted a militant orientation and an emotional preparedness to take action. These feelings form part of the

worker's 'emotional baggage' which accompanies him/her to work each day. It is within the broader socio-political context that the practice of IR in South Africa must be located: "The normal structural conflict of interests between management and workers becomes aggravated by the additional factor of poor race relations" (Schlemmer *et al.*, 1984, p. 48).

These environmental factors aggravate the already problematic demographic composition of the economically active population in several ways. For example, heterogeneity of the workforce causes intergroup conflict (Bluen & Fullagar, 1986; Gilbert, 1980); serious deficiencies in the education and training of manpower aggravates the current skills crisis (Spence, 1986); and the black population explosion greatly exceeds the rate of job creation which further exacerbates the existing unemployment crisis (Sadie, 1981; Spence, 1986). Because of these forces, workplace practice is fraught with problems such as an overloading of managerial responsibilities (Strumpfer, 1983), racial discrimination (Bendix, 1984; Bluen, 1984; Lombard & Palmer, 1982), worker victimisation (Horwitz, 1982), a white worker 'backlash' against black advancement (Chalmers, 1986; Cooper, 1983; Douwes Dekker, 1981), and an increase in industrial action (Bluen & Fullagar, 1986; Lambert & Lambert, 1983). As Kamfer (1982, p. 35) aptly understates, "Observers are likely to agree that in present South African industrial relations a high level of conflict exists." Consequently, in this current climate of unrest, the practice of IR in South Africa is extremely stressful.

Change as a Dynamic of IR in South Africa

Change is both a cause and a consequence of conflict in South Africa. The Durban strikes in 1973 and the Soweto Riots in 1976 served as important precipitating factors leading to the appointment of the Wiehahn Commission and subsequent restructuring of labour legislation and practice (Godsell, Bluen & Malherbe, 1981). In turn, the development of the new labour dispensation in South Africa has been accompanied by large-

scale conflict both between labour and management (Webster, 1984), and within the labour movement itself (Cooper, 1983). "The conflict and confrontation which undoubtedly still will be seen is, however, inevitable during the formative stages of the management-trade union relationship" (Van der Merwe, 1983, p. 13).

Over the past seven years, the pace of change in IR has been rapid. Labour legislation has moved from a racially-based dualistic system of worker representation to a policy of being non-racial: Statutory job reservation has been removed (except in the mining industry), and the registration of unions, a prerequisite for participating in the official system of collective bargaining, has been opened to all races (Piron, 1986). The Industrial Court has been established and has attempted to resolve diverse disputes of interest and rights in the IR field, with specific attention being given to the resolution of unfair labour practices (Haysom, 1984). Union membership has doubled from 808 053 in 1979 (National Manpower Commission, 1983) to 1 545 822 in 1983 (Human Sciences Research Council, 1985), and the greatest area of union growth has been in the emergent predominantly black trade union movement (National Manpower Commission, 1985).

The emerging unions have brought a new form of collective bargaining to the South African system, namely, plant-level recognition agreements (Piron, 1984). By the end of 1983, emerging unions had established an organising presence at over 750 plants of which at least 420 had been formalised by recognition agreements (Webster, 1984). The emergent unions have also introduced new topics to labour-management negotiation agendas. These topics (which previously were limited to unilateral managerial prerogative) include health and safety practices (Myers & Steinberg, 1984), maternity benefits (Webster, 1984), and in-company IR procedures such as grievance, discipline, dismissal, retrenchment and dispute procedures (Douwes Dekker, 1985; Webster, 1984). Consequently, the resultant agreements have led to changes in the practice of workplace IR. Unilateral, paternalistic management has given way to joint labour-management

decision-making and implementation of IR structures and procedures (Haysom & Webster, 1984; Steenkamp, 1984). Also, within the labour movement itself, dramatic union growth has resulted in inter-union rivalry (Webster, 1984), a 'backlash' from established white unions (Rigby *et al.*, 1986), concerted and problematic attempts at unifying the labour movement (Hindson, 1984), and increased worker demands for politicisation, participation and democratisation of the labour movement (Foster, 1982; Lambert & Lambert, 1983).

The rapidly changing South African IR system leaves management and workers feeling unfamiliar about how to behave appropriately (Kamfer, 1982). The adjustment process is particularly stressful because the speed of change is so rapid that much less adaptation time is available than was the case in other industrialised countries (Douwes Dekker, 1985).

The present discussion has served to show how the central dynamics of IR, namely, conflict and change, are particularly prevalent in South Africa. Given that conflict and change serve as central sources of stress, it can be argued conceptually that involvement in IR, particularly in South Africa, is potentially extremely stressful. The second part of this chapter details precisely how involvement in IR can be stressful. Certain aspects of the labour-management relationship and the particular stress associated with key IR roles will be examined.

Practical Examples of the Stress of IR Involvement

The stress involved in the IR process can be understood further by examining aspects of labour-management interactions. Thereafter, a variety of stressors associated with the typical day-to-day activities of three labour roles (namely, union leaders, shop stewards and workers) and three management roles (namely, upper management, supervisors and IR managers) will be discussed. Throughout these discussions, reference will be made to the various kinds of organisational stressors covered in Chapter 3.

The Stress Associated with the Labour-Management Relationship

The labour-management relationship is a complex, conflictual and idiosyncratic phenomenon composed of many interrelated facets. Stagner, Derber and Chalmers (1959) provide an example of the complexity of this relationship. They analysed union-management relations in 41 organisations and identified ten discrete factors characteristic of the union-management relationship: management satisfaction, local settlement of disputes, union satisfaction with relations, union achievement, bargaining style, skill of the workforce, union's satisfaction with achievement, size, legalism and effective grievance handling (Stagner *et al.*, 1959). Subsequently, Stagner (1962) found that the personalities of top management and trade union leaders may significantly modify the course of union-management relations. Also, union-management relations are influenced by a wide array of external economic, political, demographic and social factors (Kochan, 1980).

Not only is the union-management relationship multifaceted, it is also complicated by the inherent conflict of interests between the parties (Fox, 1966). Furthermore, Douwes Dekker (1981) identifies two ways in which South African management respond to union advances. In the open (pluralist) approach management accept the principles of freedom of association and regard the union as a legitimate representative of the workforce with whom they are prepared to negotiate. Conversely, management adopting the closed (unitary) approach is characterised by autocratic, paternalistic practices and a view the union as an unwelcome intruder. Thus from a structural view the labour-management relationship is potentially stressful, particularly if management adhere to a unitary frame of reference (Bluen, 1983a, 1986).

The idiosyncratic nature of the union-management relationship is evident from the results of a study by Driscoll (1981). He found that 69% of his sample consisting of labour and management representatives expressed feelings of role conflict for participating in joint cooper-

ative labour-management problem-solving ventures. Not only is the expected labour-management conflict stressful therefore, but attempts at cooperation are also stressful as they induce role conflict.

It is within this multifaceted and conflictual context that the labour-management relationship needs to be examined. Specifically, four aspects of the labour-management relationship have been identified for discussion: establishing the relationship, labour-management decision-making, implementing an agreement and breakdowns in the relationship.

Establishing the relationship. Given the traditionally adversarial nature of the union-management relationship (Berger, Olson & Boudreau, 1983), establishing such a relationship is potentially stressful for both labour and management. Three aspects of establishing the union-management relationship are seen to be particularly stressful: a) management's negative stereotypes of union leaders, b) anti-union managerial strategies, and c) union confrontation tactics.

The delicate task of forming a bond between two hostile groups (labour and management) is aggravated by the negative stereotypes with which trade unions have become associated. Kochan (1979) reviews several empirical investigations where union leaders were seen by the public (a) to be more interested in their own benefits than in the needs of their members; or (b) to have accumulated too much power including having influence in political elections, legislation and government. Generally, union leaders are held in very low esteem relative to business leaders, government officials, religious leaders and college professors (Kochan, 1979).

When approached by unions, management may experience fear derived from certain stereotypes of unions. Trade unions are seen as militant organisations capable of causing financial, social and personal loss. Union leaders are often believed to be motivated by their own economic interests which they secure by exploiting workers (Kluen & Van Zwam,

1983). Unions can also be seen as politicising agents who use their power to change the social order, or as conscientising agents who alert workers to the negative aspects of the organisation and thereby threaten the general IR climate (Goldberg, 1981). The extent of attitudinal differences that exist between labour and management can be seen from a study by Schwartz, Starke and Shiffman (1970). They compared union and management leaders' judgement of 19 common, emotionally-laden IR words. They found that certain words with clear, conventional meanings (e.g., strike, solidarity, grievance) elicited predictable preferences in the union groups and aversions in the management groups.

Managerial responses to approaches by trade unions are typically based either on resentment or fear of the union (Allen & Keaveny, 1983; Bluen & Van Zwam, 1983). Management feel resentful of unions encroaching and limiting their decision-making rights. This anger is particularly prevalent when management accept the unitary ideology and reject alternate sources of power and authority. Usually, attitudes are notoriously resistant to change (Gilbert, 1980), and any attempts to enforce such changes (e.g., by trying to replace a unitary with a pluralist perspective) are strongly resisted.

Witte (1954) identifies two anti-union possible managerial strategies. On the one hand, a hard-line, hostile approach has been adopted, characterised by practices such as using strike breakers, open shop drives, court injunctions and industrial and electronic spies to suppress union organising efforts (Allen & Keaveny, 1983; Kochan, 1980; Witte, 1954). South African examples of closed responses to union advances include the use of industrial spies, attempts to establish in-company employee representation systems in an effort to keep unions out, engineering 'sweetheart' relationships with moderate unions in an attempt to exclude the more 'radically' perceived unions, and using the law as an excuse not to deal with union demands (Bluen & Van Zwam, 1983). These anti-union management practices can render the initial stages of the union-management relationship particularly stressful.

The second anti-union approach is more subtle: Management supply employees with better benefits than the union could offer. Characteristics of this 'American-style non-union approach' include an anti-union management philosophy, a high level of organisational loyalty, a human relations approach to communication and supervision of employees, generous wages and working conditions and promoting the unitary idea of 'one big happy family' that unions are intent on disrupting (Jones, 1984). A South African example of this subtle anti-union approach was provided when Colgate refused to recognise a union that claimed majority representation. Management stated that they were "opposed to the unionisation of our workforce because we believe that, as enlightened employers, no union can do more for our employees than we can" (Gordon, 1981, p. 175).

Faced with strong management resistance, unions can respond with confrontation tactics to persuade management to negotiate. The union could conduct wildcat strikes as a show of strength in the company (e.g., Baskin, 1982). Legal avenues open to the union facing managerial resistance include a) use of the unfair labour practice machinery via the Industrial Court to enforce negotiations in good faith; b) declaring a dispute of interest via industrial council or conciliation board, whereby the union can initiate legal strike procedures; and c) the Industrial Court, an industrial council or conciliation board can be used to address any issue alleged as an unfair labour practice (e.g. unfair dismissal, victimisation, unsafe conditions, changes in working practice), with the underlying objective of attracting negative publicity toward the employer (Jones, 1985). Thus establishing the union-management relationship is fraught with fear, resentment and uncertainty and the potential for hostile actions such as planting spies, using force, intimidation, legal action, bad publicity and violence (Allen & Keaveny, 1983; Jones, 1985), all of which can be particularly stressful.

Labour-management decision-making. According to Dunlop (1958) and Flanders (1968), rules form the central core of the study of IR. Two types

of rules exist: procedural rules, which govern the rule-making process; and substantive rules which constitute the content of the agreement and include such items as wage rates and conditions of employment. Procedural rules are particularly relevant to the stress process.

Involvement in decision-making reduces role conflict and role ambiguity (Morris *et al.*, 1979; Schuler, 1980) and psychological strain (Jackson, 1983; see Chapter 3). Such effects are most pronounced for the lowest status jobs (Karasek, 1979). Nevertheless, involvement in decision-making is a complex process (see Segovis & Bhagat, 1981) containing some stressful aspects.

At the centre of the IR-related participation problem is the question of who chooses to get involved in any participative project. Within the human relations approach, participative schemes are typically imposed by management. The schemes fit in with existing company policy and authority structures and are seen as attempts to make the status quo more palatable by improving the organisational climate surrounding them. Far from genuine power sharing, such ventures are likely to increase managerial control (Koch & Fox, 1978).

> "If participation is forced ... the attitude of both management and non-management personnel are likely to be more antagonistic than when participation in decision making is increased voluntarily" (Jackson, 1983, p. 17).

On the other hand, where unions are operating effectively, participation is not given by management, it is demanded by labour. Once the 'voluntary nature' of imposing participation is removed from management, the process could become stressful.

There are several ways in which worker-oriented participation can be stressful. First, because participation in decision-making is related to the values of participants (Wood, 1979), manifest conflict could arise in the IR context where the values of labour and management compete (Flanders, 1968). Second, participative management in the IR context can actually threaten rather than enhance managerial control. Strauss (1982) cites examples where worker participation threatened supervisory power

and altered or even eliminated their jobs altogether. Supervisors' power may be taken from them and handed to workers' committees. Strauss quotes a British Steel worker director who said:

> "Management below board level... become unsure of themselves, realising that now I had access to levels of information they didn't have... One day the department manager is my boss... The next day I'm off to a board meeting and it's a meeting he'd love to go to." (Strauss, 1982, p. 24).

Participation can also aggravate the structural conflict of interests between labour and management (Galin, 1981). Galin and Tabb (1978) report instances of management resenting worker participation schemes because they saw the schemes as an intrusion on managerial authority.

Strauss (1982) raises a further issue, the problem of confidentiality: Because workers involved in the decision-making process gain access to confidential information, management communications to worker representatives can be censored in the interests of company security. Indeed, worker participation raises a dilemma of trust: Do you disclose information to worker directors who might later use that information against you in labour-management power relations? Or do you withhold the information and thereby jeopardise the effectiveness of the participative endeavour? However, confidentiality is not a major problem. Worker directors invariably use discretion in deciding what they pass on and the confidentiality of secrets is usually respected (Strauss, 1982).

Participation can also lead to conflicts of choice (Galin, 1981). Worker representatives in participative decision-making schemes must at times support decisions that oppose worker interests and at other times, oppose decisions that are essential for the long-term good of the organisation. Such choice conflict is potentially extremely frustrating (Galin, 1981). In several reported cases worker representatives resolved their dilemmas by identifying with management and loosing worker support in the process (Strauss & Rosenstein, 1970; Tabb & Galin, 1970).

Further problems emerge. Worker representatives may be seen as a threat to the union, while rivalry concerning who truly represents worker

interests (i.e., worker representatives, shop stewards or union officials) may develop (Strauss, 1982). Goodman and Lawler (1977) report that the joint union-management quality of worklife project caused such intra-union conflict that the union was eventually forced to withdraw its support for the project. Finally, the credibility of participation schemes could be questioned by unionists who see it as a way of exploiting workers to increase profits (Koch & Fox, 1978). These events are all potentially stressful.

Collective bargaining is the second form of union-management decision-making to be discussed. Bargaining is a complex process that attempts to resolve manifestations of the fundamental labour-management conflict of interests. Even where cooperation could be mutually advantageous, shared purposes may not develop and interaction may be regulated antagonistically rather than normatively (Deutsch & Krauss, 1960). Consequently, the stress potential of collective bargaining warrants investigation.

Depending on the issues being negotiated and the prevailing relationship between the parties, the negotiations can either be distributive or integrative (Walton & McKersie, 1963). Distributive bargaining is used when the parties are pursuing incompatible goals (e.g., wages). Because the parties are negotiating over a fixed amount, a gain by one side represents a loss to the other. So the potential for conflict is great (Walton & McKersie, 1965). Conversely, the aim in integrative bargaining is to solve problems in a mutually beneficial manner (Walton & McKersie, 1965).

Several tactics are used in distributive bargaining to strengthen one's own position and weaken the opposition's. Anstey (1986) lists such tactics as withholding or delaying the disclosure of information, using time pressures, staging walk-outs, making offers publicly, behaving aggressively, being inconsistent in one's attitudes and behaviour, threatening or actually using sanctions, making moral appeals, and showing up weaknesses, inconsistencies and omissions in opponent's ar-

guments. An obvious outcome of such tactics is the risk of increasing the conflict between labour and management (Allan & Keaveny, 1983). These power tactics are frustrating (Atkinson, 1975). For example, one tactic would be to withhold or distort information (Driscoll, 1981; Schuler, 1979), which is stressful (Segovis & Bhagat, 1981).

Second, Deutsch and Krauss (1960) found that in the bargaining situation there is a tendency to threaten the other party so that they modify their initial bargaining position. Thus, unions threaten to strike, go slow or work-to-rule while management threaten to lockout dismiss or even to close a plant (Douwes Dekker, 1985). Indeed, the entire power balance in negotiations is based on maximising the other side's cost of disagreeing (e.g., by threatening a strike) and minimising their costs of agreeing with your proposals (Allan & Keaveny, 1983). Consequently, there is a great deal of uncertainty in the negotiations: Neither party is sure of how far the other side is prepared to go in carrying out its threats.

Another aspect of uncertainty in negotiations concerns the outcome. Such outcomes can be particularly stressful for negotiators who are evaluated on the results they obtain (Segovis & Bhagat, 1981; Stephenson, 1981). Also, negotiators are now acting in personal capacities. Instead, they have a set of obligations to which they must respond. The stress inherent here is particularly pronounced when negotiators have little latitude in determining their positions yet are held accountable for their performance (Stephenson, 1981).

A further stressor facing negotiators is person-role conflict. This would occur if the negotiators are forced to pursue issues that are in conflict with their personal values and beliefs. Batstone *et al.* (1978) quote excerpts from an interview with a manager involved in such negotiations

> "...I've got to follow the company line, and the same's true of (the steward). Because of our jobs we could well find ourselves fighting, each against what we thought was right" (p. 175).

If negotiators do not adhere to their mandates they could find themselves in the distressing position of the party they represent not being prepared to accept or ratify the agreement (Stepp, Baker & Barrett, 1982).

There are also problems with integrative bargaining even though its orientation is not conflictual. Allen and Keaveny (1983) discuss two dilemmas confronting negotiators. Besides the problem of disclosure mentioned earlier, there is also the issue of trusting what you are told by the other side: To what extent is it the truth and to what extent is it part of the other party's overall strategy to ensure that you believe what they tell you? Thus even though integrative bargaining focuses on mutually beneficial issues it cannot escape the fundamental conflict of interests of the labour-management relationship.

One example of stress in integrative bargaining is joint union-management involvement in quality of worklife projects. Although these programs have produced positive effects such as improving employee health while reducing stress levels (Davis & Sullivan, 1980), quality of worklife programs themselves can become a source of stress. There appears to be a pervasive tendency for both labour and management to be wary of each other. Thus an adversarial orientation may be maintained even in the context of developing 'cooperative' programs (Greenberg & Glaser, 1981). Schuster (1982) cites problems of establishing a cooperative framework (i.e., cooperation cannot be imposed externally), differentiating between the cooperative and adverserial components of the union-management relationship, and ensuring the continued positive attitudes between the parties. Yet information sharing occurs best in situations of high trust (Allen & Keaveny, 1983). If labour and management are able to overcome their mutual distrust, they face a further problem concerning role conflict. The substitution of traditional distributive bargaining tactics with a problem-solving, cooperative approach has been found to leave negotiators facing conflicting expectations from the parties they represent (Driscoll, 1981). Furthermore, trade unionists express concern about the dangers of being seen as collaborationists or

management stooges and thereby loosing credibility with their members if they appear too soft in their negotiations with management (Anstey, 1986). Thus collective bargaining, whether in a distributive or an integrative form is a potentially stressful experience.

Implementing the agreement. Whereas collective bargaining involves conflicts of interests, implementing negotiated agreements often entails conflicts of rights (Douwes Dekker, 1985). Stressful aspects regarding the day-to-day activities of IR in organisations will be considered in some detail when the various labour and management roles are discussed. Therefore, only a few observations regarding the stress associated with implementing the labour-management relationship will be made here.

The negotiation of a wage agreement usually results in changes in wages and working conditions. These adaptations could be stressful (cf. Dohrenwend & Dohrenwend, 1974), especially if they are not favoured by the people involved (Rabkin & Struening, 1976). For example, not receiving an expected increment could increase the worker's stress associated with reorganising his/her budget, standard of living and family problems. Similarly, being compelled to cut back on departmental spending because of negotiated increases in labour costs can be a source of stress for management.

Second, the handling of in-company IR procedures such as disciplinary and grievance procedures can be stressful because they are concerned with resolving conflict at its source of origin (Van Coller, 1979). As such they usually involve sensitive issues and emotionally-charged situations (Briggs, 1981). The stress potential of implementing grievance procedures is further aggravated because grievances can lead to serious work stoppages resulting in people loosing their jobs (Douwes Dekker, 1985). The conflict potential of implementing workplace IR procedures is aggravated in South Africa because both unions and management are inexperienced in coping with the expression of union power in the workplace (Douwes Dekker, 1985).

Bendix and Bendix (1983) found that 40% of strikes covered in their survey were caused by grievances against supervisors or managers, and a further 23% from alleged unfair dismissals. Thus almost two-thirds of the strikes resulted from perceived unfair managerial implementation of IR procedures (Bendix & Bendix, 1983).

A further indication of the conflict (and therefore stress) potential of implementing IR systems is gained by examining the reasons given for Industrial Court action. In an analysis of 1982-1983 cases Bendix (1984) includes the following unfair labour practice allegations clearly related to implementing labour-management agreements:- victimisation, retrenchment irregularities, refusal to use established negotiating procedures and general failure to use agreed IR procedures.

Finally, one item of negotiated agreements that is particularly stressful is the retrenchment procedure. Four stressful phases are associated with retrenchment; the anticipation stage, the unemployment stage, the job seeking stage, and the re-employment stage (Kasl & Cobb, 1979).

Breakdowns in the labour-management relationship. Thus far, it has been implied that labour and management are able to resolve their differences. In practice however, this does not always occur. Instead there is often a breakdown in the relationship which leads to a strike or lock-out or other disruptive situations (e.g., industrial sabotage, boycotts). Hartley (1984) claims that the most observable manifestation of industrial conflict is strike action ensuing from breakdowns in collective bargaining.

The personal consequences of a strike might be beneficial: One school of thought maintains that strikes ensure the release of emotions necessary for the continuation of the free collective bargaining system (Hameed, 1976). The catharsis experience obtained in the early stages of a strike could mean a saving of many more work-hours lost in later strikes or other forms of conflict. Shirom (1982a) suggests that strikes bring

about better understanding and communication and improve intergroup relations. Furthermore, Stagner and Eflal (1982) found that union leaders acquire additional prestige and greater influence over their members during a strike. Members are more willing to cooperate in union activities, and any gains achieved through a strike are more highly valued than comparative gains obtained without a strike. Nevertheless, there are numerous aspects of strikes that exert negative personal consequences.

Milburn, Schuler and Walman (1983) state that organisational crises (such as a strike) cause short-, medium-, and long-term stress responses. More specifically, Macbride *et al.* (1981) measured the psychological responses of disputing Canadian air traffic controllers at three points in time: during a labour dispute, four months later and a further six months thereafter. They found that during the dispute the controllers evidenced a dramatically high level of psychological distress (e.g., increased feelings of worthlessness, depression and strain) and a deterioration of perceived general functioning, physical health and psychological well-being compared with their responses during each of the two follow-up periods. Nonetheless, the lack of both a pretest measure and a control group limited the generalisation of their findings. Barling and Milligan (1985) assessed the psychological impact of a 22-day strike by Canadian teachers and school counsellors. They found that negatively-perceived IR events measured immediately after the strike caused unfavorable changes in psychological health measured two and six months later (Barling & Milligan, 1985).

What then are the factors that contribute to the stress of a strike? There is a paucity of psychological literature addressing this issue since access for psycho-social researchers during a strike is extremely difficult. However an indication of the stress associated with a strike can be obtained from the few case studies and reports that do exist.

A particularly informative account of the personal experiences of different groups of people involved in a strike at an hotel is given by

Wood and Pedler (1978). At the start of the strike the workers were scared. Management felt that the spontaneous, unplanned strike had started because the union could not control its members. The first morning of the strike was chaotic for management who had to maintain guest services despite the strike. The early weeks of the strike were marred by threats, lies, obscenities and physical violence from pickets whose ranks had been swelled by outsiders.

Before the strike the union officials felt pressurised from their members who were becoming frustrated with the lack of progress in the union-management negotiations. The workers rather than the union officials initiated the strike, but once it began the union leaders declared it official. Nonetheless, the union leaders felt frustrated: They would have planned the strike differently had they started it. Also they did not use the full power of the union to win [illegible] because of the potential damage to public opinion that such a move might have caused. Hence the union officials were limited in their actions both by their members and their perceptions of public opinion.

For the non-striking workers the strike was equally stressful. On the first day, they were unsure of what was happening. They were confronted by hostile pickets as they tried to enter the hotel to seek advice from their supervisors; established colleagues called them 'scabs'. The non-strikers were extremely afraid and upset over such incidents. They also remarked at the end of the strike that many of the unskilled and older strikers would find it difficult to find alternative employment. Wood and Pedler (1978) observed that the various parties saw the strike in completely different perspectives. The misunderstandings, inaccurate information and sheer ignorance of the other party's position that characterised the strike led to polarisation and an escalation of conflict.

Other reports also demonstrate the stressful nature of strikes. Thompson and Borglum (1973) report that throughout the course of an eight month strike in a multi-plant meat packaging organisation in the United

States of America, there were acts of violence against people and property including gunfire, explosions and sabotage. Lane and Roberts (1971) report on the Pilkington strike where serious divisions *within* the union occurred between the leaders and the rank-and-file members. Similarly, the polarisation of management and worker attitudes and behaviour intensifies hostility between management and workers (Nicholson & Kelly, 1980). Shirom (1982a) refers to the spillover effect where the hostility between labour and management carries over to the post-strike stage and becomes manifest in acts such as reduced productivity and sabotage. Barling and Milligan (1985) list several additional stressors associated with strikes. These include inter- and intra-group conflict, sudden changes in employment and financial status, the uncertainty of strike outcomes, and shifts in the central issues and relationships between management and labour representatives which require fundamental, rapid role changes by those concerned (Barling & Milligan, 1985). The strike can also exert negative consequences in both the community and the family where the strike results in a reduction of family income.

South African strike reports also reveal a host of stressful events: Strikes have been associated with acts of violence, and police intervention that includes the use of teargas, baton charges and arrests of striking workers (Lambert & Lambert, 1983). The level of violence may well escalate if management employ 'scab labour' or the use of strike breakers (Douwes Dekker, 1985; Lambert & Lambert, 1983). The extent of potential violence of a strike can be seen from the fact that strikers in South Africa have been seriously injured or even killed during a strike (Rigby *et al.*, 1986). Managerial responses to strikes can add a further set of stressors to the situation. In South Africa such actions include lock-outs, evictions, bussing striking workers back to the 'homelands' and dismissals (Golding, 1985; Lambert & Lambert, 1983; Rigby *et al.*, 1986). Large-scale dismissals of striking workers (e.g., 17 000 workers dismissed in the Western Transvaal; Cobbett & Lewis, 1985) are becoming familiar occurrences in South African IR practices.

Thus far, attention has been focused on the stress associated with four aspects of union-management interactions (viz., establishing the relationship, labour-management decision-making, implementing the agreement and breakdowns in the labour-management relationship). In the next section the stress associated with three labour roles and three management roles will be examined. Although no clear distinctions can be drawn between the four aspects of labour-management interactions discussed above and the roles fulfilled by various people involved in IR (see below), these two aspects of the stress associated with the practice of IR are presented separately to enhance clarity.

Stress Associated with Different Labour Roles

Involvement in trade unions can be extremely stressful for individuals holding diverse roles. Three particular roles can be identified in this regard - the union leader, the shop steward and the rank-and-file member (see Table 4.1).

Stressors encountered by the union leader. While a plethora of literature exists detailing managerial stress (e.g., Ivancevich & Matteson, 1980; Moss, 1981; Strumpfer, 1983, 1986), and to a lesser extent, the stress of blue collar workers in general (e.g., Shostak, 1980), there is a paucity of research outlining the stress experienced by union leaders. This represents a serious omission in the literature, especially when the multitude of stressors union leaders encounter is considered: As an organisation, the union contains several stress-inducing contradictions which provide several sources of stress for the union leader, namely, (a) the bureaucracy-democracy dilemma; (b) role ambiguity caused by ambivalent attitudes of members; (c) problems meeting with members causing role conflict; and (d) limited financial resources causing role overload.



Table 4.1

Stressors experienced by people involved in the practice of IR

IR Role	Stressors				
	Role Ambiguity	Role Conflict	Role Overload	Labour-Management Hostility	General Stressors
Union Leaders	Ambivalent authority. Ambivalent member attitudes.	Irregular work hours: Work and family inter-role conflict.	Short-staffed: Quantitative overload.	Conflicting union-management goals.	Bureaucracy-democracy dilemma.
Shop Stewards	Unclear performance guidelines.	Irregular work hours: Work and family inter-role conflict. Responsible to many people: inter-sender conflict. Values/behaviour clashes; Person-role conflict.	Short-staffed: Quantitative overload. Insufficient training: Qualitative overload.	Initiation and handling of conflict.	
Workers	Dilemma of whether to join a union.	Union vs. management demands: inter-sender conflict.		Intimidation to *join the union.* Victimisation by anti-union management.	Poor objective *and subjective* working conditions.
Upper Management		Diverse responsibilities; inter-sender conflict.		Union challenge managerial prerogatives. Conflicting labour-management goals.	
Supervisors	Limited authority.	Face-to-face interactions: inter-sender conflict.	Insufficient training: Qualitative overload.		
IR Management	Limited authority. Regarded suspiciously by both labour and management. Discrepancies between company policy and practice.	Intra-organisational and labour-management interactions: inter-sender conflict. Values/behaviour clashes; Person-role conflict.			Uncontrollable environmental forces interrupting IR systems.

One conflict faced by union leadership is the bureaucracy-democracy *dilemma*. The democratic principle and the relevance of union policies to the members' everyday lives are held in high regard (Coleman, 1956). Unions are often borne as an expression of opposition to autocratic management practices (Coleman, 1956). The importance of democracy in trade unions can be seen from Stein's (1972) comment that traditionally and philosophically, the trade union is a democratic institution which differs from other types of associations (notably business organisations) in the extent to which it emphasises internal democracy. Furthermore, one reason workers join unions is to achieve a greater degree of participation on the job (Kochan, 1979). Thus participating in decisions that influence their working lives is often crucial for workers (Anderson, 1978). This is particularly true in South Africa where traditional forms of political decision-making are denied for black workers (Lambert & Lambert, 1983). Therefore, the union leader must remain attuned to the members needs whenever he/she makes decisions.

However, if one accepts the universal applicability of Michels' (1959) 'iron law of oligarchy' which states that all organisations have a tendency to move from democratic to bureaucratic practices in both decision-making and decision implementing, then in their own functioning, trade unions frequently betray their democratic philosophy and ideals (Jackson, 1977). In fact, many authors emphasise the need for unions to rationalise their structure, adopt more planning and control mechanisms and develop natural expertise to be more effective (e.g., Anderson, 1978).

Michels himself stated that bureaucratisation was eased by the incompetence of the *masses*. Thus the union leader is faced with the often conflicting objectives of running an organisation that can deal effectively with management while simultaneously ensuring that the internal *processes* of the union remain suitably democratic. Ursell, Nicholson and Blyton (1981) refer to this paradox as the inevitable tensions between the pursuit of intraorganisational democracy and interorganisational

power. This dichotomy often causes a related source of stress for the union leader - leadership challenges from within the union. For example, Kochan (1979) found that union members expected a far higher level of internal administrative competence of their leaders than typically existent.

Union leaders must also contend with ambivalent attitudes of members toward them. Union leaders are given sufficient status and power to achieve the union's objectives, but at the same time are constantly reminded that they are servants of the workers themselves (Coleman, 1956). Thus union leaders are subjected to role ambiguity (Kahn *et al.*, 1964) and its many forms of psychological strain (Van Sell *et al.*, 1981).

Another aspect of the union leader's role that is stressful is the difficulty of meeting with members. Mindful of productivity, management do not always allow unions free access to interact with their members during working hours. Consequently, union leaders typically must attend to union matters after normal working hours which encroaches on the time they spend with their families. In an empirical investigation, Gullahorn (1956) found that union officials felt a sense of role conflict where work and family demands were competing for their attention. Such role conflict is a primary source of stress with negative psychological consequences (Kahn *et al.*, 1964).

A further structural feature that places pressure on the union leader is that unions, at least in the United Kingdom, are poorly financed (Warr, 1981). Furthermore, there are only approximately 3 000 full-time paid officials in the United Kingdom, representing a 1:4 000 union official-member ratio (Warr, 1981). There are insufficient trade union leaders to do the required work. This situation increases the chances of the union leader experiencing role overload, another source of stress which has negative consequences similar to the other forms of role stress (Kahn *et al.*, 1964; Van Sell *et al.*, 1981). Role overload is particularly prevalent amongst leaders of emergent, unions in South Africa which, because of the decentralised structure, require frequent contact between

union organiser and members (Cooper, 1983). In addition, the shortage of union organisers coupled with the rapid growth of unions further exacerbate the situation (Baskin, 1982). Union leaders often cannot cope with the excessive workload and consequently, they experience problems such as administrative delays in processing new memberships, negotiations falling behind, and active recruitment being suspended (Baskin, 1982; Cooper, 1983).

Other stressors facing South African union leaders are a result of the rapid changes and developments in IR on the one hand, and broader political realities on the other hand: The growth of black trade unions has given rise to inter-union conflicts between the established and the emergent unions (Cooper, 1983). Attempts at union unity are also fraught with unresolved problems such as racial versus non-racial union membership and leadership; industrial versus general forms of organisation; the validity of closed-shop agreements; inter-union rivalry; whether to align with political organisations; and whether to seek registration with the Department of Manpower and thereby gain possible access to the official system of collective bargaining (Bendix, 1984; Hindson, 1984; Webster, 1984). The politicisation of unions places further pressures on labour leaders. They are required to find a compromise between the political aspirations of their members and the bargaining issues that management find acceptable (Douwes Dekker, 1985; Schlemmer, 1983). They also risk police harassment and detention (Bluen, 1986; Cooper, 1984; Schlemmer, 1983).

Psychological stressors encountered by the shop steward. Besides their work roles, shop stewards perform a variety of key IR functions. In one empirical investigation, Poole (1973) asked stewards to define their primary duties. Four classes of responses were given: (a) member representative; (b) union representative; (c) active conciliator, peace maker or dispute solver; and (d) active negotiator and protector of members. Carrying out these duties involves many varied and complex tasks

such as negotiating with management, representing workers, counselling workers and helping with the formulation of union policy. Similarly, Webster (1984) lists diverse responsibilities for shop stewards in emerging trade unions. Their responsibilities include:- (a) representing union members' interests and rights within the work environment, which entails challenging managerial decisions where necessary; (b) resolving members' grievances and maintaining discipline within the workgroup; (c) as members of the shop steward's committee, negotiating wages and working conditions with management representatives; (d) ensuring that workplace agreements are carried out; (e) liaising between full-time union officials and rank-and-file members; and (f) ensuring the continuation of stable management-worker relations. The performance of these diverse functions cause at least five stressors, namely, (a) quantitative role overload caused by excessive work demands; (b) inadequate training leading to qualitative role overload; (c) role ambiguity; (d) role conflict; and (e) the inherent potential for labour-management conflict in the job.

First, the shop steward may experience quantitative role overload because of the sheer enormity of the task. In a survey of Danish shop stewards, Lund (1963) found the average ratio of union members to shop stewards to be 54:1 (range 11-158). Similarly, estimates of the member-steward ratio are 40:1 in the United Kingdom (Warr, 1981) and 60:1 in South Africa (Webster, 1984). Looking after the interests of so many people is a daunting task. Nicholson (1976) found that 75% of a sample of shop stewards reported moderate to severe feelings of quantitative role overload brought about by the breadth and volume of activities demanded of stewards. Interestingly, feelings of role overload were greatest where there was a favourable IR climate reflecting the strenuousness of the work involved in achieving such a climate (Nicholson, 1976).

Warren (1971) states that the amount of work involved in being a shop steward may entail working after hours and on weekends. This would

interfere with the steward's role as spouse and/or parent. Nicholson (1976) found that several stewards, especially women, felt competing demands on their time made by home and work commitments. Lund (1963) found that the major force pulling workers away from the shop steward's job was the possibility of interpersonal problems with families, workmates and management.

Stewards are also faced with and suffer from qualitative role stress (Kahn *et al.*, 1964). Although the execution of the steward's job requires sophisticated skills, many receive no relevant training at all while for other stewards, their training is pitifully inadequate (Nicholson, 1976). Similarly, Godsell *et al.* (1967) found that IR training for employee representatives was inadequate and received a lower priority than IR training for management or IR specialists. One of the stewards in Nicholson's (1976) study reported:

> "When I first became a shop steward I didn't know one little thing, I didn't know which way to go about anything, and the first time I went to a meeting I was sick in the stomach because I was frightened of saying the wrong thing" (p. 20).

Given that training correlates with role satisfaction (Nicholson, 1976), the absence of training can lead to psychological strain amongst stewards who remain ill-equipped to tackle the complex tasks they encounter.

A further source of role stress experienced by stewards is role *ambiguity*. Nicholson (1976) found that many stewards often felt at a loss to decide the right course of action due to lack of appropriate guidelines. The situation may be exacerbated where management adopt a unitary perspective: Management might deliberately withhold relevant information from the steward and thereby aggravate their lack of clarity (Warren, 1971).

Because stewards are expected to fulfil so many diverse roles, they too may suffer the effects of role conflict. Shop stewards' roles entail interaction with, and responsibilities to several people whose interests often compete (i.e., management, supervisors, union members, other shop stewards and union officials). Thus stewards can be subjected to in-

ter-sender conflict - pressures *from* one role sender that are in conflict with pressures from one or more other senders (Kahn *et al.*, 1964). For example, stewards may be required to deal *simultaneously* with pressures from workers for increased wages and management demands for maintaining the status quo. Because the steward derives his/her power and position from the continued support of rank-and-file members, the role of the steward becomes that much more delicate. "Any suspicion that the steward has been 'bought' is likely to lead to an instant rejection by workers" (Webster, 1984, p. 82). Webster (1984) cites instances where workers refuse to continue working until management remove stewards suspected of being management informers.

Shop stewards also experience person-role conflict (Kahn *et al.*, 1964). The expectations diverse people hold of stewards are frequently in conflict with the steward's own values, needs, or beliefs. Nicholson (1976) found that a common source of person-role conflict was being forced to call members out on strike for what stewards felt were inappropriate issues. In the Grosvenor Hotel strike, union officials abided with their members' decision to go out on strike even though the officials would have planned the strike differently if they had organised it themselves (Wood & Padler, 1978).

Finally, the inherent conflict in the steward's role is potentially stressful. Nicholson (1976) states that "it is a role that appears to be almost inherently stressful, since the initiation and handling of conflict are anticipated aspects of role performance" (p. 16). The amount of hostility that shop stewards are expected to display toward management must be sufficient to maintain worker morale but not too great to cause unnecessary trouble (Shostak, 1980).

Nicholson (1976) concludes by stating:

> "... the complexity and demand characteristics of the shop steward role render it ...similar to managerial and executive functions though the provision of resources and supportive mechanism is in no way comparable" (p. 24).

IR stressors encountered in the worker role. Before considering the stress specific to IR that workers encounter, it is necessary to mention briefly the variety of stressors facing workers in their normal working environments. House *et al.* (1979) criticise blue-collar stress research for limiting its focus to discussions of physical or chemical hazards such as noise, heat, dust and fumes. Psychosocial job stress appears to impair the health of blue-collar workers and is worthy of investigation. In his study of 'blue-collar stress', Shostak (1980) identifies four objective stressors: Compensation; health and safety hazards; unpleasant working conditions; and the fear and insecurity of work loss. Shostak (1980) also outlines four subjective stressors: The low status attributed to blue-collar workers; problems with supervision; the importance of being part of the peer group; and job dissatisfaction (Shostak, 1980).

Such an array of stressful circumstances can motivate the worker to seek changes. One avenue open would be to join a trade union in the hope that the union will be able to reduce these stressors and improve the situation. Kochan (1980) found that the most important reason workers joined unions was because of their negative perceptions of the work environment: Job dissatisfaction, poor wages and working conditions and perceptions of inequality were the most prominent issues. Wright-Bakke (1975) states that workers join unions if they believe that such a move reduces their frustration and anxieties, helps them realise their opportunities and enhances their standard of living.

Yet joining a trade union itself presents workers with a host of stressful issues with which to contend. The positive aspect of joining a union is that it provides security and protection and a means of realising worker objectives that might otherwise not be attained. However, by joining the union, workers forfeit some autonomy and individuality: Kochan (1979) found 10% of workers who decided not to join a union did so because they feared a loss of independence. The consequences of electing to join or not to join a union can be particularly stressful. By refusing to join, workers may be intimidated and pressurised into

reversing their decisions. Shostak (1980) states that if a trade union is present in an organisation, non-union employees face three major stress aggravating issues. First, union organisers may put the workshop situation under close inspection, highlighting local employment drawbacks. Second, unionising campaigns often polarise the workforce into mutually hostile factions. Third, employer response to unionisation campaigns can aggravate workplace tensions and undermine the employer-employee relationship.

If workers join the union, they risk being victimised by an anti-union management. Allen and Keaveny (1983) state that management's attitude toward trade unions can range from open hostility at one extreme, through controlled hostility, accommodation, and cooperation to collusion at the other extreme. Open hostility implies a willingness to use almost any method, legal or otherwise, to get rid of the union. Allen and Keaveny (1983) cite examples such as calling in police or troops to control and limit the effects of strikers; discharging pro-union employees; threatening to close the plant; threatening union sympathisers; denying privileges to union supporters or transferring them to lower paying jobs; and employing industrial spies 'planted' amongst workers to keep tabs on union activities and leaders. In South Africa for example, one security company recently advertised the *services of trained employees* who would infiltrate the workforce and report the names of union leaders and details of any union activities to management so that management could take the '*necessary precautionary measures*' (Anstey, 1982). Such anti-union measures are adopted simply because workers exercise their rights of freedom of association. However, Kochan (1979) found that only 1% of workers stated that the prime reason for not joining a union was a fear of employer retaliation or closure of the plant resulting from unionisation.

Kochan (1980) speaks of companies avoiding dealings with union by placing extreme pressure on employees not to join. He cites one case where a computer manufacturing company would not employ job applicants who had

certain demographic characteristics associated with the *propensity* to unionise.

Where the relationship between labour and management is adversarial, and especially where a previously peaceful relationship becomes conflictual, workers can experience inter-sender role conflict. Pressures from the one *party would be in direct conflict* with those of the other. This represents yet another source of stress facing the worker in an actively unionised organisation.

Finally, the union itself can be a source of stress for its members. For example, Cooper (1983) reports that at the Iron and Steel Corporation 4 000 South African Iron Steel and Allied Workers Union members joined the rival Mine Workers Union. In response, the South African Iron Steel and Allied Workers Union threatened to cancel union membership. Because of an existing closed-shop agreement, the Iron and Steel Corporation would have been forced to dismiss the 4 000 workers had they been expelled from the union (Cooper, 1983). The implications of the closed-shop agreement are such that 'disobedient' union members can be forced out of the union, the company, the industry and even the trade, depending on the *scope of the closed-shop agreement*. Unions can also display discriminatory practices toward workers. Webster (1983) cites examples of white skilled workers associating themselves with 'protective' craft unions whose objectives include maintaining the status, security and privilege of white union members. These 'restrictionist' unions withhold membership from non-whites to avoid job dilution and fragmentation (Webster, 1983). Far from overcoming the stress of racial discrimination, these unions promote it.

IR Stressors Associated with Key Management Roles

Management in union-active organisations are also subjected to a unique set of stressors. Trade union presence inhibits managerial power, prerogative, authority and behaviour, and challenges managerial tradi-

tions, attitudes and values, all of which can increase the stress management face. The stress inherent in three managerial roles usually associated with IR, namely, upper-level management, supervisors, and IR/human resource managers is examined here (see Table 4.1).

Stress in the upper-level management role. *Besides* the traditional forms of work stress (cf. Ivancevich & Matteson, 1980; Moss, 1981; Strumpfer, 1983), upper-level management in union-active organisations are confronted with a host of specific IR stressors. These are derived from the fact that unions and management often pursue conflicting objectives (Fox, 1966).

The role of upper management is to make rational decisions so that the organisation's resources are put to their most productive use (Kochan, 1980). Unions active in the organisation threaten managerial objectives in several ways. First, by virtue of the numbers and/or the skills of their members, unions constitute an alternate power source that is capable of influencing the organisational decision-making process (Kochan, 1980). Unions challenge managerial prerogative and attempt to *limit managerial control over the workforce.* They demand a voice in those decisions that directly affect workers (Hyman, 1975). In South Africa, through the recognition agreement process, black workers are replacing unilateral managerial decision-making with joint labour-management negotiations. Furthermore, the scope of issues negotiated extend beyond wages and basic working conditions to include victimisation, health and safety standards, maternity rights in-company IR procedures and rights to withhold labour (Haysom & Webster, 1984; Myers & Steingold, 1984). Where management resist union advances, redress is sought by going out on strike, making applications for Industrial Court, industrial council or conciliation board hearings, or, where applicable, appealing to overseas head offices of local subsidiary companies (Haysom, 1984; Webster, 1984). Therefore, management are forced to relinquish a certain amount of power and control to the unions. Invariably, upper management are

unwilling to surrender power and resent being told by others what to do (Bluen, 1983a, 1986).

The complexity surrounding decision-making, then, increases for upper-level management in unionised environments. Instead of simply making cost-benefit decisions, they must consider the views of and often negotiate with an alternate party. Unilateral decision-making in accordance with general organisational goals may be replaced by struggles for power and joint decision-making with a party whose objectives could be antagonistic.

This leads to the second stressor, namely, competing goals. Management has as one of its prime objectives productivity and profitability. On the contrary, the union's aim is to maximise wages and enhance working conditions and job security (Flanders, 1968). Thus the goals of management and the unions are often in conflict, rendering the decision-making process that much more demanding than if there was no union presence in the organisation.

If trade union objectives extend beyond the traditional limits of *American style 'business unionism'* (Jackson, 1977) to include macro socio-political aims, (Allen, 1971), additional stressors would be encountered. In South Africa, for example, although blacks do not enjoy the right to vote, they do have the right to join trade unions and participate in the official collective bargaining machinery. Consequently, many socio-political issues are raised at company level forcing (white) management to pressurise political leaders to seek change. Even if they were willing, management alone cannot satisfy the political demands of the unions. According to Wiehahn (1982) the primary reason South African management fear labour is that they believe the unions will become politicised and use their power to replace the free enterprise system with a socialist government. Indeed, the political strikes discussed earlier in the chapter are clear evidence of union involvement in political activities.

Stress in the supervisor role. *Just as the shop steward is labour's* representative, the supervisor is management's link in dealing with IR issues on the shop floor. As such, shop stewards and supervisors experience similar stressors, namely, (a) role conflict; (b) face-to-face contact with workers; (c) qualitative role overload; (d) limited authority; and (e) role ambiguity.

First, like the steward, the supervisor fulfils a diverse set of roles consisting of potentially conflicting role senders - notably the entire spectrum of management on the one hand and stewards, workers and unions on the other (Pedler, 1977). Second, the supervisor's role involves face-to-face contact with the workers. As such, not only are supervisors required to ensure production proficiency but are also largely accountable for healthy labour-management relations: Supervisors are usually responsible for the *initial handling of grievances, dismissals* and disciplinary procedures in the organisation (Sartain & Baker, 1972). Thus, the consequences of their actions can have serious ramifications for the IR climate of an organisation, and thereby increase the stress experienced by the supervisor. Indeed, in one study, over half the reported strikes resulted from grievances, dismissals and supervision problems at the supervisory level (Allen, 1982). Such disruptive occurrences are likely to exacerbate the relationship that the supervisors have with their subordinates, thereby increasing the stress they experience at work.

The inherent stress in the supervisory role arises "out of the relative impossibility of reconciling two rather incompatible ideologies or systems of sentiment" (Miller & Form, 1967, p. 212). Like stewards, supervisors can *suffer from qualitative role overload if their training* has not included the relevant IR and interpersonal skills input to deal effectively with such a sensitive job (Piron, Human & Rajah, 1983).

Fourth, the supervisor's authority is extremely limited. Supervisors are required to perform a wide variety of tasks while management afford them little or no authority to fulfil their responsibilities (Miller &

Form, 1967). South African organisations have been found to adopt extremely centralised decision-making structures, especially regarding IR (Godsell *et al.*, 1981). The reduction of first-line supervisor's authority often results in them exercising what little remaining power they wield in an arbitrary manner which leads to further conflict and labour unrest (Brett, 1980). Also, supervisors are usually not involved in negotiating the union-management contract to which they must adhere (Sartain & Baker, 1972). Having to follow a set of rules about which the supervisor has had no say may well be stressful. This is especially the case when the changes to be introduced overwhelm the supervisor. For example, supervisors may be bombarded with a stream of unending technological changes, yet they cannot protest because they have neither the authority nor the expertise to do so (Miller & Form, 1967). Also, the nature of change may oppose the supervisor's own values and beliefs. For example, because of international, economic and political pressures, many South African organisations have adopted anti-discriminatory employment practices (Godsell, 1981). However, the removal of apartheid from the shop floor remains in conflict with the beliefs of many white South African supervisors who are faced with adjustment problems irrespective of their political allegiance.

The presence of a trade union places a further restriction on the supervisor's authority and behaviour toward subordinates. Where a militant trade union is active, supervisors may be afraid to exercise any control over the workforce whatsoever: They might fear the 'retaliatory' steps the union might take and consequent managerial dissatisfaction for causing such disruptions. Thus the supervisor must perform a complex job that involves a great potential for conflict and deleterious organisational consequences. At the same time, the supervisor has only limited authority regarding formulating and carrying out workplace regulations.

Finally, supervisors might also experience role ambiguity. In an investigation of black South African supervisors, Garakinsky and Crankshaw (1985) found much confusion regarding their identification as either

members of management or of the workforce. Management saw the supervisors clearly as members of management, invested with typical managerial responsibilities and performing management tasks. Conversely, the supervisors shared a common workplace, social experiences, residential location and racial identity with the workforce. The resultant ambiguity and conflict of identity serve as further sources of stress facing many South African first-line supervisors. Similarly, Piron *et al.* (1983) describe the tremendous stress potential associated with marginality a potential problem facing all black people occupying supervisory or managerial roles in South Africa.

Stress associated with the IR practitioner role. The role of the IR manager is "to protect the organisational interests of their firm while acknowledging the legitimacy of unions and collective bargaining" (Kochan, 1980, p. 161). Given the structural conflict of interests between labour and management, the role stress inherent in the IR manager's job is apparent. At least four factors, namely, (a) limited authority; (b) role ambiguity; (c) role conflict; and (d) environmental forces, exacerbate the stressful nature of the IR function.

In the first instance, the IR manager's authority is limited as a staff rather than line function (Allen & Keaveny, 1983). In fact, Purcell (1983) points out that "we are deluding ourselves if we assume that industrial relations activities either would or should form a major or even moderate part in the determination of corporate strategy" (p. 4). The entire status of the IR function is seen as insignificant unless the organisation is threatened by large scale labour unrest (Purcell, 1983). In South Africa, the current state of unrest has in fact meant that a great deal of attention is focused on IR in most organisations.

Similarly, Kochan (1980) found an extremely high degree of centralisation of responsibility for IR policy in organisations. Most responsibility was held at corporate level by the chief executive or IR vice president with minimal authority passed down to divisional or plant

level. Godsell *et al.* (1981) also found that most IR decisions are made by line-management rather than IR specialists in the organisation. Thus, like both the shop steward and the supervisor, the IR specialist has to perform an extremely delicate job with a limited amount of authority.

Centralised decision-making by key line managers can place additional pressure on the IR function if IR-related decisions are taken purely with the profit motive rather than sound IR practices in mind. The consequence of these IR-related decisions can exert negative effects on the IR climate which will further exacerbate the IR practitioner's role. Kochan (1980) observes that such intra-organisational bargaining may often involve conflicts of interest between the various groups of management. The IR staff attempt to guide such proposals through the various stages while trying to accommodate the differing managerial interest groups, ever mindful of the potential acceptability of the proposal to labour in the forthcoming negotiations. Not only do IR practitioners have limited authority, they must also contend with much inter-sender conflict both from within managerial ranks and from labour (Kochan, 1980).

A further stressful feature of the IR practitioners' role is its inherent ambivalence. IR practitioners find themselves caught somewhere between labour and management, maintaining some form of balance between the two. Again, they must contend with competing demands both from within management sub-groups and between these groups and labour. Miner (1976) states that IR/personnel managers have often been identified more strongly with workers than with management. Because of the ambivalence in their role, IR managers may be seen as sell-outs by both sides.

The already complex situation is exacerbated when considering that the link between managerial policies and actual practices can be somewhat tenuous. Purcell (1983) provides examples of management endorsing sound IR statements about voluntary trade unionism yet at the same time being actively involved in anti-union ventures. Such ambiguous tactics could

be stressful not only for IR practitioners attempting to carry out company policy, but for everyone else associated with the practice of IR.

Third, IR practitioners may suffer from person-role conflict. There could be a clash between their own values and those of management: They might adhere to a pluralist perspective while line management align themselves with the unitary perspective. *These differences may well* distance them from management. At the same time, to the worker, the IR manager is primarily a member of management and therefore part of the 'opposition'. Thus the role ambiguity of the IR position might cause incumbents to experience social isolation and a lack of peer group support. *Social* support is an important factor that buffers the stressed person from potentially harmful consequences (Karasek *et al.*, 1982).

A fourth stressful feature of IR practitioners' jobs concerns the nature of their actual responsibilities. IR practitioners are accountable for sound labour-management relations in the organisation. However, there are a host of environmental and organisational pressures beyond their control that impinge on the practice of IR. For example, a sympathy strike having nothing to do with the particular company would exert negative repercussion on the *IR climate and hence increase the pressure* on the IR incumbent. Also, given the fundamental conflict of interests in IR, the potential for volatile union-management relationships is far greater than where the parties are all part of 'one big happy family' (Fox, 1966).

Three labour roles and three managerial roles have been examined within the IR context. All six roles are potentially extremely stressful. Role ambiguity and role conflict are particularly prevalent forms of stress experienced by people involved in the practice of IR. This is understandable considering that the inherent conflict of interests between labour and management leads to conflicting demands and ambiguous authority levels and role sender expectations. Financial constraints and insufficient training were also identified as major sources of role overload. Finally, considerable stress is derived from hostility and

violence experienced in various aspects of the labour-management relationship.

Conclusion

In the present chapter it has been argued both from a theoretical and a practical orientation that involvement in the practice of IR is stressful: The prevalence of the underlying dynamics of conflict and change serve as powerful generators of stress in IR. There is a need to investigate systematically the stress specifically associated with the practice of IR. However, certain conceptual and methodological criticisms need to be mentioned.

Although it has been argued that involvement in the practice of IR is stressful for labour and management alike, the situation is not inevitably negative. First, according to the general adaptation syndrome (Selye, 1982), individual responses to stress, if plotted, resemble an inverted U-shaped curve. The stress experienced in the second stage, the stage of resistance, is termed 'eustress', because it is a positive form of stress (Strumpfer, 1983). Maddi and Kobasa (1984) state that many people in business thrive on stress, operating well under pressure and achieving goals that they would normally find hard to attain. Only when the stressors continue indefinitely and no respite is gained from the stressors is the third stage of the stress cycle, the stage of 'exhaustion' (Selye, 1982) encountered. This final stage results in the person experiencing 'dystress', negative forms of stress, which if left unattended, will lead to physical and mental illness and ultimately, premature death (Selye, 1982).

In the IR context, it is possible that although many people involved in the practice of IR are subjected to a variety of stressors, they may respond by functioning at a high level: They may be experiencing eustress where they, their families and the labour-management relationship derive great benefit from their endeavours.

Positive responses to IR stress may well be related to the operation of moderator variables in the stress process (see Chapters 2 and 3). However, because of the dearth of literature examining IR stress, little empirical evidence of the IR stress process is available at this stage. Furthermore, most of the empirical investigations are not conducted by psychologists and therefore, little regard is paid to the psychological processes involved (Barling & Milligan, 1985). Many of the investigations cited in the present chapter are speculative, or are based on haphazard, unrepresentative sampling techniques, yielding findings that are not generalisable. Where psychological studies of IR stressors do exist, their focus is limited to examining isolated manifestations such as strikes, retranchments and negotiations. These studies provide valuable insight into the stress process unique to the particular area of investigation, but by their very nature, they prevent obtaining an overall perspective of the stress inherent in the practice of IR. These studies can also be criticised because, with a few notable exceptions (e.g., Barling & Milligan, 1985; Kasl & Cobb, 1979), cross-sectional designs are adopted which do not allow for causal analysis. Even those studies adopting longitudinal designs to investigate aspects of the IR stress phenomenon may be methodologically unsound: James *et al.* (1983) caution against causal inferences when important variables remain unmeasured (i.e., spuriousness). By only examining an isolated aspect of IR stress, these studies may be erroneously omitting important explanatory variables from their analyses. Thus the aim of the present thesis is to address some of these criticisms by measuring the stress process associated with diverse aspects of the practice of IR in a longitudinal study.

CHAPTER 5

AIM AND THEORETICAL RATIONALE OF THE THESIS

The relationship between psychology and IR is one of neglect (Fullagar, 1984; Gordon & Nurick, 1981; Huszczo, Wiggins & Currie, 1984; Walker, 1979). Unions regard psychologists' contributions at best, as irrelevant to their needs, or at worst, as contrary to their interests (Huszczo *et al.*, 1984). Since the 1950's, a period regarded as the 'Golden Age' of IR research (Strauss, 1977), psychological attention to IR issues has waned (Bluen & Fullagar, 1986). The poor psychology-IR relationship is surprising because psychology is one of the core disciplines on which the study of IR is based (Kochan, 1980; Walker, 1979). The question, then, is why so little psychological research has focused on IR issues?

Bluen and Fullagar (1986) review several reasons for this neglect:

1) Industrial psychology has fostered strong associations with management, relying on management sponsorship and restricting its scope to management-defined problems (Gordon & Burt, 1981; Stagner, 1981; Walker, 1979).

2) Because of socio-economic differences and class barriers, industrial psychologists have tended to focus on familiar 'middle-class' problems of management and have lacked the contact to develop a sensitivity and understanding of the problems of labour (Bluen & Fullagar, 1986).

3) Developments in organisational psychology contradict the goals of labour. For example, job enrichment is seen by unions as increasing job dilution (Shepard, 1974; Winpisinger, 1972).

4) Traditionally, conflict has been regarded as unnecessary, undesirable and avoidable by industrial psychologists (Batstone, 1979; Kornhauser, 1961). This view, a legacy of the scientific

management and human relations approaches, precludes meaningful psychological investigation of IR.

Thus, in the past, the theory and practice of industrial psychology was incapable of accounting for the realities of IR (Bluen & Fullagar, 1986).

Recently, though, there has been a growing interest in the role psychologists can fulfil in the study of IR (Huszczo *et al.*, 1984). The importance of including psychological variables such as attitudes, perceptions and motivation in any IR systems approach is gaining acceptance (Craig, 1975; Hyman, 1975; Jackson, 1977; Kochan, 1980), and there is evidence of an increase in psychological research into aspects of IR (e.g., Fiorito & Gear, 1982; Gordon & Burt, 1981; Huszczo *et al.*, 1984; Stagner, 1981).

Despite the resurgence of psychological research interest in IR, one area remains neglected, namely, the stress associated with the practice of IR. No comprehensive, integrated approach has been adopted to studying the personal consequences of involvement in IR. This represents a serious omission since involvement in IR is stressful (see Chapter 4). The aim of this thesis, then, is to develop a model of the stress process as it applies to IR, and to test it empirically.

Because the field of IR stress is so new, there is no comprehensive, psychometrically valid scale of IR stress. Therefore, before testing the IR stress model, a suitable scale of IR stress needs to be developed. The first empirical study of the thesis, then, will be aimed at developing the Industrial Relations Events Scale (IRES).

The IRES will be developed in accordance with the life events format (e.g., Dohrenwend & Dohrenwend, 1974, 1978; Holmes & Rahe, 1967), which has become a well-researched means of studying stress (Monroe, 1982b; Perkins, 1982). Indeed, the empirical evidence suggests that a significant relationship exists between life events scales and diverse physical and psychological conditions (Perkins, 1982; Zimmerman, 1983).

Sarason's Life Experience Survey (Sarason *et al.*, 1978) and Organisational Change Inventory (Sarason & Johnson, 1979) overcome many of the criticisms levelled against earlier life event scales (Zimmerman, 1983). Consequently, the IRES will be developed using Sarason's format.

The second empirical study in the thesis will be aimed at developing and testing the IR stress model. In the model, *objective* and *subjective* IR stress will be assessed using the subscales of the IRES. The outcome of IR stress will be tested by means of three variables that have been used consistently as measures of organisational strain, namely, psychological health (e.g., Barling & Milligan, 1985; MacBride *et al.*, Wall & Clegg, 1980), job satisfaction (e.g., Beehr & Newman, 1978; Caplan & Cooper, 1976; French & Caplan, 1973) and propensity to leave the organisation (e.g., Batlis, 1980; Bedeian & Armenakis, 1981). Also to be assessed is the impact of three variables consistently found to moderate the organisational stress-strain relationship, namely, hardiness (e.g., Kobasa, 1982b, Kobasa & Puccetti, 1983), and social support offered by supervisors (e.g., Bedeian *et al.*, 1983; House, 1981), and family (e.g., Billings & Moos, 1982; Procidano & Heller, 1983).

When designing the study, care will be taken not to repeat many of the criticisms labelled against existing organisational stress research. First, a longitudinal design will be adopted, and attempts will be made to satisfy the various conditions associated with conducting causal research (James *et al*, 1983). These procedures will allow for causal inferences to be made, rather than limiting the findings to non-directional statements concerning associations between variables (James *et al.*, 1983). Second, appropriate steps will be taken to identify and measure the influence of moderator effects on the stress-strain relationship (Rabkin & Streuning, 1976). By adopting these precautions it is hoped that an empirically validated causal model of the IR stress process can be developed. Such a model could provide both valuable foundations for further research in the area and relevant guidelines for dealing with the stress associated with IR.

CHAPTER 6

DEVELOPMENT OF THE INDUSTRIAL RELATIONS EVENT SCALE

From the preceding chapters, it has been established both theoretically (e.g., Dohrenwend & Dohrenwend, 1974, 1978; Fox, 1966; Kahn *et al.*, 1964) and practically (e.g., Allen & Keaveny, 1983; Kochan, 1980), that the practice of IR is potentially stressful. Furthermore, a review of the literature reveals that involvement in various IR processes such as negotiations (Atkinson, 1975), decision-making (Galin, 1981) and strikes (Barling & Milligan, 1985) leads to negative psychological consequences.

However, no attempt has been made to assess the stress process associated with the practice of IR as a whole (rather than specific IR events). The aim of the present thesis, therefore, is to address this omission by developing and testing a model of stress associated with the practice of IR. Because this task has not been done before, there is no psychometrically-validated scale to measure the stress associated with IR. Consequently, the aim of this chapter is to develop and validate the Industrial Relations Events Scale (IRES). The IRES will then be used as a measure of IR stress in the empirical investigation of the IR stress model in Chapter 7.

One method of measuring stress is to examine the occurrence of *stressful life events*, i.e., those (life) events that invariably require individual readjustment (Monroe, 1982b). In Chapter 2, the life events approach was reviewed. Therefore, a similar discussion will not be repeated here. Instead, key points of life events research will be summarised as they apply to the development of the IRES:

1). The stressful life events approach is a well-researched method of measuring stressors both in general and specifically in organisational stress research (Monroe, 1982b; Rabkin & Struening, 1976).

2). Stressful life events are experienced by most people to varying degrees during their lives, and contribute to the aetiology of many physiological and psychological disorders (Dohrenwend & Dohrenwend, 1974, 1978; Perkins, 1982; Rabkin & Streuning, 1976).

3). One measuring instrument that has been used extensively and successfully to assess life events is Holmes and Rahe's (1967) Social Readjustment Rating Scale (Perkins, 1982; Zimmerman, 1983). Each of the 43 items of the Social Readjustment Rating Scale is weighted according to the relative degree of readjustment demanded by the particular stressor (Holmes & Rahe, 1967).

4). Recently, though, there has been a tempering of enthusiasm toward the the life events approach in general, and the Social Readjustment Rating Scale in particular because of certain methodological problems (Monroe, 1982b; Perkins, 1982; Zimmerman, 1983).

Three such problems were discussed in Chapter 2: First, certain life events scales (e.g., the Social Readjustment Rating Scale) are confounded because they include both stressors and items pertaining to symptoms of strain. Second, the scales have been criticised for excluding non-events. Absence of life events (e.g., 'not receiving an expected pay increase') can be as stressful as the presence of other stressors (Perkins, 1982). Third, there is a problem with calibrating life events scales. Scales using standardised weightings (e.g., the Social Readjustment Rating Scale) have been criticised because a) they assess only the adjustment rather than the *desirability of events (Vinokur & Selzer, 1975)*; b) they fail to account for individual differences in perceived impact of events (Zimmerman, 1983); c) the generalisations of objective weightings assigned to each life event remains questionable (Dohrenwend & Dohrenwend, 1978); and d) the weightings of each item may not produce greater predictive benefits (Monroe, 1982b). Consequently, an alternative technique has been developed whereby subjective, rather than normative ratings are applied to each life event (Zimmerman, 1983). It is not only the amount of change induced by the life event, but also the events' perceived de-

sirability (Vinokur & Selzer, 1975) and seriousness (Dohrenwend & Dohrenwend, 1978) that contribute to the resultant strain. However, subjective rating scales have also been questioned with regard to the accuracy of recalling the impact of past events (Monroe, 1982b). Results of empirical investigations, though, do not support these claims of retrospective contamination (Zimmerman, 1983).

Sarason and his associates have developed a life events approach that addresses many of the criticisms of earlier scales (Zimmerman, 1983). Their scales, the Life Experiences Survey (Sarason *et al.*, 1978) and the Organisational Change Inventory (Sarason & Johnson, 1979), require respondents to indicate which events they have experienced in the past year and to rate the perceived impact and desirability of those events experienced on a seven-point scale ranging from 'extremely unfavourable' (-3), through 'no impact' (0), to 'extremely favourable' (+3). The Life Experiences Survey and Organisational Change Inventory yield three subscales; an objective occurrance index and two subjectively perceived indices, the positive and negative impact scales (Sarason & Johnson, 1979; Sarason *et al.*, 1978).

As individually-rated life event scales, the Life Experiences Survey and Organisational Change Inventory overcome many of the problems associated with earlier scales: They assess both the occurrance and the desirability of events (Vinokur & Selzer, 1975); they account for individual differences (Zimmerman, 1983); the universality issue no longer applies (Monroe, 1982b; Zimmerman, 1983); the Organisational Change Inventory (but not the Life Experiences Survey) includes non-events; and the Organisational Change Inventory (but not the Life Experiences Survey) is not confounded: all events in the Organisational Change Inventory are independent of the subject's physical or psychological condition (Dohrenwend & Dohrenwend, 1978; Schroedar & Costa, 1984; Zimmerman, 1983); by providing space at the end of the Life Experiences Survey and the Organisational Change Inventory for any further events, Sarason's approach has been singled out as the only one to overcome the

problem of comprehensiveness: regardless of length, any life events scale contains only a sample of possible stressful situations (Zimmerman, 1983).

The psychometric properties of the Life Experiences Survey and Organisational Change Inventory lend further support to the usefulness of Sarason's approach to measuring stressful life events. The Life Experiences Survey yielded significant ($p < .001$) test-retest correlations, and the negative (but not the positive) subscale was sufficiently sensitive to differentiate between a group of students with psychological disorders from a 'normal' control group. Also, the negative (but not the positive) subscale correlated significantly with measures of anxiety, social nonconformity, discomfort, depression and locus of control (Sarason *et al.*, 1978). Sarason *et al.* (1978) compared the performance of the Life Experiences Survey and Holmes and Rahe's (1967) Schedule of Recent Events. The results

> "suggest that the LES possesses certain advantages over the SRE as an instrument for assessing life stress. These advantages relate particularly to the important distinction between desirable and undesirable change made by the LES" (Sarason *et al.*, 1978, p. 940).

Finally, Sarason and Johnson (1979) report significant correlations between the Organisational Change Inventory subscales and measures of job satisfaction.

Thus both from conceptual and empirical perspectives, the life events format developed by Sarason appears to be a valid means of assessing stressful life events. Consequently, Sarason's life event model is used in the present research to generate a psychometrically and conceptually acceptable questionnaire that assesses the stressors associated with involvement in the IR process.

In developing the IRES, care will be taken to avoid the methodological criticisms levelled against past life events scales. Specifically, by adopting Sarason's subjective rating format, problems associated with normative rating will be avoided (Zimmerman, 1983). Second, to avoid including irrelevant items (Zimmerman, 1983), all events will be directly

related to the practice of IR. Third, to overcome problems of comprehensiveness (Zimmerman, 1983), Sarason's method of providing space at the end of the scale for idiosyncratically-experienced events will be adopted. Fourth, insofar as life events are stressful because they require social readjustment (Dohrenwend, 1974; Holmes & Rahe, 1967), all items in the IRES will entail some degree of adjustment. Fifth, to allow for both positive and negative impact ratings (Vinokur & Selzer, 1975), events will be neutrally worded where possible. Sixth, to enhance temporal reliability (Barling, 1979), each item will be worded in the most succinct manner possible. Seventh, because non-events can be as stressful as events (Perkins, 1982), the IRES will contain relevant non-events. Eighth, care will be taken not to contaminate the IRES with symptom-like events (Dohrenwend & Dohrenwend, 1978; Dohrenwend, Dohrenwend, Dodson & Shrout, 1984; Schroeder & Costa, 1984).

Finally, the life events approach has been criticised because the life events-strain relationship tends to be significant but small (Rabkin & Struening, 1976). Consequently, researchers have included items about situational or personal dispositions in an attempt to bolster the stress-strain relationship (Dohrenwend *et al.*, 1984). Dohrenwend *et al.* (1984) identify two such classes of events: social support items (e.g., Lin, Dean & Ensil, 1981); and 'hassles', which are small events that occur more frequently than life events and are a source of continued displeasure (Kanner, Coyne, Schaefer & Lazarus, 1981; Stone & Neale, 1982). However, although items measuring both social support and hassles have been found to improve the strength of the life events-illness relationship, such items have been found to confound the scales because of their 'symptom-like' qualities (Dohrenwend *et al.*, 1984). Consequently, although both social support items (e.g., 'not knowing who to turn to') and hassle items (e.g., 'language problems') will be included in the IRES, care will be taken to avoid contamination by ensuring that all items are stressful events rather than symptoms of strain.

Method

Subjects

To enhance subsequent generalisability (Cook & Campbell, 1976), questionnaires and prepaid return envelopes were distributed through diverse organisations and institutions involved in IR consultations or training courses. The organisations included a university business school, a business management training institution, several IR consulting and training organisations, various in-company training departments and trade unions conducting seminars for shop stewards and rank-and-file members. Thus the sample included a diverse range of people involved in the IR process (see Table 6.1).

In each instance, voluntary participation was stressed and anonymity guaranteed. Questionnaires were distributed only to individuals (a) directly involved the practice of IR and (b) who were proficient in reading and writing in English (White, 1982).

Of the 460 questionnaires distributed, 316 (68,7%) were returned. Three hundred and two contained complete information, reducing the response rate to 65,7%. Of this group (M age = 35,40 years, SD = 8,40), 92% were males, 43% were black and 83% had completed high school. Twenty seven per cent were members of trade unions, and of the unionised subjects, 47% held office (see Table 6.1).

Procedure

To generate the initial item pool, diverse IR stressors were identified from the literature (see Chapter 4). In addition, 20 IR practitioners representing either management or worker interests were interviewed. Interviewees were asked to identify events they had experienced that (a) were specifically associated with IR, and (b) required adaptive responses.

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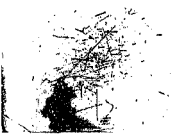


Table 6.1

Demographic details of the [redacted]

(N=302)

Age		Sex	n	%	Race	n	%	Education	n	%
M	35,41	Male	277	92	Black [1]	128	43	Std. 8	50	17
SD	8,40	Female	24	8	White	171	57	Matric	111	38
Range	42,00	Missing	1		Missing	3		Diploma [2]	55	19
Missing	9							University	79	27
								Missing	7	

Job Title	n	%	Union Membership	n	%	Union Position	n	%	Title of Union Position	n	%
Management	71	24	Yes	81	27	Yes	38	49	Shop Steward	23	57
IR Specialists	104	35	No	215	73	No	40	51	Union Officials	14	35
Supervisors	20	7	Missing	6		Non-union	221		Other	3	8
Workers [3]	67	22				Missing	3		Non-union	262	
Union Officials	9	3							Missing	0	
Other	27	9									
Missing	4										

1. Including 'Coloured' and Indian people
2. Including trades, certificate courses and any other non-university post-high school studies
3. Including shop stewards employed as workers

From the literature and the interviews, a scale of 105 IR events was generated according to the guidelines set out in the introduction of this chapter. At the end of the 105-item scale, provision was made for respondents to identify and rate any idiosyncratic stressful events experienced that were not included in the IRES.

The original scoring procedure of the Life Experiences Survey (Sarason *et al.*, 1978) was used for the IRES. Thus, subjects first rated which of the events they had experienced during the past year. (Because there is no theoretical optimal time period over which life events should be assessed (Monroe, 1982b), the 12-month period adopted by Sarason *et al.* (1978) was used for the IRES.) The subjects then rated each event they experienced on a seven-point scale ranging from 'extremely unfavourable' (-3) through 'no impact' (0) to 'extremely favourable'(+3).

The IRES yields three separate subscales: The occurrence index is the sum of all events experianced. A sum of the impact ratings of those events experienced as negative (-3 through -1) yields the negative change score. The positive change score represents the sum of impact ratings of positively experienced events (+1 through +3).

Once the original 105-item version of the IRES had been finalised a pilot study was conducted. Questionnaires were administered to a sample of 37 people employed in a variety of IR-related occupations. From an item analysis and an analysis of respondents' comments about the IRES, ambiguously worded items were reworded and length of items was minimised. Events were excluded if experienced by less than 15% of the sample (regardless of desirability). In this way, the number of events was reduced to 72. Although several unique events were listed at the end of the scale, they were not adjudged suitable for inclusion in the subsequent scale since none of these events had been experienced by more than two respondents, (i.e., 5% of the pilot sample). The IRES was then distributed along with a prepaid, stamped return envelope, a covering letter, a biographical checklist, and one of the four randomly distributed validating scales.

Measuring Instruments

To test the validity of the IRES, scales measuring four organisational variables (i.e., role stress, job satisfaction, supervisory leadership and propensity to leave) were distributed randomly within the sample. Each subject, then, received the IRES and one of the other four scales to complete.

Role stress. Role stress was measured using Rizzo *et al.*'s (1970) six-item *Role Ambiguity Scale* and eight-item *Role Conflict Scale*. These scales represent attempts by Rizzo *et al.* (1970) to operationalise two central features of role stress (Kahn *et al.*, 1964). Following Kahn *et al.* (1964), the Role Conflict Scale incorporates a third central feature of role stress, namely, role overload.

Each item in the two scales consists of a statement concerning the respondent's work role (e.g., 'I feel certain about how much authority I have', 'I work on unnecessary things'). In the present study, certain expressions (e.g., to 'buck' a rule) were changed to enhance understanding of the scale. Also, although Rizzo *et al.* (1970) use a seven-point scale, a three-point format (i.e., 'false' (1), 'unsure' (2) and 'true' (3)) was used in the present study to simplify responses (Morris & Van der Reis, 1980).

Rizzo *et al.*, (1970) report Kuder-Richardson reliability coefficients of ,78 and ,81 for the Ambiguity scale; and ,82 and ,82 for the Conflict scale in two samples of managerial and technical employees ('*n*'s = 199; 91). Cook, Hepworth, Wall and Warr (1981) report that comparably high measures of internal reliability have been found for these Ambiguity and Conflict scales by numerous other researchers. In the present study Cronbach's alpha reliability coefficients were ,72 and ,69 for the Ambiguity and Conflict scales respectively (n = 51). Although Rizzo *et al.*

(1970) do not report on the temporal consistency of their scales, other researchers have found significant test-retest reliability for both measures (Cook *et al.*, 1981).

Thus the Ambiguity and Conflict scales developed by Rizzo *et al.* (1970) demonstrate acceptable psychometric properties. Furthermore, these scales have been used more often than any other measure of role stress (Schuler *et al.*, 1977). Consequently, the Role Ambiguity and Role Conflict scales were chosen to measure role stress in the present study (see Appendix 1).

Job satisfaction. The 15-item *Job Satisfaction Scale* (Warr, Cook & Wall, 1979) was designed to measure satisfaction with intrinsic and extrinsic features of the job. Each item deals with an aspect of work (e.g., 'the physical work condition', and 'promotion opportunities'), about which respondents are required to rate their level of satisfaction or dissatisfaction on a seven-point Likert scale ranging from 'I'm extremely dissatisfied' (1), to 'I'm extremely satisfied' (7). For ease of response (Morris & Van der Reis, 1980), a three-point response format ('I am unhappy', 'I am not sure', and 'I am happy') was used in the present study (see Appendix 1).

In a sample of 200 blue-collar male workers, internal homogeneity was acceptable (α = ,78) (Warr *et al.*, 1979). Test-retest reliability was assessed over a six-month period, yielding a correlation coefficient of ,63 (Warr *et al.*, 1979). In the present study, Cronbach's alpha was ,86 for the Job Satisfaction Scale (n = 54).

In a sample of 590 male blue-collar workers, the Job Satisfaction Scale correlated significantly (p < ,001) and in the predicted direction with measures of intrinsic job motivation (r = ,35), work motivation (r = ,30) life satisfaction (r = ,42) happiness (r = ,49) and self-rated anxiety (r = -,24) (Warr *et al.*, 1979). In a South African sample of 56 females employed in diverse jobs either at a bank or a transport company, Barling and Janssens (1984) found significant correlations between the

Job Satisfaction Scale and measures of individual health ($r = -,38$, $p < ,01$). Given the psychometric adequacy and the conciseness of the Job Satisfaction Scale, it was chosen as a measure of work attitudes in the present study (see Appendix 1).

Supervisory leadership. Supervisory leadership was measured using the *Supervisory Leadership Scale* of the Survey of Organisations Form A-4, 1970 Questionnaire (Taylor & Bowers, 1972). The scale was designed to measure the four factors of leadership proposed by Bowers and Seashore (1966), namely, supervisor support, goal emphasis, work facilitation and interaction facilitation (Taylor & Bowers, 1972). The 30-item scale addresses both the existing and the ideal situation (i.e., 'This is how it is now', and 'This is how I'd like it to be'). However, in the present study, for the sake of parsimony, only ten items covering all four leadership factors were used and all items pertained to the existing, rather than the ideal situation. Taylor and Bowers (1972) use a five-point Likert response format, ranging from 'to a very little extent' to 'to a very great extent'. In the present study, for ease of response (Morris & Van der Reis, 1980), a three-point format was adopted, ranging from 'no' (1), through 'not sure' (2), to 'yes' (3). The wording of items was altered to fit the response format (see Appendix 1).

Cronbach's alpha for the four subscales ranged from ,85 to ,91 (Taylor & Bowers, 1972). Cronbach's alpha calculated for the Supervisory Leadership Scale in the present study was ,90 ($n = 55$).

Although cluster analysis supported the four factor construct, subscale intercorrelations ranged from ,72 to ,81 (Taylor & Bowers, 1972). To avoid problems of multicollinearity (Lewis-Beck, 1980), the Supervisory Leadership Scale was treated as a univariate measure rather than as four subscales in the present study. Furthermore, the Supervisory Leadership Scale has been used extensively in other studies (Cook et al., 1981), and therefore was the measure of choice for supervisory leadership in the present study (see Appendix 1).

Withdrawal behaviour - propensity to leave the organisation. The three-item *Propensity to Leave Scale* (Lyons, 1971) assesses a) how long respondents would like to remain employed in their current organisation; b) given freedom of choice, whether respondents would prefer to continue to work in the organisation; and c) if they had to leave work for some time, whether they would return to the same organisation. The original items were scored on a five-point scale, but for the sake of consistency and ease of response, a three-point Likert scale ranging from 'No' (1), through 'Not sure' (2), to 'Yes' (3) was used in the present study for two of the items. To maximise response range, a six-point scale ranging from 'One year' (1), to 'More than 10 years' (6), was used for the third. Also, the scale was originally developed to assess turnover intentions in a sample of 156 female nurses (Lyons, 1971). Consequently, following Rousseau (1978), item wording was modified (i.e., 'hospital' changed to 'organisation') for use in the present study (see Appendix 1).

Lyons (1971) reports a Spearman-Brown internal reliability coefficient of ,81 for the Propensity to Leave Scale and a Pearson correlation of -,27 with a measure of role clarity. Cronbach's alpha calculated for the Propensity to Leave Scale in the present study was ,77 (n = 43). Bedeian and Armenakis (1981) report an internal consistency measure (coefficient α) of ,76 for the scale which they also found correlated significantly ($p <$,001) and in the predicted direction with measures of role ambiguity (r = ,29), role conflict (r = ,31), work-related tension (r = ,39), and job satisfaction (r = -,52) in a sample of 202 nursing staff. Similarly, Brief and Aldag (1976) report a significant correlation of the scale with measures of role ambiguity (r = ,), and role conflict (r = ,23) for a sample of 77 nursing aides. Mossholder, Bedeian and Armenakis (1982) report a coefficient alpha reliability of ,79 for the scale and significant correlations with measures of peer group in-

teraction (r = -,31), and work-related tension (r = ,30) in a sample of 206 nursing employees.

Although the Propensity to Leave Scale was originally developed for samples of nurses, its psychometric properties have been assessed and found appropriate for use in other organisations. For a sample of 271 organisational employees, Rousseau (1978), reports an internal consistency (coefficient alpha) of ,71, a three-month test-retest reliability of ,63 and significant correlations in the predicted direction with measures of perceived role and task characteristics. Sutton and Rousseau (1979) found significant correlations (p < ,05) between the Propensity to Leave Scale and two measures job perceptions (formalisation: r = ,21; and participation r = ,30) in a mple of 155 managers employed in 14 organisations. Hence the scale was adjudged to possess suitable psychometric properties and was used in the present study (see Appendix 1).

Results

Initial Item Analysis

An item analysis of responses was conducted. Where less than 25% or more than 75% of the sample experienced a particular event, the relevant item was adjudged unsuitable and eliminated from the IRES on the basis that it was not discriminating adequately (Cleary, 1981). Nine items were eliminated in this manner, all yielding responses less than 25% (M response rate = 18,78%, range: 11 - 23%). Thus the final scale consisted of 63 items (see Appendix 1). Descriptive data on the three subscales derived from these 63 items is presented in Table 6.2.

Reliability of the IRES

Both internal and test-retest reliability were calculated for the 63 items of the IRES. The internal reliability of the occurrence index

was calculated using the Kuder-Richardson Formula 20 (Hull & Nie, 1979), a technique specifically designed to assess reliability in scales with dichotomous response formats (Anastasi, 1982). For the occurrence index internal reliability (KR-20) was highly satisfactory (α = ,95). Because of the particular nature of the data generated by life events instruments (where numerous events have no impact rating because their non-occurrence), similar calculations were not possible for the impact scores.

To assess test-retest reliability the IRES was readministered seven weeks after initial testing to a randomly chosen subsample (n = 23; M age = 34,80 years, SD = 6,00, 91% males, 48% blacks). Using Pearson correlations test-retest reliability on all three measures over the seven-week period was most satisfactory (occurrence: r = ,68, negative: r = ,92, positive: r = ,85).

Validity of the IRES

The psychometric adequacy of the IRES was evaluated further in terms of two forms of validity. First, concurrent validity was determined by correlating the IRES with several variables traditionally associated with organisational stress. Second, the contrasted-groups method was used to assess whether the IRES could distinguish between conceptually different groups.

Construct Validity: Correlates of the IRES. To the extent that the IRES measures an aspect of organisational stress, IRES subscale scores should correlate with relevant organisational variables (i.e., role stress, job satisfaction, supervisory leadership and propensity to leave the organisation). Theoretical and empirical support for the relationship between these variables and measures of organisational stress are detailed in Chapter 3 and therefore will not be repeated here. Instead only a summary of findings will be presented.

Since the seminal work of Kahn and his associates (Kahn *et al.*, 1964), role stress has been regarded as an important correlate of organisational stress (Van Sell *et al.*, 1981). Because IR stress and role stress (as role conflict and role ambiguity) both address aspects of organisational stress, positive correlations between role stress and diverse aspects of IR stress were predicted.

A randomly selected subsample of 52 subjects (*M* age = 36,70 years, *SD* = 8,70, 93% males, 33% blacks) completed the Role Ambiguity and Role Conflict Scales (Rizzo *et al.*, 1970) and the IRES. Significant correlations were found between role conflict and ambiguity and the the occurrence and negative scores respectively, but not for the positive change scores ($p < ,05$) (see Table 6.2).

Beehr and Newman (1978) suggest that the most obvious psychological consequence of job-related stressors is job dissatisfaction. Significant correlations have been reported previously between job satisfaction and organisational stress (e.g., Bedeian, *et al.*, 1981; Rizzo *et al.*, 1970). More specifically, Sarason and Johnson (1979) found significant correlations between job satisfaction with work and with people and all three measures of the Organisational Change Inventory.

A second randomly selected subsample of 54 subjects (*M* age = 34,90 years, *SD* = 9,70, 94% males, 47% blacks) completed both the IRES and the Overall Job Satisfaction Scale (Warr *et al.*, 1979). Again the occurrence and negative scores but not the positive scores correlated significantly ($p < ,05$) and negatively with job satisfaction (see Table 6.2).

Negative relationships between role stress and various measures of supervisory leadership have been reported (Bedeian *et al.*, 1981; Rizzo *et al.*, 1970). Furthermore, the role of the supervisor in buffering the organisational stress-strain relationship is well documented (e.g., House, 1981; House & Wells, 1978; Winnubst *et al.*, 1982). Thus, it was hypothesised that similar associations between IR stress and supervisory leadership would emerge using the IRES.



Table 6.2

Correlations between the three IRES subscales and role conflict and ambiguity, job and supervision satisfaction and propensity to leave

IRES Subscale	Role Ambiguity (N=52)	Role Conflict (N=52)	Job Satisfaction (N=54)	Supervision Satisfaction (N=55)	Propensity to Leave[1] (N=43)	M	SD	range
Occurrence	,26*	,38**	-,28*	-,30**	-,29*	29,51	15,06	4-63
Negative	,41***	,35**	-,66***	-,46***	-,29*	35,29	27,62	0-129
Positive	-,09	,01	-,03	-,06	-,06	16,89	13,48	0-65

* p < ,05

** p < ,01

*** p < ,001

1. High scores are *indicative of* low propensity to leave

The IRES and the Supervisory Leadership Scale of the Survey of Organisations (Taylor & Bowers, 1972) were administered to a third randomly selected subsample of 55 people (N age = 35,00 years, SD = 7,00, 88% males, 36% blacks). Except for the positive change scores, the IRES measures again correlated significantly ($p < ,01$) and in the predicted direction with perceptions of supervisory leadership (see Table 6.2).

Finally, Beehr and Newman (1978) state that voluntary turnover may represent one attempt to cope with organisational stress. Significant correlations have been reported between organisational stress and propensity to leave (Batlis, 1980; Bedeian *et al.*, 1981; Gupta & Beehr, 1979; Kemery *et al.*, 1985; Lyons, 1971). Thus a randomly selected subsample of 43 subjects (N age = 34,50 years, SD = 8,30, 85% males, 38% blacks) completed the Propensity to Leave Scale (Lyons, 1971) to assess whether similar findings would be obtained using the IRES. Again, the occurrence and the negative but not the positive scores yielded significant correlations with the propensity to leave measure ($p < ,05$) (see Table 6.2).

In all instances, therefore, the occurrence and negative scores correlated significantly ($p < ,05$) and in the predicted direction with conceptually-related constructs. However, no significant correlations were found for the positive scores ($p > ,05$).

Construct validity: Known group differences. To determine the extent to which the IRES distinguishes between conceptually different groups in a predictable manner, various subgroups were compared for the stress experienced as a function of involvement in the IR process. (The stressors associated with each of the different groups analysed below are discussed in detail in Chapter 4).

First, it was hypothesised that due to cross-cultural differences (see Bhagat & McQuaid, 1982; du Preez, 1986), marginality (e.g., Berry, 1970; Piron *et al.*, 1982) and racial discrimination in South Africa (Bendix, 1984; Bluen, 1984; International Labour Office, 1983; see Chapter 4), blacks would experience higher IR stress levels than whites.

Table 6.3

T-test comparisons for contrasted groups on the three IRES subscales

		Occurrence		Negative		Positive	
	n	*M*	*t*	*M*	*t*	*M*	*t*
Race							
Black	123	33,4	3,5***	46,1	5,42***	18,9	2,0*
White	171	27,0		28,0		15,6	
Union Membership							
Yes	61	36,5	2,6**	50,6	2,7**	19,7	0,5
No	113	30,2		38,1		18,5	
Union Position							
Yes	36	39,6	1,9	61,6	4,0***	24,4	2,5**
No	40	32,7		35,6		15,7	
IR Involvement							
High	25	40,4	13,6***	57,5	2,1*	19,1	0,2
Low	25	7,3		23,0		16,4	

* $p < ,05$

** $p < ,01$

*** $p < ,001$

Blacks (n = 121; M age = 32,2 years, SD = 6,6; 95% males) and whites (n = 171; M age = 37,9 years, SD = 8,8; 91% males) in the present study differed in all three IRES measures (see Table 6.3).

Second, it was predicted that union members would record higher IR stress levels than non-unionised employees. This might occur if people join unions as a function of job frustration (Gordon & Nurick, 1981). Moreover, once individuals become union members, union activities would increase awareness of the stressful aspects of work (Borjas, 1979). Furthermore, unionised workers are subject to both victimisation and discrimination (Allen & Keavany, 1983). Sixty-one trade union members (M age = 32,84 years, SD = 8,15; 86% males; 77% blacks) and 113 non-union members (M age = 33,73 years, SD = 7,17; 89% males; 48% blacks) from the main sample that were employed in non-managerial jobs differed on the occurrence and negative scores but not on the positive scores (p < ,01; see Table 6.3).

It was hypothesised further that trade unionists who hold office (*e.g., shop stewards*) would experience higher IR stress levels than rank-and-file members because of their involvement in stressful activities such as worker representation, negotiating, confronting management and organising industrial action (Nicholson, 1976; MacBride *et al.*, 1981; Poole, 1973). Moreover, union officials in South Africa face the risk of state harassment and police detention (Cooper, 1984; Haysom & Webster, 1984; Schlemmer, 1983; see Chapter 4). Trade union members in the main sample were categorised as office-bearers (n = 36; M age = 33,00 years, SD = 7,90; 97% males; 89% blacks) or members who held no official position in the union (n = 40; M age = 34,20 years, SD = 9,50; 83% males, 60% blacks). Although there were no significant differences between the groups for the occurrence scores, there were significant differences for the negative and positive change scores (p < ,01; see Table 6.3).

Fourth, it was predicted that the different occupational groups associated with the IR process (line managers, first-line supervisors, IR practitioners, workers and trade union officials) would experience

different levels of IR stress (French & Caplan, 1973; Shostak, 1980; see Chapter 4). *Oneway analyses* of variance revealed significant differences between these job categories for all three IRES subscales ($p < ,05$; see Table 6.4). Subsequent Scheffe tests revealed that the two groups that differed significantly from each other for the occurrence and negative scores but not the positive scores were management and workers: In both cases, workers experienced significantly higher IRES scores. The observed worker-management differences are consistent with IR theory where these groups are viewed as the two principle actors in any IR system (Dunlop, 1958), experiencing a fundamental conflict of interest (Fox, 1966).

A final contrasted-groups analysis was conducted to assess whether the IRES distinguishes people highly involved in the practice of IR (experimental group) and those employed in occupations involving no IR at all (control group). It was hypothesised that the experimental group would have higher IRES scores than the control group.

The experimental group consisted of 25 specifically selected subjects drawn from the main sample who were known to be highly involved in IR (e.g., trade union general secretaries, chairmen of shop stewards committees and IR practitioners responsible for their organisation's IR function; M age = 32,70 years, SD = 6,70). The control group (n = 25; M age = 32,10 years, SD = 9,60) were drawn from two manufacturing organisations that had no IR function operating in their plants at all. In addition, control subjects were employed in clerical positions. Because the control group was not randomly selected from the main sample, the two groups were first compared to see if there were any significant biographical differences between them. There were no significant race, education, income and age differences between the experimental and control groups ($p > ,05$). The experimental group experienced significantly higher scores than the control group for the occurrence and negative scores but not for the positive scores ($p < ,05$; see Table 6.3)

Two observations can be made from the contrasted groups analyses. First, the occurrence and negative scores discriminated significantly



Table 6.4

Oneway analysis of variance between occupational categories for the three IRES subscales

IRES Subscales	F	df	Mean Scores			
			Management	IR Management	Supervisors	Workers	Union Officials
Occurrence [1]	4,38**	4,262	25,21	31,14	23,00	33,19	37,00
Negative [2]	9,53***	4,261	22,48	38,09	25,70	48,15	49,78
Positive	3,08*	4,261	14,10	19,80	23,70	16,80	24,00

* $p < ,05$

** $p < ,01$

*** $p < ,001$

Significant intergroup differences ($p < ,0$

1. Management vs. Workers
2. Management vs. IR Management; Management vs. Workers; Supervisors vs. Workers

($p < ,05$) and consistently between conceptually different groups. No significant differences were found for the positive scores ($p > ,05$). Second, the direction of all significant differences is consistent with *a priori* predictions.

Short Form of the IRES

In certain cases (e.g., where numerous questionnaires are administered and time is a consideration), questionnaire length is an important concern. To overcome this potential problem, a short form of the IRES, the IRES-S was derived. Twenty items of the IRES were identified that discriminated significantly and consistently on all contrasted group comparisons, and these 20 items constituted the IRES-S. The psychometric adequacy of the IRES-S was then evaluated using the same population and the same criteria as that used for the IRES analyses. The internal reliability (KR-20) for the occurrence subscale of the IRES-S was highly satisfactory ($\alpha = ,92$), as was the split-half reliability ($r = ,88$). Test-retest reliability was again based on a seven-week interval between testings. Pearson correlations were significant ($p < ,001$) for all three IRES-S measures (occurrence: $r = ,72$, negative: $r = ,94$, positive: $r = ,60$) indicating temporal stability on all three subscales.

The three dimensions of the IRES-S correlated significantly with job and supervision satisfaction ($p < ,01$; see Table 6.5). The occurrence and negative scores but not the positive scores correlated significantly with role ambiguity and role conflict ($p < ,05$). However, no significant correlations were found between IRES-S scores and propensity to leave.

Known group comparisons were conducted for the three subscales of the IRES-S. Blacks experienced significantly higher stress scores than whites on all three IRES-S subscales ($p < ,001$; see Table 6.6). Similarly, union members recorded significantly higher scores than non-unionised, *non-managerial members* on the three IRES-S subscales ($p < ,05$). Those



Table 6.5

Correlations between the three subscales of the IRES-Short Form and role conflict and ambiguity, job and supervision satisfaction and propensity to leave

IRES-S Subscale	Role Ambiguity (N=52)	Role Conflict (N=52)	Job Satisfaction (N=56)	Supervision Satisfaction (N=55)	Propensity to Leave[1] (N=43)	M	SD	range
Occurrence	,33**	,37**	-,47***	-,44***	-,18	7,48	5,89	0-20
Negative	,39**	,28*	-,59***	-,44***	-,21	10,50	11,42	0-57
Positive	-,17	-,21	-,31**	-,30**	-,29	3,53	5,64	0-64

* $p < ,05$

** $p < ,01$

*** $p < ,001$

1. High scores are indicative of low propensity to leave

union members who held office recorded significantly higher stress levels than their rank-and-file counterparts for the three IRES-S subscales ($p < ,01$). Significant differences also emerged between occupational groups for all three IRES-S subscales ($p < ,01$; see Table 6.7). Comparisons between people highly involved in the practice of IR (experimental group) and those with no involvement in the field (control group) again yielded significant differences in the predicted direction for all three IRES-S subscales ($p < ,01$; see Table 6.6).

Discussion

The results obtained in the present study suggest that the IRES is a reliable and valid measure of *IR stress*. The IRES was both internally and temporally consistent. Support for the validity of the IRES emerges from correlations between the IRES measures and conceptually related constructs such as role stress, job and supervision satisfaction and propensity to leave the organisation. The magnitude of these significant correlations (ranging from ,26 to ,66) is important as it addresses two crucial criticisms of previous life events research (Rabkin & Streuning, 1976). (a) Often no information is provided regarding the relationship between the measures of interest and conceptually similar variables. (b) Where such information is provided, the correlations are typically below ,30. The IRES also discriminated significantly between conceptually different groups; and all such differences were in the predicted direction. As such, the IRES represents a potentially useful, psychometrically acceptable instrument assessing the stress potential associated with the practice of IR.

The occurrence and negative change scores were consistently superior to the positive change scores in terms of construct validity. This replicates past research where negative impact scores best correlated with subsequent behaviour (Vinokur & Selzer, 1975; Sarason *et al.*, 1978). These findings support the view that considering only the occurrence of

Table 6.6

T-test comparisons for contrasted groups on the three IRES-Short Form subscales

		Occurrence		Negative		Positive	
	n	*M*	*t*	*M*	*t*	*M*	*t*
Race							
Black	123	10,94	9,54**	16,95	8,65**	5,03	3,99**
White	171	5,11		5,88		2,46	
Union Membership							
Yes	65	12,00	3,10**	17,50	3,10*	5,80	3,20**
No	114	7,40		11,70		3,10	
Union Position							
Yes	36	13,78	3,07**	21,26	3,52**	7,29	2,90*
No	40	9,76		11,70		3,78	
IR Involvement							
High	25	11,16	8,72**	18,08	7,43**	4,12	3,13*
None	25	1,16		1,40		0,94	

* $p < ,01$

** $p < ,001$



Table 6.7

Oneway analysis of variance between occupational categories on the three subscales of the IRES-Short Form

			Mean Scores				
IRES-S Subscales	F	df	Management	IR Management	Supervisors	Workers	Union Officials
Occurrence	17,85**	4,262	4,66	7,04	25, 5	11,65	12,44
Negative	16,56**	4,266	4,48	10,39	7,20	18,22	18,22
Positive	3,40*	4,266	2,76	3,01	2,25	5,28	7,44

* $p < ,01$

** $p < ,001$

Significant intergroup differences ($p < ,05$):

1. Management vs. Workers; Management vs. Union Officials; IR Management vs. Workers; Supervisors vs. Workers; Supervisors vs. Union Officials.
2. Management vs. IR Management; Management vs. Workers; Management vs. Union Officials; IR Management vs. Workers; Supervisors vs. Workers.

an event is insufficient: The perceived impact (particularly negative impact) of that event must be assessed as well (Vinokur & Selzer, 1975).

An analysis of the adequacy of the 20-item short form of the IRES was computed by subjecting it to the same criteria as the full 63-item IRES. The short form of the IRES was consistently reliable and valid except when correlated with the propensity to leave scale, where no significant correlation coefficients were found. Given that the range of scores on all three subscales of the IRES-S are smaller than comparable scales on the full scale IRES (as a function of the number of events), while the range of the Propensity to Leave scale is relatively small (M = 9,68, SD = 2,82; range = 3 - 12), failure to yield significant correlations in this context may be a function of truncated ranges (Neale & Liebert, 1980). Thus in situations where questionnaire length is a consideration, the IRES-S provides an acceptable alternative.

In the present study, events associated with the practice of IR were found to be stressful. This represents a further manifestation of the worker-management conflict of interests which underlies the study of IR (Allen, 1971). Allen (1971) states that such conflict is based on the allocation of scarce resources: management seek greater profit, workers seek more pay. Flanders (1968) adds that such conflict is not limited solely to economic issues. Rather, it incorporates non-financial conflict of value issues as well: Managers are primarily concerned with productivity while workers focus their attention on job security. A range of stressful economic (e.g., pay rates or increases, fringe benefits, changes in working conditions), and non-economic (e.g., unfair labour practices, representing others, making c ling complaints) events may serve as a source of stress f more, the various manifestations of conflict appear to be an t source of stress. Hence events such as strikes, resistance to change, not being treated with human dignity and dismissal were perceived to be stressful in the present study.

Several factors limit the psychometric qualities of the IRES. First, several items of the scale (e.g., 'having your authority or status

questioned', 'fear of change', 'not knowing who to turn to') may introduce problems of social desirability. However, these items are all relevant IR stressors that should not be eliminated from the instrument. Therefore, future research on the IRES should assess the exact impact of social desirability and correct the responses accordingly (Edwards, 1957).

Second, only one test-retest assessment was conducted on only one sample. Rahe (1974) reports test-retest correlations ranging from ,26 to ,90 for the Social Readjustment Rating Scale. Rahe suggests that variations in time lapsed between testing intervals and differences in sample characteristics possibly accounted for such discrepancies. However, two subsequent studies have investigated the temporal stability of the IRES. In the main study of the present thesis test-retest reliability was assessed for a different sample to the one tested here, over a six-month (rather than seven-week) interval. Despite these differences, significant ($p < ,001$) test-retest reliabilities were found for the occurrence subscale ($r = ,56$); negative subscale ($r = ,61$); and positive subscale ($r = ,60$). The IRES has also been used in another study: Barling and Milligan (1985) report significant ($p < ,01$) test-retest reliability over a two-month period for the occurrence subscale ($r = ,64$); negative subscale ($r = ,58$); and positive subscale ($r = ,28$) in a sample of teachers who had been legislated back to work after a strike. Barling and Milligan (1985) also report significant ($p < ,05$) correlations between the occurrence and negative subscales and measures of psychological well-being and psychosomatic symptomatology respectively. Second, because of the nature of life events, test-retest reliability has limited value: Low test-retest reliability coefficients might be a function of the experience of additional events when greater time periods elapse, rather than being caused by inconsistencies in reporting (Monroe, 1982b).

Cleary (1981) raises a related point regarding internal consistency of life events scales: Item selection is based on the assumption that the chosen events are likely to be pathogenic.

> "The events need have nothing else in common, and there is no necessary expectation that a person who experiences one item will be likely to experience any other item. Statistically, the items would be uncorrelated. A lack of correlation among event items means that internal consistency measures will be near zero" (Cleary, 1981, p. 310).

Cleary (1981) directs his criticism at the Schedule of Recent Events (Holmes & Rahe, 1967), a *general* life events scale covering diverse life experiences. However, his argument would be less applicable to life events scales which focus on *specific* aspects of life, such as the IRES, which focuses solely on events associated with the practice of IR. Events in the IRES are more likely to overlap with each other than Schedule of Recent Events events. For example, the IRES item 'representing others' may well entail other IRES events such as 'attending IR meetings', 'dealing with conflicting demands', 'resolving issues or disputes', and 'making or handling complaints'. Indeed, these events have been cited as the major activities of the shop steward's role (Poole, 1973; Webster, 1984).

If such overlaps between events do exist, then the construction of the IRES can be criticised for not factor analysing the data to assess the *existance of underlying dimensions* of IR stress, thereby providing further support for the construct validity of the scale (Anastasi, 1982). Several studies report factor analyses of event occurrence in the construction of life events scales (see Hyman & Woog, 1982). However, factors based on the objective measure of event occurrence may be unrelated to the subjectively-defined perceived *impact* of events (Hyman & Woog, 1982), which is of prime concern in this thesis. Furthermore, one of the major objectives of the present thesis is to assess the stress associated with involvement in IR as a whole, rather than focusing on isolated features of the IR process. Thus, from both methodological and theoretical perspectives, a univariate scale of stressful IR events is desired.

The IRES assesses occurrences, desirability and perceived impact of life event change (Sarason *et al.*, 1978), although stress research has used other characteristics of stressors (e.g., duration, intensity,

predictability, controllability, novelty, preparedness, enduring effect and context) (Hyman & Woog, 1982; Rabkin & Streuning, 1975). It might be beneficial to assess whether diverse consequences are associated with these aspects of IR life events. However, to investigate all of these aspect of life events would require a more in-depth approach to data collection (e.g., interviewing each subject individually). Such an approach falls outside the scope of the design of the present thesis.

Because IR is based on a fundamental conflict of interests (Allen, 1971), it is not possible to eliminate many of the negatively stressful events associated with the practice of IR. Instead, it is necessary to explore whether IR stress has any detrimental effects on those people involved in the practice of IR. This entails longitudinal research which allows true causal inferences. Moreover, the typically low correlations found between stress and strain variables has highlighted the need for considering the impact of moderator variables in the stress/strain relationship (Rabkin & Streuning, 1975), again necessitating the use of longitudinal designs (James & Brett, 1984). For example, Kobasa (1982a) has shown that, in high stress situations, 'hardy' people (i.e., individuals who exhibit three constructs, *commitment, challenge and perceived* control; see Chapter 3) experience lower levels of negative health consequences than people who do not have such characteristics. Social support is another moderator of the negative effects of organisational stress (Wells, 1982). In the practice of IR, social support may be offered successfully by family, friends, co-workers, superiors and individuals involved in the IR process as they have in other areas of stress (Haywood & Taylor, 1981; House, 1981; Shostak, 1980). Consequently, in the main study of the thesis IR stress as well as the effectiveness of potential moderators of the stress-strain relationship in IR such as hardiness and social support will be assessed.

CHAPTER 7

THE INDUSTRIAL RELATIONS STRESS MODEL

There are two objectives in the present chapter. The first is to propose an IR stress model. The second is to test the model empirically.

A Model of IR Stress

In Chapter 3 a detailed model of the organisational stress process was outlined to provide a framework for developing an IR stress model. Some of the variables in the organisational stress model have been omitted or modified for inclusion in the IR stress model. First, the variable 'IR stress' incorporates aspects of several organisational stressors (namely, role stress, responsibility for people, relations with others, organisational territoriality conflict and change; see Chapter 3).

Second, certain physiological (e.g., medical health records) and behavioural (e.g., absenteeism, labour turnover and accident rates) *outcomes of organisational stress have* been excluded for pragmatic reasons: Because IR in South Africa is developing so rapidly, personal records are often unavailable or not standardised (Fisher, 1986; Godsell *et al.*, 1981; Hall, 1984).

Third, variables such as peer and supervisor support are highly correlated and therefore challenge the assumption of multicollinearity (Lewis-Beck, 1980). Hence, where statistically related variables were identified, only the variable considered to be the most conceptually appropriate has been included in the IR stress model.

Fourth, union characteristics such as union membership, holding union office, and union affiliation are not usually mentioned in the organisational stress literature. This is understandable, considering that past stress research has not focused on the stress associated with IR. However, these union variables are considered to be important in the present study

which specifically investigates IR stress. Indeed, the various union characteristics were all found to be significantly related to the IRES measures in Chapter 6. Consequently, union-related variables are included in the IR stress model (see Figure 7.1).

Fifth, occupational position is treated primarily as a stressor in the literature (e.g., French & Caplan, 1973). To comply with the aims of the present study, however, occupational position is treated as a demographic variable in the IR stress model.

The IR stress model has been based on the organisational stress model discussed in Chapter 3 (see Figure 3.2). The various modifications (outlined above) to the organisational stress model were considered necessary to investigate IR stress effectively. A diagrammatic representation of the IR stress model is presented in Figure 7.1. The exact components of the IR stress model can now be outlined. However, because most of the components of the model have been discussed in previous chapters, reference to each variable will be brief to avoid repetition.

Independent Variables - IR Stressors

Occurrence and impact of stressful IR events. The limited IR stress literature has been criticised for confining the scope of investigation to isolated phenomena such as strikes and retrenchments. Consequently, there is no integrated body of research investigating the psychological strain of involvement in IR. Given the potential personal consequences of such involvement, the state of IR stress research is deficient. The present thesis is directed at addressing this area of neglect by examining the stress associated with diverse aspects of the practice of IR.

Specifically, the operationalisation of the IR stress variables (i.e., objective and subjective measures of IR stress) incorporates a wide range of IR events that are potentially stressful. IR stress measures, then, include items on joint decision making (Galin, 1981; Galin & Tabb, 1978), *retrenchment* (Kasl & Cobb, 1979, 1980), and industrial



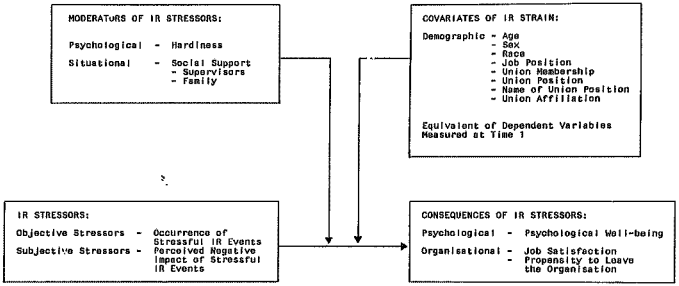


Figure 7.1: A theoretical model of the IR stress process

conflict (Barling & Milligan, 1985; MacBride *et al.*, 1983), all of which have been found to be stressful. The IR stress variables also include *aspects* of organisational stress (e.g., role stress, responsibility for people, dealing with people, boundary spanning conditions, conflict and *change*) in ways applicable to IR (Dohrenwend & Dohrenwend, 1974, 1978; French & Caplan, 1973; Kahn *et al.*, 1964). Certain stressful IR practices *particularly prevalent* in South Africa have also been included in the IR stress variables. Examples are unfair labour practices, resistance to change, *victimisation*, *intimidation*, injustice, and lack of dignity and trust (Bendix, 1984; Bluen & Fullagar, 1986; Cooper, 1984; Douwes Dekker, 1986; *Rigby et al.*, 1986; Schlemmer, 1983; Van der Merwe, 1983; see Chapter 4). Because the IR stress variables in the present model cover diverse *IR practices*, *the criticisms of most IR stress research being* confined to isolated areas is overcome.

The inclusion of both objective *and subjective measures* of IR stress conforms with the interaction perspective of stress (e.g., Cox, 1978; Lazarus, 1966, 1976; see Chapter 2). *Following Sarason's approach* (Sarason *et al*, 1978; Sarason & Johnson, 1979), objective IR stressors represent the occurrence of stressful events *in IR, whereas subjective* stressors refer to the perceived desirability and impact of the occurring events (see Chapter 6).

In the present study the positive impact variable is excluded for two reasons. Originally, it was thought that *any life event requiring* social readjustment was sufficient as a source of stress (Holmes & Rahe, 1967). Subsequently, it has been demonstrated that only those events exerting a negative impact are stressful (Sarason *et al.*, 1978; Vinokur & Selzer, 1975). In fact, desirable events have been found to moderate the undesirable event-strain relationship (Cohen & Hoberman, 1983; Zautra & Simons, 1979). Second, in Chapter 6 the psychometric properties of the occurrence and negative impact scales of the IRES were superior to those of the positive impact scale. Consequently, the positive impact scale

has been excluded from the IR stress model for conceptual and methodological reasons.

Dependent Variables - Consequences of IR Stress

Because stress responses are non-specific (Selye, 1956), three *different outcome variables* are included in the IR stress model, namely, psychological health, job satisfaction and propensity to leave the organisation (*see Figure 7.1*). By including these variables it is possible to assess differing consequences of IR stress.

Psychological health. Psychological disorders are recognised as important outcomes *of organisational* stress (Beehr & Newman, 1978). Psychological symptoms associated with organisational stress include depression, nervous *complaints, tension*, lowered self-esteem, anxiety, mental illness and psychosomatic complaints (see Chapter 3). It seems appropriate, therefore, to include *a measure of* psychological health in the IR stress model.

In addition, psychological well-being *has been* included consistently in the few studies found to conduct quantitative research into aspects of IR stress. For example, MacBride *et al. (1983) found that* during the Canadian air traffic controllers' labour dispute 48% of the sample exhibited psychiatric disturbances *immediately after the dispute*, while 27% and 31% respectively recorded scores indicative of psychiatric disorder four and ten months after the cessation of the *dispute. Second*, Barling and Milligan (1985) found that perceptions of IR stress immediately following a 22-day strike by Canadian teaching *professionals were* associated with short and long-term psychological disturbances. Third, job loss was associated with worry, anxiety, tension (Kasl & Cobb, *1980)*, and lowered self-esteem (Hartley, 1980). Brenner (1969, 1973) examined archival data over a 127-year period and found correlations between unemployment rates and first admissions to mental hospitals. Finally,

Jackson (1983) reports that participation in decision-making negatively influences role stress which, in turn, leads to increases in emotional strain and decreases in job satisfaction. Thus psychological well-being appears to be an appropriate measure of IR strain.

Job satisfaction. Beehr and Newman (1978, p. 687) observe that "the simplest and most obvious psychological effect of job stressors is dissatisfaction with the job." Importantly, job satisfaction correlates significantly with the Organisational Change Inventory (Sarason & Johnson, 1979), one of the scales on which the IRES is based. Indeed, in Chapter 6 it was found that job satisfaction correlated significantly with the occurrence and negative subscales of the IRES. Also, several IR practices correlate with job satisfaction. Examples include labour unrest (Dastmalchian, Blyton & Abdollahyan, 1982; Knowles, 1975), unionisation (Borjas, 1979; Gordon & Long, 1981; Kochan, 1980), grievance behaviour (Briggs, 1981; Dalton & Todor, 1979), participation (Jackson, 1983), quality of worklife programs (Schuster, 1982), and absenteeism, lateness and labour turnover (Clegg, 1983; Muchinsky, 1977). Job satisfaction, then, is both a recognised consequence of organisational stress and is associated with various IR practices. Therefore, job satisfaction has been included as a dependant variable in the IR stress model.

Propensity to leave the organisation. Labour turnover is acknowledged as a form of organisational strain (Beehr & Newman, 1978). Propensity to leave the organisation is an attitudinal response to stress, reflecting the attractiveness of extraorganisational alternatives and the increased likelihood of leaving the job (Bedeian *et al.*, 1983). Lyons (1971) demonstrates the similarity between voluntary turnover and propensity to leave the organisation. Thus propensity to leave the job, like voluntary turnover, represents a consequence of organisational stress (Batlis, 1980; Bedeian *et al.*, 1981; Gupta & Beehr, 1979; Kemery *et al.*, 1985). Furthermore, in Chapter 6 it was found that propensity to

leave the organisation correlated significantly with the occurrence and negative impact subscales of the IRES. Hence propensity to leave the organisation is included as the third dependant variable in the IR stress model.

Moderator Variables

Three moderator variables have been included in the IR stress model, *hardiness*, *supervisor and family support* (see Figure 7.1). Ganellen and Blaney (1984) note that past research has investigated either hardiness or *social support independently*, and both have been found to moderate the stress-strain relationship. Thus, to investigate the combined impact of hardiness and *social support in a single* study is the next logical step in stress resistance research (Kobasa & Puccetti, 1983).

Hardiness. Personality hardiness moderates the stress-strain relationship (e.g., *Kobasa, 1979a, 1982b; Maddi & Kobasa*, 1984). Typically, in samples of high stress executives, those classed as hardy report less illness over time than those *classed as not being hardy* (see Chapter 3).

Hardiness represents a potential moderator of the stress ensuing from contemporary South *African IR practice. Conflict and change* are central dynamics of IR (see Chapter 1), particularly in South Africa (see Chapter 4). The hardy personality's basic *commitment* to life *mitigates* the potential disruptions of any event (such as a strike or dismissal) (Kobasa & Puccetti, 1983). With commitment comes the *self-understanding* and inner strength essential for the appropriate assessment and handling of any life situation (Kobasa, 1982b).

The ongoing changes in IR are important sources of stress (see Chapters 2 and 4). Consequently, an internal locus of *control allows* people to perceive stressful events as predictable and subject to their direction (Kobasa, 1982b). However, many extra and intra-*organisational* factors beyond any single individual's control influence the practice

of IR (Bluen & Fullagar, 1986; Craig, 1975; Kochan, 1980). Kobasa (1982b) states that even those events are best confronted in a spirit of control.

The third component of hardiness, *challenge*, also represents a personal asset in dealing with IR. Challenge is based on the belief that *change, rather than stability,* is the norm (Kobasa, 1982b). The disruption accompanying stressful events, then, can be anticipated as an *opportunity and incentive* for personal development rather than a threat (Kobasa, 1982b). Thus high levels of commitment, control and challenge *potentially moderate* the IR stress-strain relationship.

Social support from supervisors. Social support offered by diverse formal and informal sources moderates the stress-strain relationship (e.g., House, 1981; *Tardy, 1985*). One source of social support that moderates the harmful consequences of organisational stress is the supervisor (e.g., Bedeian *et al.*, 1983; *House*, 1981; House & Wells, 1978; Karasek *et al.*, 1982; La Rocco *et al.*, 1980; Wells, 1982).

Furthermore, *IR focuses on the relationship* between labour and management (Van Coller, 1979). Thus the relationship between supervisor and subordinate assumes great *importance in* IR, particularly at the labour-management interface (Goldstein & Sorcher, 1974). In South Africa, given the history of job reservation, the *labour-management interface* has also come to represent the black-white interface (Piron *et al.*, 1983). Relations with supervisors, then, not only serve *as a moderator of stress*, but as a source of stress as well (Jayratne & Chess, 1984; La Rocco & Jones, 1978). Social support offered by supervisors *seems particularly* relevant to IR stress and has been included in the model.

Family support. Until recently, non-work sources of social support were neglected in organisational stress research (Payne, *1980*). This omission is surprising since recent studies have revealed that the social support offered by the family moderates the impact of *organisational*

stress (Billings & Moos, 1982; Holahan & Moos, 1983; La Rocco *et al.*, 1980; Wells, 1982).

Furthermore, there are several examples of social support offered by the family moderating the consequences of IR stressors. Gore (1978), in a two-year longitudinal study, found that social support offered by spouses, relatives and friends moderated the physical and psychological illness symptoms experienced by retrenched blue-collar workers. Haywood and Taylor (1981) report that during the nine-month Inco Metals strike involving approximately 12 000 Canadian steelworkers, wife and community support committees were formed and were responsible for reducing the traumatic and discouraging experiences of the strike. Thus social support offered by the family is seen as an important source of stress resistance and is included in the IR stress model.

Combined impact of hardiness and social support. Recently, several authors have examined the combined impact of hardiness and social support on moderating the stress-strain relationship (Ganellen & Blaney, 1984; Kobasa & Puccetti, 1983; MacRwen & Barling, 1986). Results suggest that it is important to consider the joint impact of these two moderators when conducting stress resistance research (Maddi & Kobasa, 1984). Consequently, the combined impact of hardiness and social support offered by supervisors and family, respectively, will be investigated in the present study.

Covariates of IR Strain

Certain demographic variables are associated with the IR stress-strain relationship (see Figure 7.1). However, because the present thesis is aimed at examining psychological, rather than demographic processes, the demographic variables have not been treated as moderators. Instead, they are included as covariates in the model, and thereby controlled statistically. Similarly, the equivalents of the dependent var-

iables measured at Time 1 are included as covariates in an effort to control for spuriousness. The shared variance between the covariates and dependant variables will be partialled out before the contributions of the remaining variables are considered (Willemsen, 1974). By controlling for the demographic variables and Time 1 equivalents of the dependent variables, one of the conditions underlying causal analysis will be addressed: James *et al.*, (1983) state that all relevant causes of the dependent variable must be included in the analysis. Thus demographic predictors of the three outcome variables, along with the equivalents of the dependent variables measured at Time 1 will be included in the IR stress model, albeit as control variables.

Age. Age influences the stress-strain relationship (e.g., Ivancevich & Matteson, 1980; Kellam, 1974). Furthermore, Kochan (1980) suggests that demographic characteristics of the workforce such as age, race and sex influence worker expectations and attitudes regarding trade unions and jobs, and in turn, influence collective bargaining goals and outcomes. Thus age is included in the IR stress model.

Race. Race influences the organisational stress-strain process (e.g., Ford, 1980; Quick & Quick, 1984). For example, Orpen (1982) found higher levels of role stress in black South African clerks than in their white colleagues. Race discrimination, an important source of organisational stress, abounds in South African employment practices (Bluen, 1984). Other factors seen to increase the stress levels of blacks include cross-cultural differences (Bhagat & McQuaid, 1982; Du Preez, 1986), marginality (Berry, 1970; Piron *et al.*, 1983), and impoverished environmental conditions (Van der Merwe, 1983). Furthermore, in Chapter 6 it was found that blacks exhibit significantly higher levels of IR stress than whites. Consequently, race has been included in the IR stress model.

Sex. Women are also discriminated against (Bluen, 1984; Brief *et al.*, 1981; Cooper & Barrett, 1984; Hemming, 1985), and experience higher levels of organisational strain than men (Cooper & Melhuish, 1980). Women also experience work-home role conflict (Barling, 1986; Chusmir, 1982; Hauenstein *et al*, 1977). Furthermore, social support has been found to be less affective as a buffer of the organisational stress-strain relationship for women than for men (Holahan & [illegible]os, 1981). Thus gender is seen to influence organisational stress in several ways. Consequently, sex has been included in the IR stress model.

Job position. French and Caplan (1973) list job position as one of the eight sources of organisational stress in their model (see Chapter 3). Different occupational groups experience organisational stress qualitatively and quantitatively *differently* (French & Caplan, 1973). Considerable emphasis has been placed on managerial stress (e.g., Moss, 1981; Schuler, 1980; Strumpfer, 1983). Recently, however, there has been an increased awareness of the stressors facing blue-collar workers (e.g., Axelrod & Gavin, 1980; Jamal, 1985; Shostak, 1980). From these two foci it appears that the major groupings in IR, labour and management, experience stress differently. Furthermore, the high correlation between race and class in South Africa *may accentuate* these differences. Therefore, job position is seen as a potential moderator in the IR stress-strain process.

Union-related demographic variables. No reference could be found in the literature to the moderating effect of union membership, union office and union affiliation in the organisational stress-strain relationship. However, *these variables are* seen to be important in an IR stress model.

First, people join unions because they are discontented with the intrinsic and extrinsic features of work (Bluen & Fullagar, 1986; Gordon & Nurick, 1981). Webster (1983) suggests that current South African un-

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ionisation results largely from black worker perceptions of their lack of organisational and political power, victimisation and discrimination. These conditions are all potentially stressful (see Chapter 4). In addition, once workers join unions, union activities can increase their awareness of the stressful aspects of work (Borjas, 1979). Also, unionised workers are subject to further victimisation and intimidation because they have joined the union (Allen & Keaveny, 1983). Thus joining a union is seen to be stressful. Indeed, in Chapter 6 it was found that union members recorded significantly higher levels of IR stress than their non-unionised counterparts. Thus union membership has been included as a covariate in the IR stress model.

Second, union members who hold office are subject to greater stress levels than rank-and-file members (see Chapter 4). In Chapter 6 it was found that union office bearers recorded significantly higher IR stress levels than rank-and-file members.

Third, in Chapter 4 it was argued that different union positions are associated with different stressors. Union officials typically face role conflict and quantitative role overload (Gullahorn, 1956; Warr, 1981), whereas shop stewards experience role conflict, ambiguity, and both quantitative and qualitative role overload (Nicholson, 1976; Warren, 1971). Consequently, union position has been included in the IR stress model.

Finally, unions can be differentiated according to their objectives and functions (Bendix, 1978; Webster, 1983). Hoxie (1919), for example, dichotomised unions into 'business' and 'uplift' unions; the former provide an economic service for their members, and the latter act as agents for political change. The activities of different types of unions may lead to different experiences of stress. In South Africa, unions are grouped into several federations (Jones, 1984). The black emergent unions are either members of the newly formed Congress of South African Trade Unions (which incorporates the Federation of South African Trade Unions and many of the previously unaffiliated unions), the Council of Unions

of South Africa, or the Azanian Confederation of Trade Unions. On the other hand, the 'non-black' unions are largely members of the South African Confederation of Labour, or the Trade Union Council of South Africa. In the past decade, *almost all strikes* (National Manpower Commission, 1985), stayaways (Rigby *et al.*, 1986), detentions of trade unionists (Bluen, 1986) changes in collective bargaining practices (Webster, 1984), trade union growth (National Manpower Commission, 1985), and inter union/inter-federation realignments (Hindson, 1984) have involved the emergent black unions. Therefore it is suggested that members of emergent unions experience greater stress levels than members of the 'established' unions. Hence the union *affiliation variable has* been included as a covariate in the IR stress model.

Rank Ordering of the Variables

As with any causal analysis, before empirically testing the IR stress model, it is necessary to state theoretically the order of including the variables into the *regression equation* (*James et al.*, 1983). First, the variables to be controlled statistically will be entered into each statistical equation (Pedhazur, 1982). Thus all the significant demographic variables and the pretest dependent variables will be entered simultaneously into the equation (Nie, Hull, Jenkins, Steinbrenner & Bent, 1975).

Following the stimulus-response approach to stress (e.g., Selye, 1956; see *Chapter* 2), *IR stress is seen as* the most important predictor of strain in the present study. Therefore, after entering the control variables, the IR stress variable will be entered first into the *equation* for all analyses.

One of the objectives of the present study is to determine whether the moderator variables influence the IR stress-strain relationship using moderated multiple regression (Zedeck, 1971). In moderated multiple regression, *after controlling for* covariates, the independent variable

(i.e., IR stress) is entered first into the equation. Then the moderator variable main effects (*i.e., hardiness, supervisor* and *family* support) are entered to assess whether they contribute independently to the variance in the dependant variable. Thereafter, the interaction terms (i.e., independent variables x moderator variables) are included in the equation to test the moderator hypothesis (Zedeck, 1971).

Finally, it is necessary to determine the order of including the moderator variables. Various studies attest to the superiority of hardiness over *social support as a moderator of stress* (Kobasa, 1982a; Kobasa & Puccetti, 1983; Ganellen & Blaney, 1984). Kobasa and Puccetti (1983) suggest that hardiness is a more important resistance resource than social support. A feature of hardiness involves knowing when to turn to others for help, and to take maximum advantage of even the smallest amounts of social support being offered. Conversely, a person low in hardiness and high in social support may appraise both internal and external means of *resolving stress in a pessimistic way* (Kobasa & Puccetti, 1983). Kobasa and Puccetti (1983) found that hardiness exerted a greater influence on illness scores than either supervisor or *family* support. Kobasa (1982a) found that the commitment component of hardiness moderated the strain symptoms in a sample of lawyers, but that social support did not significantly affect the level of strain. Ganellen and Blaney (1984) assessed the moderating effects of the three hardiness constructs and social support. They *found that the commitment*-alienation component of hardiness yielded the only significant interaction effect. They suggest that the hardy person may be more active in seeking out *social support*, particularly in stressful conditions (Ganellen & Blaney, 1984). Thus hardiness is regarded as a more important moderator of IR stress than social support, and will be included first amongst the moderator variables.

Social support offered by supervisors will be included before the family support variable for the following reasons. La Rocco *et al.* (1980) suggest that specific stressors are mainly affected by sources *of social*

support related closely to those stressors. "Thus work-related stresses and strains should be, and are, affected primarily by *work-related* sources of support" (La Rocco *et al.*, 1980, p. 214). Furthermore, studies comparing the effectiveness of supervisor and family sources of social support as moderators of the organisational stress-strain relationship have found supervisor support to be the superior moderator (Kobasa & Puccetti, 1983; *La Rocco et al.*, 1980).

Finally, the two-way interaction terms will be entered into the model before the three-way interactions (Cohen & Cohen, 1975). The specific ordering of interaction terms will be determined by the priority of the variables making up each interaction (i.e., stress x hardiness, stress x supervisor support, stress x family support; stress x hardiness x supervisor support, stress x hardiness x family support, and stress x supervisor support x family support).

The order in which variables will be included in the assessment of all three dependent variables is:

1. Control variables
   - significant demographic variables
   - dependent variables (measured at Time 1)
2. *IR stress*
3. Hardiness
4. Social Support offered by
   - Supervisors
   - Families
5. Interaction terms
   - Two-way interactions
   - Three-way interactions

Having outlined the theoretical model of IR stress, the focus shifts to the empirical evaluation of the model.

Method

Subjects

Questionnaires, demographic details, covering letters and prepaid, self-addressed envelopes were distributed to members of diverse organisations and institutions involved in the teaching, training, consulting, or practice of IR. The initial choice of organisation was based on the following criteria:

1. Each organisation was directly involved in ongoing labour-management relations.

2. To increase subsequent generalisability, different types of organisations in various sectors were included in the sample (Cook & Campbell, 1976). Also, attempts were made to include organisations with branches throughout South Africa so that a national sample could be obtained.

Consequently, the list of organisations participating in the study included a university business school, a business management training institution, an institution for IR training and consulting, and several trade unions and companies. The original sample consisted of a nation-wide range of management and union representatives involved in the IR process, from diverse economic sectors.

Presentations of the proposed research project were given to key people in each selected organisation. All the organisations agreed to participate in the study with two exceptions. In one case, a presentation to the human resources directors of all subsidiaries of a major manufacturing and mining corporation resulted in only one subsidiary company agreeing to participate. In the second instance, a large engineering corporation refused to participate because they had just experienced a protracted strike and they felt that conducting the study might be too sensitive at that time. Similarly, one large retailing group had also recently experienced labour unrest and therefore were only prepared to distribute instruments to management representatives.

Because the design of the study required repeated measurement, subjects were requested to state their names on the questionnaires so that their two separate responses (recorded at Time 1 and Time 2) could be matched. Questionnaires were only distributed to people a) directly involved in the practice of IR, and b) who were able to read and write English. This latter provision reduced the potential for problems associated with understanding the questionnaire or with different language forms of the instrument from occurring (White, 1982).

Of the 2 301 questionnaires distributed, 22 were returned as undeliverable by the post office. A further 31 questionnaires, originally sent to one particular trade union, were eliminated: Only one response was received which therefore was deemed unrepresentative of that subgroup. Thus, effectively, 2 248 questionnaires were distributed, of which 821 responses were returned, representing a 36,5% response rate. However, there were only 752 usable responses, which reduced the response rate to 33,5%.

The second questionnaire was sent to the 752 subjects who had returned usable responses at Time 1. Five people were eliminated from the sample because they had moved, leaving no forwarding address. Responses were received from 506 people representing a 67,7% response rate. However, 48 questionnaires were unusable and therefore eliminated, reducing the final sample to 458, a 61,3% response rate. Thus, of the original 2 248 questionnaires mailed, 20,5% were included in the final analyses.

Demographic details of the initial and final samples are presented in Table 7.1. The demographic characteristics of the final sample (n = 458) closely resemble the original sample (n = 752). In none of the categories of the discrete variables did the percentage distribution differ by more than 5% between the original and the final sample (see Table 7.1). Subsequent Chi-square tests revealed only one significant difference between Time 1 and Time 2 respondents, that is, for the job category variable (X^2 (1, n = 752) = 11,98, p < ,01): The final (Time 2) sample contained significantly more managers and less workers than the initial

Table 7.1

Demographic details of the initial and final sample

	Time 1 (N= 752)		Time 2 (N = 458)	
	n	%	n	%
Sex				
Male	637	85	398	87
Female	110	15	58	13
Missing	5		2	
Race				
Black[1]	246	33	141	31
White	489	67	313	69
Missing	8		0	
Job Position				
Management	531	71	345	75
Workers	221	29	113	25
Missing	0		0	
Union Membership				
Yes	96	13	59	13
No	644	87	393	87
Missing	12		6	
Affiliation of the Union[2]				
Unaffiliated	25	37	13	32
TUCSA	17	25	11	27
CUSA	9	13	6	15
FOSATU	13	19	8	20
Other	4	6	3	7
Missing	684		417	
Union Position				
Yes	41	36	27	39
No	72	64	43	61
Missing	639		388	
Title of Union Position				
Shop Steward	15	37	10	38
Official	16	39	10	38
Other	1	2	0	0
Missing	711		432	
Age				
M	35,44		36,57	
SD	9,69		9,90	
Missing	10		6	

[1] Including Indian and 'Coloured' people

[2] Affiliations of unions: TUCSA = Trade Union Council Of South Africa
CUSA = Council of Unions of South Africa
FOSATU = Federation of South African Trade Unions

(Time 1) sample. No significant differences were recorded for the remainder of the demographic variables.

Design

A two-panel longitudinal design was used in the study (Rogosa, 1980). Subjects completed the same instrument on two separate occasions (Time 1 and Time 2), six months apart. Thus the design facilitated the determination of a time sequence between variables, which is the first prerequisite for establishing causality (Calsyn, 1976).

There were three dependent variables, psychological health, job satisfaction and propensity to leave the organisation; one independent variable, negative stress; and three moderator variables, hardiness, supervisor support and family support. Two-way and three-way interaction terms, derived from the product of the independent variable and the moderators respectively, were included (Zedeck, 1971).

Measuring Instruments

Each of the seven scales used in this study will be discussed separately.

Dependent Variables

Psychological health. The *General Health Questionnaire* (Goldberg, 1972) is a self-administered screening test originally designed to detect psychological ill health in community settings. Subjects compare their present state to their usual state, thereby focusing on symptoms rather than personality traits. Each item consists of a question asking if the subject has recently experienced a particular symptom or behaviour 'less than usual' (1), 'no more than usual' (2), 'rather more than usual' (3), or 'much more than usual' (4). In the original scoring format responses

are dichotomised, however, a four-point Likert format was used in the present study to overcome potential problems associated with truncated ranges (Neale & Liebert, 1980). Banks, Clegg, Jackson, Kemp, Stafford and Wall (1980) report that the Likert scoring format provides a more acceptable distribution of scores than the dichotomous method for use in parametric statistical analysis. Goldberg (1972) found that the General Health Questionnaire yields comparable reliability and validity characteristics when the four-point Likert scoring format is adopted.

Goldberg (1972) reports that the *General Health Questionnaire* exhibits temporal consistency over a six-month period: Of the 114 patients included in the test-retest analysis, 65 suggested that their condition had remained the same. Of the 87 test-retest patients examined by doctors, 51 were rated about the same on both occasions. Further six-month time consistency tests of the General Health Questionnaire yielded reliability coefficients of ,51 (dichotomous scoring) and ,58 (Likert scoring; Goldberg, 1972). Also, *split-half reliability* coefficients of ,95 (dichotomous scoring) and ,96 (Likert scoring) were reported for a sample of 853 subjects (Goldberg, 1972).

Goldberg (1972) reports numerous studies where scores on the General Health Questionnaire correlate in the predicted direction with clinical assessments for both scoring formats ($r > ,75$). The General Health Questionnaire has also been used to predict short-term responses to various therapies (*Johnstone & Goldberg*, 1976; Parker & Tupling, 1976; Prince & Miranda, 1977). Furthermore, the General Health Questionnaire has been validated against established scales measuring psychological symptoms (e.g., Goldberg, Cooper, Eastwood, Kedward & Shepard, 1970; Wing, Cooper & Sartorius, 1974). Another advantage of the General Health Questionnaire is that there are cut-off scores that indicate the extent of psychological disturbance (Goldberg, 1972). Banks *et al.* (1980, p. 193) state "...*the GHQ provides a useful estimate* of the severity of psychiatric illness for use in the study of employment-related and occupational problems."

In the present study, for the sake of parsimony, the 12-item version of the *General Health Questionnaire* was used. These 12 items demonstrated the best psychometric properties in the entire scale (Goldberg, 1972). Goldberg (1972) reports acceptable test-retest reliability for the 12-item version of the General Health Questionnaire (r = ,73) over a six-month period and satisfactory split-half reliability, (M α = ,83). Similarly, Banks *et al.* (1980) administered the 12-item version of the General Health Questionnaire to three separate samples and found alpha coefficients of between ,82 and ,90. In the present study internal consistency (Cronbach's α) of the General Health Questionnaire was ,97 (Time 1) and ,93 (Time 2). Test-retest reliability over the six-month period was ,35 (p < ,001) (see Table 7.2). (For comparisons, means and standard deviations of all Time 1 and Time 2 measures are also presented in Table 7.2). Goldberg (1972) shows that the 12-item version of the General Health Questionnaire yields comparably satisfactory validity scores to those found for the longer versions of the scale. Banks *et al.* (1980) found that the 12-item version of the General Health Questionnaire is sensitive to sex differences and to differences in employment status, thereby providing construct validity for the scale.

Besides its clinical application, the General Health Questionnaire has also been used extensively as a measure of strain in general stress research (e.g., Cohan, Kamarck & Mermelstein, 1983; Frydman, 1981; Kennedy, Thompson, Stencer, Roy & Parsad, 1983; Monroe, Imhoff, Wise & Harris, 1983; Tennant & Andrews, 1978), organisational stress research (e.g., Banks *et al.*, 1980; D'Arcy, Syrotnik & Siddique, 1984; Wall & Clegg, 1980; Wall, Clegg & Jackson, 1978), and IR stress research (Barling & Milligan, 1985; MacBride *et al.*, 1981). Consequently, the 12-item General Health Questionnaire was used as a measure of psychological well-being in the present study (see Appendix 2).

Job satisfaction. The 15-item *Job Satisfaction Scale* (Warr, Cook & Wall, 1979) was designed to measure satisfaction with intrinsic and ex-

trinsic features of the job. Each item deals with an aspect of work (e.g., the physical work condition, promotion opportunities), to which respondents are required to rate their level of satisfaction or dissatisfaction on a seven-point Likert scale ranging from 'I'm extremely dissatisfied' (1), to 'I'm extremely satisfied' (7). In the present study, for ease of response (Morris & Van der Reis, 1980), a three-point format ('I am unhappy', 'I am not sure', and 'I am happy') was adopted (see Appendix 2).

In a sample of 200 blue-collar male workers, internal homogeneity was acceptable (α = ,78) (Warr *et al.*, 1979). Test-retest reliability was assessed over a six-month period, yielding a correlation coefficient of ,63 (Warr *et al.*, 1979). Cronbach's alpha calculated for the Job Satisfaction Scale in the present study was ,95 for both administrations of the instrument. The test-retest reliability coefficient was also significant (r = ,63, p < ,001) (see Table 7.2).

In a sample of 590 male blue-collar workers, the Job Satisfaction Scale correlated significantly (p < ,001) and in the predicted direction with measures of intrinsic job motivation (r = ,35), work involvement (r = ,30) life satisfaction (r = ,42) happiness (r = ,49) and self-rated anxiety (r = -,24) (Warr *et al.*, 1979). In a South African sample of 56 females employed in diverse jobs either at a bank or a transport company, Barling and Janssens (1984) found that the Job Satisfaction Scale correlated significantly with a measure of individual health (r = ,38, p < ,01). Given the psychometric adequacy and the conciseness of the Job Satisfaction Scale, it was chosen as a measure of work attitudes in the present study (see Appendix 2). Due to a clerical error, one of the items of the Job Satisfaction Scale, 'Your rate of pay', was erroneously omitted from the original (Time 1) questionnaire. Therefore, to ensure consistency, that item was excluded from all analyses. Thus only 14 items of the Job Satisfaction Scale were considered in the present study.

Withdrawal behaviour - propensity to leave the organisation. The three-item *Propensity to Leave Scale* (Lyons, *1971*) assesses a) how long respondents would like to remain employed in their current organisation; b) given freedom of choice, whether respondents would prefer to continue to work in the organisation; and c) if they left work for some time, whether they would return to the same organisation. The original items were scored on *a five-point scale*, but for ease of response (Morris & Van der Reis, 1980), a three-point Likert scale ranging from 'No' (1), through 'Not sure' (2), to 'Yes' (3) was used in the present study for two of the items. To maximise response range, a six-point scale ranging from 'One year' (1), to 'More than 10 years' (6), was used for the third. Also, the scale was originally developed to assess turnover intentions in a sample of 156 female nurses (Lyons, 1971). Consequently, following Rousseau (1978), *item wording* was modified (i.e., 'hospital' changed to 'organisation') for use in the present study (see Appendix 2).

Lyons (1971) reports a Spearman-Brown *internal reliability coefficient* of ,81 for the Propensity to Leave Scale. Bedeian and Armenakis (1981) report an internal consistency measure (coefficient α) of ,76 for the scale. Similarly, Mossholder, Bedeian & Armenakis (1982) report a reliability of ,79 for the scale (coefficient α). Although the Propensity *to Leave Scale was* originally developed for samples of nurses, its psychometric properties have been assessed for use in other organisations: For a sample of 271 organisational employees, *Rousseau* (1978), *reports* an internal consistency (coefficient α) of ,71 and a three-month test-retest reliability of ,63. Cronbach's α calculated for the Propensity to Leave Scale in the present study was ,72 (Time 1) and ,79 (Time 2). Test-retest over the six-month interval was ,57 ($p < ,001$; see Table 7.2).

Lyons (1971) reports a significant ($p < ,01$) Pearson correlation between the Propensity to Leave Scale and a measure of role clarity ($r = -,27$). Bedeian and Armenakis (1981) report *significant* correlations ($p < ,001$) in the predicted direction between the Propensity to Leave Scale and measures of role ambiguity ($r = ,29$), role conflict ($r = ,31$),

work-related tension (r = ,39), and job satisfaction (r = -,52) in a sample of 202 nursing staff. Similarly, Brief and Aldag (1976) report significant correlation of the scale with measures of role ambiguity (r = ,25), and role conflict (r = ,23) for a sample of 77 nursing aides. Mossholder *et al.* (1982) report significant correlations (p < ,05) between the Propensity to Leave Scale and measures of peer group interaction (r = -,31), and work-related tension (r = ,30) in a sample of 206 nursing employees. Rousseau (1978) found significant correlations (p < , 05) in the predicted direction between measures of perceived role and task characteristics and the Propensity to L .e Scale. Sutton and Rousseau (1979) found significant correlations (p < ,05) between the Propensity to Leave Scale and two measures job perceptions (formalisation: r = ,21; and participation r = ,30) in a sample of 155 managers employed in 14 organisations. Hence the scale was adjudged to possess suitable psychometric properties and was used in the present study (see Appendix 2).

Independent Variable

Industrial relations stress. The *Industrial Relations Event Scale* (IRES), developed and described in Chapter 6, yields three subscales. The Occurrence *subscale measures* the number of stressful IR events experienced, and the Negative and Positive impact subscales measure the respective perceived negative and positive impact of each event experienced.

In the present study, test-retest reliability over the six-month period was significant (r = ,61, p < ,001). The IRES has subsequently been used in another study: Barling and Milligan (198 , report significant (p < ,01) test-retest reliability over a two-month period for the occurrence subscale (r = ,64); negative subscale (r = ,58); and positive subscale (r = ,28) in a sample of teachers who had been legislated back to work after a strike. Barling and Milligan (1985) also report significant correlations between the occurrence and negative subscales (but

not the positive subscale) and measures of psychological well-being (occurrence: r = ,36, p < ,01; negative: r = ,43, p < ,001), and psychosomatic symptomatology (occurrence: r = ,26, p < ,01; negative: r = ,38, p < ,001) respectively.

Given the poor performance of positive impact scores both in the development of the IRES (see Chapter 6), and in other empirical life events studies (e.g., Barling & Milligan, 1985; Vinokur & Selzer, 1975; Sarason *et al.*, 1978), the Positive subscale was not included in the present study. Although satisfactory construct validity was recorded for the Occurrence subscale (see Chapter 6) and occurrence of stressful life events is well documented as a measure of psychological stress (e.g., Dohrenwend & Dohrenwend, 1978; Holmes & Rahe, 1967), the Occurrence subscale was omitted in the present study: Correlations between the Occurrence and Negative subscales were sufficiently high (r = ,75; p < ,0001) to challenge the assumption of multicollinearity underlying multiple regression (Pedhazur, 1982). Also, the occurrence subscale is an objective measure of stress, whereas the focus in the present study is on the subjective meaning of stress. IR stress, then, was assessed solely by the 63-item Negative impact subscale. Psychometric properties of the scale are set out in Chapter 6.

Moderator Variables

Hardiness. Psychological hardiness is a composite of three existential constructs; commitment, control and challenge (Kobasa, 1982b). Kobasa and her associates (e.g., Kobasa, 1979a, 1979b, 1982b; Kobasa, Maddi & Zola, 1982; Kobasa & Puccetti, 1983; Maddi & Kobasa, 1984) measure hardiness using five existing scales that have been psychometrically validated. Commitment is assessed using the Alienation from Work and Alienation from Self Scales of the Alienation Test (Maddi, Kobasa, & Hoover, 1979). Indicators of control are the Internal-External Locus of Control Test (Rotter, 1966; Rotter, Seeman & Liverant, 1962) and the

Powerlessness Scale of the Alienation Test (Maddi *et al.*, 1979). Finally, *challenge* is measured by the Security Scale of the California Life Goals Evaluation Schedules (Hahn, 1966).

Except for the External Locus of Control Test (Rotter, 1966) which has a forced choice format, all hardiness scales adopt a four-point Likert format, ranging from 'Not at all true' (0), through 'A little true' (1), 'Quite true' (2), to 'Completely true' (3). In the present study, to simplify response format (Morris & Van der Reis, 1980), a three-point scale ranging from 'Agree' (1), through 'Not sure', to 'Disagree' (3) was used. Also, the scales were converted from negative to positive indications of the commitment, control and challenge dimensions.

Although Ganellen and Blaney (1984) and Kobasa (1982a) found that the different components of hardiness exert different effects, hardiness is usually treated as a composite measure (Kobasa, Maddi & Kahn, 1982; Kobasa, Maddi & Puccetti, 1982). For example, Kobasa, Maddi and Kahn (1982) report that the five hardiness scales revealed significant, moderately high inter-correlations ($p < ,005$) in the predicted direction. A principal-components factor analysis yielded the first and only large factor which accounted for the 46,5% of the variance (Kobasa, Maddi & Kahn, 1982). Kobasa (1982b) reports a stability correlation of ,61 over a five-year period for the composite hardiness measure.

Because of its excessive length, a shortened version of the hardiness scale was sought. In a subsequent memorandum, Kobasa and Maddi (1982, Note 1) state

> "Efforts to reduce the number of items (in the hardiness composite) have culminated in a shortened 20-item version. These items were the most highly correlated with the total hardiness score. ... Coefficient Alpha is ,81 for the 20-item version. In addition, we have been able to duplicate key findings in our studies by substituting the 20-item for the full-length version" (Kobasa & Maddi, 1982, Note 1, p. 1).

The 20-item version of the hardiness scale has been used successfully with a sample of 163 male, English speaking South African commercial and industrial managers (Strumpfer, 1983). MacEwen and Barling (1986) report

that the 20-item scale is internally (α = ,76) and temporally (r = ,63) consistent over a three-month period, and the scale correlates significantly with measures of family support (r = ,30) and marital adjustment (r = ,28; p < ,05) in a sample of 51 employed mothers. Thus, because of its psychometric properties and its length, the 20-item version of the Hardiness Scale was administered in the present study (see Appendix 2). Coefficient α was ,87 for the present sample tested on the 20-item Hardiness Scale at Time 1 and ,85 at Time 2. The six-month test-retest reliability coefficient was ,75 (p < ,001) (see Table 7.2).

Social support from supervisors. The *three-item version of the Supervisory Support Scale* forms part of the Survey of Organizations (Taylor & Bowers, 1972). The scale is designed to assess perceived supervisor approachability in offering support. Because the scale is so short, the original five-point Likert response format ('To a very little extent' (1), To a little extent' (2), 'To some extent' (3), 'To a great extent' (4), and 'To a very great extent' (5)), was retained to prevent range truncation (Neale & Liebert, *1980; see Appendix 2*).

Coefficient alpha for a sample of 325 work groups in an oil refinery was ,94, and for samples drawn from seven types of organisations totalling 1 048 subjects, Spearman-Brown reliability coefficients of between ,90 and ,93 were recorded (Taylor & Bowers, 1972). Furthermore, cluster analysis supported the *a priori* classification of the leadership support dimension (Taylor & Bowers, 1972). In a sample of 202 nursing staff, Bedeian *et al.* (*1981*) *report a coefficient alpha* reliability of ,91 for the Supervisory Support Scale. In the present study the internal consistency of the scale was calculated using Cronbach's alpha, which yielded coefficients of ,80 (Time 1) and ,93 (Time 2). Test-retest reliability over the six-month period was significant (r = ,45, p < ,001) (see Table 7.2).

Bedeian *et al.* (1981) found significant (p < ,01) partial correlations of the *Supervisory Support Scale* with measures of role ambiguity

(-,27) and role conflict (-,32). The scale has also been used successfully in assessing changes in worker perceptions of leadership in samples of female assembly-line operators (Koch, 1979), and shop-floor supervisors (Koch, 1978). Consequently, the *Supervisory Support Scale* was seen to be psychometrically sound and suitable for inclusion in the present study (see Appendix 2).

Social support from family. The *Perceived Social Support from Family Scale* (Procidano & Heller, 1983) is designed to measure the extent to which one perceives whether one's needs for support, information, and feedback are met by one's family. The scale also reflects instances of support reciprocity (i.e., support being offered *by* the individual). Each of the 20 items is a declarative statement to which the respondent answers 'No' (1), 'Don't know (2), or 'Yes' (3) (see Appendix 2).

The Perceived Social Support from Family Scale demonstrated a high degree of internal consistency (α = ,90) in a sample of 222 undergraduates (Procidano & Heller, 1983). Satisfactory test-retest reliability of a preliminary version of the scale is also reported (r = ,83 over a 1-month interval; Procidano & Heller, 1983). Similarly, MacEwen and Barling (1986) report satisfactory internal (α = ,91) and temporal (r = ,72) consistency over a three-month period for the scale. In the present study internal consistency for both administrations of the Perceived Social Support from Family Scale was high (α = ,94). Test-retest reliability over the six-month period was ,71 (p < ,001; see Table 7.2).

A factor analysis with orthogonal factor rotation yielded a univariate factor structure (Procidano & Heller, 1983). The scale correlated significantly (p < ,01) and in the predicted direction with measures of social competence (r = ,35), depression, (r = -,43), psychasthenia, (r = -,33), schizophrenia (r = -,33), and intangible support provided by family members (r = ,34; Procidano & Heller, 1983). MacEwen and Barling (1986) found significant correlations between the Perceived Social Support for Family Scale and measures of hardiness (r = ,30) and marital

adjustment ($r = ,50$; $p < ,05$). From the above findings, the Perceived Social Support from Family scale was seen to be an appropriate, psychometrically acceptable instrument to include in the present study (see Appendix 2). Indeed, Tardy (1985) regards the scale as one of the major social support scales in current use.

Procedure

The research outline was formally presented for approval to representatives of diverse, English-medium organisations involved in the practice of IR. Each organisation that agreed agreed to participate received the appropriate number of questionnaires, covering letters and self-addressed, stamped, prepaid envelopes. These were then distributed to the target sample (consisting of students in educational institutions; employees in companies; union members in unions, and members on the mailing list in various institutes).

In the covering letter the details of the study were outlined and subjects were asked if they wished to participate. They were informed that participation, which was voluntary, entailed completing the questionnaire on two separate occasions over a six-month period. Confidentiality was assured and no organisation was given access to any raw data. Reminder letters and duplicate questionnaires were sent out after six weeks to those subjects who had not yet replied. Dates of completion of the questionnaires were recorded and the second questionnaire was mailed exactly six months later (minus one week to allow for postal services). Subjects were thanked for completing the first questionnaire and were urged to complete the second. Once again, follow-up reminder questionnaires were mailed to non-respondents six weeks later (see Appendix 2).

Statistical Analysis

The aim of the present study is to determine the effects of IR stress on psychological and organisational *manifestations of strain*, and to see if individual (hardiness) and situational (supervisory and family support) factors influence the stress-strain relationship. The study therefore entails confirmatory analysis, whereby the fit between a theoretical model and empirical data is tested (James *et al.*, 1983). If the *model is shown* to fit the data then the model is regarded as being confirmed (James *et al.*, 1983).

Theory plays a central role in the *derivation of a causal model*. It is used

> "to isolate groups of variables into a system of functional equations.... to identify relevant causes that should be included in a functional equation,... to build case that causes not included in a functional equation are *not relevant causes*, and... to specify the causal ordering of equations or subsystems within a system of equations (James *et al.*, 1983, p. 25).

Once the theoretical model has been constructed, it is necessary to subject the model to *empirical validation*. In experimental settings, causation is assessed by manipulating the variable of interest, controlling for other relevant variables through randomisation, and then observing the variation in the dependent variable (Kerlinger & Pedhazur, 1973).

However, in the present study, a correlational design is adopted (Kerlinger, 1973). The researcher can neither manipulate the variable of interest nor *randomise the sample* (Kerlinger & Pedhazur, 1973; Neale & Liebert, 1980). Thus there is a need for caution in interpreting the analyses of non-experimental research: Neither correlation nor any other index is proof of causation. Rather, specialised statistical techniques need to be applied to assess whether the data lends support to the theoretical model.

Several statistical techniques have been produced to test causal models (Calsyn, 1976). One approach is cross-lagged panel correlation

(e.g., Calsyn, 1976; Clegg, Jackson & Wall, 1977; Kenny, 1975) which involves at least two variables (*x and y*) *measured* simultaneously two or more times (Time 1 and Time 2). Given that the assumptions underlying cross-lagged panel correlation are met (e.g., synchronicity and stationarity), if $rx_1y_2 > rx_2y_1$, then x can be said to cause y (Calsyn 1976). Cross-lagged panel designs have been used in occupational research in *general* (Clegg *et al.*, 1977), and in organizational stress research in particular (e.g., Bateman & Strasser, 1983). Therefore, cross-lagged panel analysis seems appropriate for use *in the present study.*

However, one of the basic assumptions of cross-lagged panel correlation, synchronicity, is violated in the present design. Synchronicity entails that the two variables x and y are measured at the same point in time (Kenny, 1975). Usually, by presenting instruments measuring x and y in a single test battery, synchronicity is assured. But in the present study, the negative impact scale conforms to the life events format which requires that *respondents consider* events that have occurred over a set period (e.g., one year) *in the past* (Dohrenwend & Dohrenwend, 1974). Kenny (1975) specifically states that if one variable is measured retrospectively (i.e., IR stress) and the other is measured concurrently (e.g., job satisfaction), then the assumption of synchronicity is violated and the cross-lagged panel correlation technique cannot be used. Consequently, an alternate method of analysis was sought in the present study.

An alternative technique for which the assumption of synchronicity does not apply is path analysis. Path analysis, whose origins date back to the work of Sewell Wright in the 1920's (Schumm, Southerly & Figley, 1980), is a procedure for combining partial and multiple correlation to study the causal relations within a set of variables (Hunter & Gerbing, 1982). Using ordinary least squares regression, path analysis can test *a priori causal hypotheses against* observed correlations (Billings & Wroten, 1978). The popularity of path analysis over conventional multiple regression is derived from the fact that it can deal *more appro-*

priately with the complex of linear relations yielded when testing a complicated theoretical model (Schumm *et al.*, 1980).

Recently, path analysis has been used to test models involving organisational stress (e.g., *Bedeian & Armenakis*, 1981; Jackson, 1983). Given the sophistication of path analysis and its applicability to organisational stress research, the technique seems appropriate for use in the present study. However, in the present study, the focus is on the effects of the interaction between the independent and moderator variables on the dependent variable. Indeed, the analysis of moderator effects is an important component of stress research (Cleary & Kessler, 1982). Yet Kerlinger and Pedhazur (1973) list as the first assumption underlying the application of path analysis that "the relations among the variables in the model are linear, additive, and causal. Consequently, curvilinear, multiplicative or interaction relations are excluded" (p. 309). Thus an alternative technique was sought that could accommodate interaction terms.

One method of dealing with moderators is through subgroup analysis (Zedeck, 1971). *In subgroup analysis*, the sample is divided into the sub-categories of the moderator variable (e.g., males vs. females). Separate predictor - dependent variable relationships are calculated and comparisons are then made between the results obtained for each subgroup (Zedeck, 1971). This technique has been used extensively in general psychological research (Zedeck, 1971), and in organisational stress research in particular. Indeed, Kobasa uses the subgroup method of data *analysis extensively in researching* the hardy personality (e.g., Kobasa, 1979a, 1979b; Kobasa, Maddi & Kahn, 1982; Kobasa & Puccetti, 1983). Kobasa and Puccetti (1983) for example, dichotomised the *hardiness and* social support variables at their respective medians and conducted an analysis of covariance on data measured at Time 2 controlling for any differences in the data at Time 1. This technique allowed for a) causal inference to be made, and b) establishing the significance of the pur-

ported moderator variables as main effects, moderators, or both (Kobasa & Puccetti, 1983).

Although the subgroup analysis is widely used, two inherent methodological weaknesses have been identified (Cohen, 1978; Zedeck, Cranny, Vale & Smith, 1971). First, the technique relies on arbitrarily determined subgroups which increases the probability of obtaining spurious results. Second, by reducing continuous data into discrete subgroups, measurement information is lost, the strength of relationships is underestimated, and the decrease in sample size (necessitated by subgroup analysis) reduces the power of statistical tests.

These problems are overcome by an alternate treatment of moderator variables namely, moderated multiple regression (Saunders, 1956; Zedeck, 1971; Zedeck *et al.*, 1971). Moderated multiple regression allows for the examination of non-linear moderator effects, and provides more information about the main and interaction effects (Cohen, 1978; Cohen & Cohen, 1975; Zedeck, 1971). Furthermore, Zedeck *et al.*, (1971) note that moderated multiple regression is most effective where the predictor-dependent variable correlation is low. In the present study, relationships between negative stress and general health ($r = ,14$), job satisfaction ($r = -,33$), and propensity to leave ($r = -,09$) are low. Moderated multiple regression, then, appears a suitable technique for measuring moderator effects in stress research. However, closer inspection of the technique is required to determine its suitability for use in the present study.

Moderated multiple regression, originated by Saunders (1956), involves the calculation of prediction equations covering the total sample (rather than subgrouping individuals). Moderated multiple regression also increases the predictive power of conventional multiple regression by including interaction terms (Zedeck *et al.*, 1971). The aim of moderated multiple regression is to assess the contribution of a) the independent variable; b) purported moderators as independent variables; and c) interaction terms to the percentage of explained variance in the dependent

variable. Hence the general format of the moderated multiple regression equation is:

$Y = B_1x_i + B_2z_i + B_3x_iz_i + A$

Where:

Y is the least squares estimate of Y,

B's are the (raw score) regression coefficients,

x_i is the independent variable,

z_i is the moderator variable,

x_iz_i is the product of x_i and z_i, and

A is the Y-intercept (Cohen, 1978).

Two features of the moderated multiple regression equation require elaboration. First, provision is made for the inclusion of several moderator variables. This 'joint moderators' method overcomes "the traditional one-variable-at-a-time approach (which) does not consider the possibility that several moderators may have to be combined" (Zedeck *et al.*, 1971, p. 235). The facility for including joint moderators is essential in the present study where the effects of several moderators need to be assessed simultaneously. Second, the moderated multiple regression technique has been criticised because both linear (i.e., main effects) and nonlinear (i.e., interaction effects) terms are included in the equation (Sockloff, 1976). However, Cohen (1978) states that this problem of linear transformation is overcome if variables are included hierarchically into the regression equation, and moderated multiple regression does adopt the hierarchical method of variable inclusion (Kerlinger & Pedhazur, 1973).

Moderated multiple regression also allows for the inclusion of categorical variables in the model (e.g., race and occupation) as dummy variables (Pedhazur, 1982): Separate sets of variables are created so that for any particular variable, membership in a given category is assigned a '1' and non-membership in that category, a '0'. The mathematics underlying the construction of dummy variables requires that there is one less dummy variable than categories. Thus the last dummy variable

of any series is omitted to operate as a reference category against which the other dummy variables can be compared (Kerlinger & Pedhazur, 1973). For example, for the variable job position, one dummy variable will be created wherein managers are coded as 1 and workers as 0. The second dummy variable (where workers are coded as 1 and managers as 0), will then be excluded, for reference groups purposes.

Following the standard multiple regression technique (e.g., Cohen, 1968; Cohen & Cohen, 1975; Kerlinger & Pedhazur, 1973; Lewis-Beck, 1980; Pedhazur, 1982), the significance of the variables in the equation is determined by comparing the derived *F* values to tabled *F* values. To assess the goodness-of-fit of a multiple regression equation, the coefficient of multiple determination, R^2, is assessed. The R^2 reflects the proportion of variation in the dependent variables 'explained' by all independent variables (Lewis-Beck, 1980). Hence the change in R^2 reflects the contribution for each predictor variable, be it main effect or interaction effect, respectively.

Moderated multiple regression has been used extensively in organisational stress research to test for interaction effects in cross-sectional studies (e.g., Abdel-Halim, 1982; Bedeian *et al.*, 1983; Etzion, 1984; Jayratne & Chess, 1984; La Rocco *et al.*, 1980; La Rocco & Jones; Seers *et al.*, 1983; Winnubst *et al.*, 1982), and in causal, longitudinal research (Holahan & Moos, 1981). Holahan and Moos (1981) controlled for all variables tested at Time 1 and assessed the effects of change score independent variables on the dependent variables, measured at Time 2. Two aspects of Holahan and Moos' (1981) research are of particular importance in the present study. First, in multiple regression analysis variables can be controlled, thereby resembling the analysis of covariance method (Pedhazur, 1982): If one wishes to control certain variables statistically, these can be entered into the regression equation first, then only subsequent partial correlations are assessed (Holahan & Moos, 1981).

Second, Holahan and Moos (1981) highlight the use of change score variables. Although change scores have been used in longitudinal stress research (e.g., Barling & Milligan, 1985; Jackson, Stafford, Banks & Warr, 1983), there are statistical problems such as the unreliability of change scores and the problems of correlating raw change scores with initial status (Cronbach & Furby, 1970; Linn & Slinde, 1977; Rogosa, Brandt & Zimowski, 1982). Therefore, the use of change scores is considered unsuitable in the present study.

From the preceding discussion, it can be seen that moderated multiple regression is extremely well-suited to the design of the present study. The technique can accommodate the analysis of independent variables and moderators (Zedeck, 1971) in a longitudinal design (Holahan & Moos, 1981), and can be used for confirmatory analysis (James *et al.*, 1983). Consequently, the moderated multiple regression technique was the method of choice in the present study. Specifically, three separate moderated multiple regressions were conducted - one for each of the dependent variables (i.e., psychological health, job satisfaction and propensity to leave, all measured at Time 2). For each analysis, the equivalent of the dependent variable measured at Time 1 was entered first, and thereby controlled statistically (Nie *et al.*, 1975). At the same time, any demographic variables found to be significantly related to the dependent variable in question were also entered as control variables. Then the independent variable (negative stress), moderator variables (hardiness, supervisor support, and family support), two-way interactions (stress x hardiness, stress x supervisor support, stress x family support) and three-way interactions (stress x hardiness x supervisor support, stress x hardiness x family support, stress x supervisor support x family support), all measured at Time 1 were entered hierarchically into the regression equations for the particular dependent variable. Because "interactions greater than three-way are most difficult to conceptualize, not likely to exist, and are costly in statistical inference" (Cohen & Cohen, 1975, *p.* 296), four-way interactions were not analysed.

The hierarchical inclusion of variables in moderated multiple regression allows for the testing of moderator effects: Once the variance of the main effects have been accounted for, the increments in R^2 attributed to each interaction term are assessed statistically (Cohen & Cohen, 1975; Zedeck, 1971). In the present study, Cohen and Cohen's (1975) method of determining the significance of each interaction term was followed: For each successive variable included in the equation, the denominator degrees of freedom is increased by one while the numerator degrees of freedom is reduced by one (see Abdel-Halim, 1982; Cohen & Cohen, 1975).

By measuring the predictor and interaction variables at Time 1 while measuring outcome variables at Time 2 causality can be inferred in terms of time preponderance (Crano & Mellon, 1978). That is, "if variable A consistently precedes variable B, some causal relationships may be said to exist" (Barling, 1978, p. 190). But even if the condition of time preponderance is met, it is still necessary to control for spuriousness, which occurs when "the relationship between X and Y is not due to the causal effects of either but to the effects of a third variable Z" (Kenny, 1975, p. 888). By statistically controlling for the effects of the outcome variables measured at Time 1 and for any relevant demographic variables which may influence the stress-strain relationship, the chances of obtaining spurious findings in the present study were reduced (Holahan & Moos, 1981; Kenny, 1975; Neale & Liebert, 1980). The causal inference is further enhanced if the effects of the outcome variables measured at Time 1 are statistically controlled (Holahan & Moos, 1981).

To determine the directionality of any significant interaction effects found, subgroup means were plotted (controlling for the same covariates included in the moderated multiple regression analyses). Subgroup analysis has been used extensively to assess directionality in moderated multiple regression studies (e.g., Abdel-Halim, 1978, 1982; Bedeian *et al.*, 1983; Etzion, 1984; Saers *et al.*, 1983). As noted previously, subgroup analysis entails loss of information and accuracy

(Cohen, 1978; Zedeck *et al.*, 1971). Therefore, subgrouping was not used as a method of *analysis in the present study*, rather, it was used merely to reflect the interactions already found to be significant in the regression analyses (Abdel-Halim, 1978). Used for this purpose, " absolute values in the interaction diagrams are not as important as the general directions indicated" (Hunt, Osborn & Larson, 1975, p. 484). For each significant interaction, then, the distributions of the component variables were divided at the median (Etzion, 1984; Kobasa, Maddi & Kahn, 1982; *Kobasa & Puccetti*, 1983), and the corrected means were plotted (see Figures 7.2 and 7.3).

Before conducting the moderated multiple regression *analyses*, the various assumptions underlying both causal analysis (James *et al.*, 1983) and multiple regression (Lewis-Beck, 1980; Kerlinger & Pedhazur, 1973; Pedhazur, 1982) need to be addressed.

James *et al.* (1983) set out conditions underlying causal models. Although they *concentrate* on path analysis rather than moderated multiple regression (James *et al.*, 1983), James and Brett (1984) state that "the use of traditionally exploratory methods to test *causal models does* not absolve the researcher from having to satisfy conditions for confirmatory analysis" (pp. 308, 309). Hence James *et al.*'s (1983) conditions are addressed:-

1. A formal statement of theory is made in terms of a structural model wherein variables, causal connections and functional relations are set out.
2. Theory is used as a rationale for the *causal* hypotheses.
3. The causal ordering of variables is specified.
4. The hypothesised direction of causation for each causal connection in a structural model is stated.

Conditions 1 through 4 were all met in the introduction to this chapter (e.g., see Figure 7.1). Furthermore, Condition 3 (causal ordering) was satisfied by adopting the hierarchical technique of including

variables in a set order into the moderated multiple regression analysis (Pedhazur, 1982).

5. The structural equations are self-contained: All relevant causes of the dependent variable are included in the model. However, James *et al.* (1983) acknowledge that all relevant causes of a dependent variable are not likely to be known. Furthermore, James (1980) states that decisions regarding unmeasured variables require subjective judgements about empirically untestable assumptions.

Neale and Liebert (1980) suggest that one way of solving the unmeasured variable problem is to include relevant third variables as covariates. In the present study, the problem of unmeasured variables was addressed by empirically assessing the relationships between the dependent variables and demographic variables. Where significant relationships were found, the variables were controlled for statistically. Thus, by excluding potential confounds, the chances of obtaining spurious results were reduced (Kenny, 1975; Neale & Liebert, 1980). One potential unmeasured cause of IR strain is the Occurrence subscale of the IRES. However, because it correlated extremely highly with negative stress (r = ,75, p < ,001), the chances of its omission incurring serious bias is minimised (James, 1980).

6. The boundaries (e.g., types of subjects and environments) must be specified especially if moderator variables are included in the model.

Because the present study focuses on moderator effects, care has been taken in the introduction of this chapter to provide theoretical justification and identification of such moderators.

7. The structural model is expected to be stable over all time periods.

In the present study, there is no theoretical reason why the relationships between variables should fluctuate greatly over time. Therefore the structural model is considered to be stable over time.

8. The variables can be operationalised effectively.

The theoretically (see measuring instruments) and empirically demonstrated qualities of the instruments used (see Table 7.2) attest to the satisfaction of this condition.

James *et al.* (1983) state that once Conditions 1 through 8 have been satisfied, it is possible to proceed with confirmatory analysis. The major assumptions underlying moderated multiple regression can now be considered (Kerlinger & Padhazur, 1973; Lewis-Beck, 1980; Pedhazur, 1982):-

1. The relationships between predictor variables and dependent variables are linear.

To comply with this assumption, tests for linearity were conducted. The linearity test measures whether a linear relationship exists between the dependent and independent variables (Blalock, 1972). The test provides a breakdown of between-group sums of squares into that portion due to linearity, and that portion attributable to the deviation from linearity. From the *F* ratios and degrees of freedom, the significance of the linear and non-linear values can be determined. The test also establishes the combined linear and non-linear variance explained (eta^2), and the variance attributable solely to the linear component of the independent variable (R^2). Consequently, the non-linear contribution to the variance in the dependent variable can be calculated ($eta^2 - R^2$ Nie *et al.*, 1975).

2. There is no measurement error: All variables are measured accurately.

It is impossible to eliminate *all* measurement error (Anastasi, 1982). Thus the extent of measurement error was determined by calculating the *reliability of all* instruments. Two types of reliability were assessed. First, the internal consistency of each instrument was established using the *standardised* Cronbach's Alpha formula, a derivative of the Kuder-Richardson (Formula 20) technique:

$$\alpha \text{ (standardised)} = \frac{K\bar{r}}{1 + (K - 1)\bar{r}}$$

Where:

$\bar{r}$ is the average correlation between items; and

K is the number of items in the scale (Hull & Nie, 1979).

Second, to determine the time consistency of the *instruments*, test-retest reliabilities were calculated by correlating Time 1 and Time 2 scores with a six-month interval (see Table 7.2).

3. There must be no high multicollinearity: No two independent variables should be too highly correlated (i.e., $r < ,80$; Lewis-Beck, 1980).

Multicollinearity is usually assessed by inspecting the correlation matrix of independent variables. However, such an approach fails to take account of the relationships of *all the other independent* variance simultaneously with the independent variable in question (Lewis-Beck, 1980). Thus the preferred method of regressing each independent variable on all the remaining independent variables was adopted. If the R^2 was high (e.g., $R^2 > ,8$), multicollinearity was seen to exist (Lewis-Beck, 1980).

Results

The first part of the results section is devoted to the findings of the various assumptions tests underlying causal models and moderated multiple regression. Thereafter, results of the moderated multiple regression analyses are set out. Because of the large number of tests conducted *and* the *large sample size*, the ,01 level of significances was adopted for all analyses in an attempt to reduce the potential of making a Type I error (Roscoe, 1969). Certain researchers (e.g., *La Rocco et al.*, 1980) adopt the more lenient ,10 cut-off point, their rationale being that moderated multiple regression is a very stringent procedure. However, studies adopting the ,10 cut-off have been criticised for producing results that might be due to chance (Winnubst *et al.*, 1982). Adopting a

more stringent cut-off level also increases the meaningfulness of the amount of variance explained (Pedhazur, 1982).

Results of Assumptions Tests

Reliability of the instruments. The results of the internal consistency (Cronbach's α) and time consistency reliability tests are presented in Table 7.2. The reliability coefficients measured at Time 1 (M α = ,88; range = ,72 - ,97) and Time 2 (M α = ,90; range = ,79 - ,95) were most satisfactory (Anastasi, 1982). No internal consistency scores were calculated for the negative stress scale because of the specific nature of constructing the scale (see Chapter 6). Significant test-retest correlations were found for all variables (M r = ,58; range = ,35 - ,75; p < ,001). Thus taking into account both the calculated reliability scores and the reported reliability and validity data of the scales (see Measuring Instruments section), the condition of effective operationalisation of variables appears satisfied.

Inclusion of relevant demographic variables. To test whether the structured equations are self-contained (James *et al.*, 1983), the relationships between the respective Time 2 dependent variables and demographic variables were calculated. Any demographic variable that was significantly associated with a dependent variable was then included as a covariate for the analysis of that dependent variable. This procedure also enhances subsequent causal inference because plausible confounds are controlled (Cook & Campbell, 1976). By controlling for demographic confounds the chances of obtaining spurious findings are reduced (Kenny, 1975; Neale & Liebert, 1980). T-tests were conducted for dichotomous variables (see Table 7.3), one-way analyses of variance were performed for multiple-level, discrete demographic variables (see Table 7.4) and



Table 7.2
Internal and temporal consistency of the measuring instruments

Measuring instruments	N of items	Item Range Min.	Max.	Internal Consistency Time 1 M	SD	alpha	Time 2 M	SD	alpha	Temporal Consistency n	r
Negative Stress	63	1	3	29,20	23,68	--	27,00	23,77	--	454	,61*
Hardiness [1]	20	1	2/3	40,54	6,27	,87	40,55	6,42	,85	386	,75*
Social Support-Supervision	3	1	5	11,56	2,77	,80	11,33	3,82	,93	441	,45*
Social Support-Family	20	1	3	52,87	6,88	,94	52,58	7,83	,94	392	,71*
Psychological Health	12	1	4	21,93	4,87	,97	22,09	5,26	,93	361	,35*
Job Satisfaction	14	1	3	35,08	6,16	,95	34,89	6,18	,95	405	,63*
Propensity to Leave [2]	3	1	3/6	10,04	2,53	,72	9,66	2,79	,79	420	,57*

* p < ,001

1. For the Hardiness instrument, items 1-14 are scored on a 3-point scale; items 15-20, on a 2-point scale.
2. For the Propensity to Leave instrument, item 1 is scored on a 6-point scale; items 2 and 3 on a 3-point scale.

Pearson correlations were calculated for continuous variables (see Table 7.5).

From Tables 7.3, 7.4, and 7.5, no demographic variables were related to psychological health; whereas race, job position and age were significantly associated with job satisfaction; and age correlated significantly with propensity to leave ($p < ,01$). Consequently, these demographic variables were controlled for in the relevant moderated multiple regression analyses in an attempt to exclude spuriousness (Neale & Liebert, 1980).

Table 7.3

T-tests of the dichotomous demographic variables for the dependent variables

Independent Variable	Levels	Psychological Health			Job Satisfaction			Propensity to Leave		
		n	*M*	*t*	*n*	*M*	*t*	*n*	*M*	*t*
Sex										
	Male	388	22,09	-0,06	374	34,72	-1,64	385	9,69	0,69
	Female	55	22,13		57	35,93		54	9,41	
Race										
	White	310	22,17	0,53	302	35,87	4,55*	304	9,55	-1,15
	Black	135	21,84		131	32,60		137	9,88	
Job Position										
	Managers	342	22,00	-0,66	334	35,54	3,68*	336	9,75	1,28
	Workers	103	22,39		99	32,67		105	9,35	
Union Membership										
	Yes	55	22,42	0,5	54	32,59	-2,41	57	9,98	1,02
	No	386	22,04		373	35,22		378	9,57	
Union Position										
	Yes	24	22,92	0,35	23	31,74	-1,26	26	10,42	1,09
	No	42	22,43		41	34,15		41	9,71	

* $p < ,01$

Tests for linearity. Tests for linearity were conducted for every variable (other than the dummy variables), with the three dependent variables respectively. (Dummy variables were excluded from linearity test analysis because, by nature of their construction, they automatically conform to a linear model (Pedhazur, 1982)). Summary tables of linearity tests revealed that no variable was found with a) a significant *F* (deviation from linearity) ratio ($p < ,01$); or b) the non-linear variance ($eta^2 - R^2$) accounting for more than 1% of explained variance in the dependent variable (see Table 7.6). Hence the assumption of linearity was satisfied.

Tests for multicollinearity. Because of the strong conceptual 'stress occurrence - negative stress' link, preliminary correlations between these two variables were conducted, confirming the existence of multicollinearity ($r = ,75$, $p < ,0001$). Thus, following Lewis-Beck's (1980) approach, the occurrence variable was excluded from further analysis. Subsequent regression of each independent variable on the remaining independent variables produced R^2 values ranging from ,08 to ,45, thereby not challenging the multicollinearity assumption (Lewis-Beck, 1980).

Table 7.4

Oneway analysis of variance of demographic variables for the dependent variables[1]

Demographic Variables	Psychological Health		Job Satisfaction		Propensity to Leave	
	F	*df*	*F*	*df*	*F*	*df*
Name of Union Position	4,83	2/ 22	4,50	2/ 19	0,57	2/ 22
Union Affiliation	0,34	4/ 37	3,18	4/ 36	0,41	4/ 38

[1] No groups were significantly different ($p > ,01$).



Table 7.5

Pearson correlations of dependent variables (Time 1 and Time 2), independent variables and continuous demographic variables [1] [2]

	1	2	3	4	5	6	7	8	9	10	11
1 Psychological Health (T1)		416	420	431	420	426	439	406	433	402	437
2 Job Satisfaction (T1)	-38***		408	417	405	412	425	396	422	396	424
3 Propensity to Leave (T1)	-34***	48***		424	413	420	432	400	426	395	430
4 Psychological Health (T2)	35***	-14**	-16***		423	429	442	408	434	403	441
5 Job Satisfaction (T2)	-28***	63**	30***	-34***		420	430	398	422	393	428
6 Propensity to Leave (T2)	-15***	32***	57***	-26***	52***		438	404	431	395	435
7 Negative Stress (T1)	32***	-46***	-23***	14**	-33***	-09*		416	444	410	449
8 Hardiness (T1)	-21***	41***	08	-37***	37***	07	-21***		410	384	414
9 Supervisor Support (T1)	-26***	55***	29***	-15**	-29***	15***	-29***	29***		404	441
10 Family Support (T1)	-29***	18***	10*	-12**	16***	02	-06	24***	05		409
11 Age (T1)	-05	15***	28***	-05	14***	25***	-09*	10*	15***	05	

* p < ,05

** p < ,01

*** p < ,001

1. Decimal comma's ommitted

2. Correlation coefficients in lower diagonal, number of subjects in upper diagonal.

Table 7.6

Tests for linearity

		F Ratios		
		Linearity	Deviation from Linearity	$eta^2 - R^2$
Psychological Health	Psychological Health (Time 1)	48,35*	0,07	,00
	Negative Stress	12,44*	1,01	,00
	Hardiness	7,66*	0,10	,00
	Supervisor Support	7,15*	1,28	,00
	Family Support	4,19	0,91	,00
Job Satisfaction	Job Satisfaction (Time 1)	219,44*	1,80	,00
	Age	13,83*	0,00	,00
	Negative Stress	38,12*	4,04	,01
	Hardiness	49,57*	5,66	,01
	Supervisor Support	44,72*	1,28	,00
	Family Support	10,91*	1,05	,00
Propensity to Leave	Propensity to Leave (Time 1)	178,44*	1,18	,00
	Age	33,38*	0,02	,00
	Negative Stress	3,40	0,00	,00
	Hardiness	2,56	0,12	,00
	Supervisor Support	8,30*	1,86	,01
	Family Support	0,25	0,09	,00

* $p < ,01$

Given that all the assumptions had been satisfied, moderated multiple regression analyses could be conducted. The results for each dependent variable are presented separately below.

Results of Moderated Multiple Regression Analyses

Psychological health. Psychological health (Time 2) was regressed on stress, hardiness, supervisor support, family support and the two-way interactions (stress x hardiness, stress x supervisor support, stress x family support) and three-way interactions (stress x hardiness x supervisor support, stress x hardiness x family support, stress x supervisor support x family support), controlling for psychological health (Time 1). None of the demographic variables were significantly related to the psychological health dependent variable (see Tables 7.3, 7.4 and 7.5). Thus the demographic variables were not considered to be confounds and therefore it was not necessary to include them as covariates (Neale & Liebert, 1980). Results of the moderated multiple regression are presented in Table 7.7. After excluding 12% of the variance as a covariate (psychological health measured at Time 1), the only variable to contribute significantly to the variance in psychological health (Time 2) was supervisor support (F (8, 304) = 2,66, p < ,01, R^2 change = ,02).

Job satisfaction. Job satisfaction (Time 2) was regressed on the same independent, moderator and interaction variables that were included in the psychological health analysis. Because the race, job position and age variables were found to be significantly related to the job satisfaction dependent variable (see Tables 7.3 and 7.5), these three demographic variables and the job satisfaction variable measured at Time 1 were included as covariates in the job satisfaction analysis, thereby decreasing the chances of obtaining spurious findings (Kenny, 1975).

Results of the moderated multiple regression of job satisfaction (Time 2) are presented in Table 7.8. After excluding 42% of the variance

Table 7.7

Moderated multiple regression for psychological health

(N = 312)[1]

Variable entering Equation	R^2	R^2 *change*	β	*F*	*df*
Covariate					
Psychological Health (T1)	,12	,12	0,31	23,56**	11/301
Main Effects					
Negative Stress (N)	,12	,00	1,78	0,97	10/302
Hardiness (H)	,12	,00	-0,07	0,51	9/303
Supervisor Support (S)	,14	,02	-0,16	2,66**	8/304
Family Support (F)	,14	,00	0,05	0,25	7/305
Interaction Effects					
N X H	,14	,00	-1,36	0,42	6/306
N X S	,14	,00	-0,42	0,12	5/307
N X F	,14	,00	-2,09	1,51	4/308
N X H X S	,14	,00	0,05	0,00	3/309
N X H X F	,14	,00	1,58	0,80	2/310
N X S X F	,14	,00	0,47	0,00	1/311

[1] The sample size was reduced from 456 to 312 because a listwise deletion of missing cases was adopted (Nie *et al.*, 1975).

** $p < ,01$

as covariates, six variables were found to be significant ($p < ,01$), accounting for 5% of the variance in job satisfaction. Of the significant variables, only three variables were found to contribute significantly ($p < ,01$) to the variance in job satisfaction. These were the stress x hardiness (F (6,306) = 13,29, $p < ,01$, R^2 change = ,02), stress x supervisor support, (F (5,307) = 5,51, $p < ,01$, R^2 change = ,01), and stress x hardiness x family support, (F (2,310) = 14,35, $p < ,01$, R^2 change = ,02) interaction variables (see Table 7.8).

Directionality of significant interaction effects are presented diagrammatically in Figure 7.2. From Figure 7.2, people with high levels of hardiness and family support record greater job satisfaction scores than those classed in the low hardiness and family support groups. No discernable trends are revealed for the supervisor support interaction.

Propensity to leave. The same independent, moderator and interaction terms entered in the previous analyses were included in the moderated multiple regression for propensity to leave. Age was significantly ($p < ,01$) related to propensity to leave (see Table 7.5), and therefore was included as a covariate along with the propensity to leave variable measured at Time 1. None of the other demographic variables were significantly related to the propensity to leave dependent variable (see Tables 7.1 to 7.4), and therefore they were not included as covariates.

Moderated multiple regression results for the propensity to leave analysis are presented in Table 7.9. None of the main effects were found to contribute significantly to the variance in the dependant variable, whereas the analysis yielded one significant interaction effect: negative stress x hardiness, (F(6, 306) = 5,10, $p < ,01$, R^2 change = ,01). Thus, after excluding 34% of the variance as covariates, negative stress x hardiness contributed only 1% of the variance in propensity to leave. Directionality of the significant interaction effect is presented diagrammatically in Figure 7.3. From Figure 7.3, hardiness exerts a positive effect on propensity to leave.

Table 7.8

Moderated multiple regression for job satisfaction

(N = 312)[1]

Variable entering Equation	R^2	R^2 *change*	β	*F*	*df*
Covariates					
Race	,06	,06	0,04	0,70	11/301
Job Position	,09	,02	0,10	5,21*	11/301
Age	,09	,00	0,01	0,12	11/301
Job Satisfaction (T1)	,42	,33	0,55	97,15**	11/301
Main Effects					
Negative stress (N)	,43	,00	-3,65	6,81**	10/302
Hardiness (H)	,44	,01	-0,10	1,98	9/303
Supervisor support (S)	,44	,00	0,15	3,58**	8/304
Family support (F)	,44	,00	-0,02	0,04	7/305
Interaction Effects					
N X H	,46	,02	5,88	13,29**	6/306
N X S	,47	,01	2,22	5,51**	5/307
N X F	,47	,00	3,14	5,71**	4/308
N X H X S	,47	,00	0,03	0,00	3/309
N X H X F	,49	,02	-5,11	14,35**	2/310
N X S X F	,50	,01	1,80	2,90	1/311

[1] The sample size was reduced from 458 to 312 because a listwise deletion of missing cases was adopted (Nie *et al.*, 1975).

* $p < ,05$

** $p < ,01$

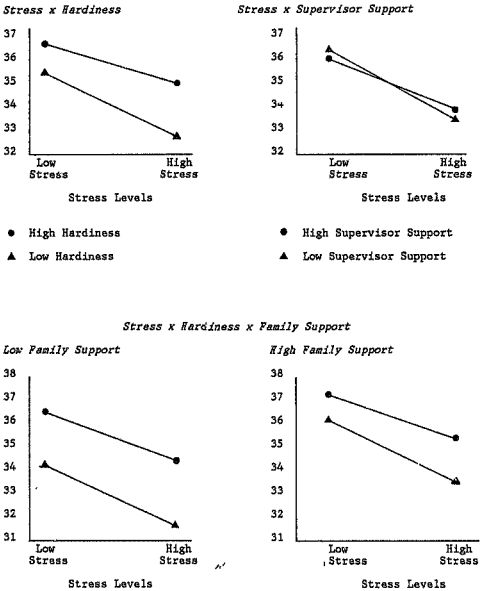


Figure 7.2: Diagrammatic representation of significant interaction effects for the job satisfaction dependent variable

Table 7.9

Moderated multiple regression for propensity to leave

(N = 312)[1]

Variables entering Equation	R^2	R^2 *change*	β	*F*	*df*
Covariates					
Age	,07	,07	0,12	5,84	11/301
Propensity to Leave (T1)	,34	,27	0,53	107,16**	11/301
Main Effects					
Negative stress (N)	,34	,00	-1,28	0,68	10/302
Hardiness (H)	,34	,00	-0,04	0,24	9/303
Supervisor support (S)	,34	,00	0,04	0,24	8/304
Family support (F)	,35	,01	-0,00	0,00	7/305
Interaction Effects					
N X H	,36	,01	4,08	5,10**	6/306
N X S	,36	,00	-1,24	1,38	5/307
N X F	,36	,00	-0,18	0,01	4/308
N X H X S	,36	,00	-0,99	1,58	3/309
N X H X F	,36	,00	-2,58	2,95	2/310
N X S X F	,37	,01	2,17	3,32	1/311

[1] The sample size was reduced from 458 to 312 because a listwise deletion of missing cases was adopted (Nie *et al.*, 1975).

** $p < ,01$

Stress x Hardiness

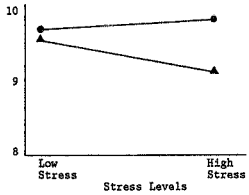


Figure 7.3: Diagrammatic representation of significant interaction effect for the propensity to leave dependent variable

CHAPTER 8

DISCUSSION OF RESULTS

The aim of the present thesis is to develop a model of IR stress. Based on the IR and stress literature (see Chapters 1-3), a theoretical framework of IR stressors was proposed in Chapter 4 and a scale measuring IR stress, the IRES, was developed in Chapter 6. In the main study (Chapter 7), a model of the IR stress process was tested empirically. In this chapter the results of the main study will be discussed in relation to the literature so that a revised model of IR stress, based on both theory and the results of this thesis can be proposed in the final chapter.

Once the findings of the main study have been related to the literature, the limitations of the present study will be discussed. It is suggested that the methodological limitations greatly influenced the findings. A presentation of these methodological issues should further clarify the results obtained.

In the present study, after the effects of the covariates had been removed, IR stress was not found to exert a direct effect on any of the three measures of strain (namely, psychological health, job satisfaction and propensity to leave the organisation). Several significant interaction effects involving IR stress and the moderator variables (namely, hardiness, supervisor support and family support), were recorded. However, only a small amount of the variance was explained by the significant interactions which detracted from the meaningfulness of the results obtained. Furthermore, all the significant interaction effects were found for the two work-related measures of strain. No significant interactions were found for the psychological health measure.

Discussion of Results

IR Stress

The independent variable, negative IR stress, did not contribute significantly to the variance in psychological health, job satisfaction, or propensity to leave the organisation. This finding contradicts both past theory and research. For example, several theorists list psychological health as an outcome of organisational stress (e.g., Beehr & Newman, 1978; Cooper & Marshall, 1976; Margolis *et al.*, 1974; Strumpfer, 1983). Furthermore, the literature is replete with evidence of the organisational stress-psychological well-being relationship (see Chapters 3 and 7). More specifically, Barling and Milligan (1985) found that negatively perceived IR events were associated with subsequent deterioration in psychological well-being following a 22-day strike.

The non-significant IR stress-job satisfaction relationship is also surprising. Job satisfaction is regarded as the most obvious effect of organisational stress (Beehr & Newman, 1978). From the many studies adopting job satisfaction as an index of organisational strain, a consistent negative organisational stress-job satisfaction relationship emerges (see Bhagat, 1983; Caplan & Cooper, 1976; French & Caplan, 1973; House, 1974). Similarly, propensity to leave the organisation is a well recognised consequence of organisational stress (e.g., Brdeian & Armenakis, 1981; Beehr & Newman, 1978; Lyons, 1971).

In contrast to the present findings, then, the relationships between organisational stress and [illegible]al health, job satisfaction and propensity to leave the o[illegible] [illegible]re well-established in the literature. It is possible that [illegible]ractice of IR is not sufficiently stressful to cause any negative psychological or attitudinal consequences. Isolated dramatic events associated with IR such as strikes (Barling & Milligan, 1985; MacBride *et al.*, 1981), or retrenchments (Kasl & Cobb, 1970, 1979, 1980; Kinnicki, 1985) may well be stressful, but the

overall practice of IR might not pose a serious threat to the well-being of the individual.

The fact that respondents rated many of the events in the IRES as positive (see Chapter 6) further suggests that involvement in the practice of IR might not be perceived as stressful, and therefore, not lead to deleterious personal consequences. Indeed, some of the subjects interviewed in the initial study commented that they found their involvement in IR to be stimulating and challenging. Negotiations were singled out as being particularly exciting. Thus it is possible that the results obtained in the present study reflect the fact that although IR shares common theoretical characteristics with stress (i.e., conflict and change), and various extreme aspects of IR might be stressful (e.g., strikes, retrenchments), taken collectively, the practice of IR is not particularly stressful.

However, there is a danger of accepting this null hypothesis too readily without considering the methodological problems (e.g., sampling, control variables) of the present study. Furthermore, from a) the literature, b) the current South African IR situation, c) the findings of the initial study (see Chapter 6), and d) preliminary findings of the main study (see Table 7.5), it seems unlikely that the practice of IR in South Africa is not stressful. For example, in the initial study, negative IR stress was associated significantly and in the predicted direction with measures of role ambiguity (r = ,41), role conflict (r = ,35), *job satisfaction* (r = -,66), *supervision satisfaction* (r = -,46), and propensity to leave the organisation (r, -,29). Similarly, zero-order correlations between negative IR stress and Time 1 and Time 2 measures of psychological health (r = ,32; ,14), job satisfaction (r = -,46; -,33) and propensity to leave the organisation (r = -,23; -,09) were significant. These findings lend support to the validity of the IR stress concept.

One explanation for the results obtained concerns the difference between *cross-sectional and longitudinal research findings*, and the *ab-*

sence of control for third variable effects in the literature. Many of the studies correlating negative stressful life events with measures of strain are cross-sectional (Zimmerman, 1983). As such, they do not control for extraneous effects (Schroeder & Costa, 1984). Typically, the magnitude of zero-order correlations is approximately ,30 (Rabkin & Streuning, 1976). For example, Sarason and Johnson (1979) report correlations between negative life events and job satisfaction ranging from ,17 to ,35. *Sarason et al. (1978) report correlations between the negative* impact scores of the Life Experience Survey and measures of trait anxiety (r = ,29), state anxiety (r = ,46), grade points average (-,38), alienation (r = -,10), discomfort (r ,23) and depression (r = ,24). Indeed, if the cross-sectional zero-order correlations between negative IR stress and the dependent variables in the present study are considered, similar significant (p < ,001) coefficients are observed (psychological health: r = ,32; job satisfaction r = -,46; propensity to leave r = -,23).

In addition, many of the studies that report significant life event stress-strain relationships (e.g., Sarason *et al.*, 1978; Sarason & Johnson, 1979) erroneously do not control for any third variable effects (Monroe, 1982a; Schroeder & Costa, 1984). In the present study third variable effects account for a large portion of the variance in the dependent variables (psychological health: 12%, job satisfaction, 42%; and propensity to leave, 34%). Furthermore, given that measures of strain recorded at Time 1 were included as covariates, and negative stress correlated highly with these covariates (see Table 7.5), much of the variance in the dependent variables attributable to IR stress would have been controlled for as covariates.

It appears, than, that many of the existing life events studies are deficient because a) their findings are merely associational, and b) the findings may well be spurious. It is possible that if the statistical procedures of the present study were applied to some past research, the stress-strain correlations might be well below the ,3 level. However, there are other longitudinal stress studies that have also controlled

for measures of strain recorded at initial testing and still found significant stress-strain relationships (e.g., Holahan & Moos, 1981; Kobasa, Maddi & Courington, 1981; Kobasa, Maddi & Kahn, 1982; Monroe, 1982a). Therefore, additional explanations for the absence of significant IR stress-strain relationship are required.

A second reason for the absence of any significant IR stress-strain relationships concerns the time lapse between the occurrence of the events and the measurement of subsequent strain. Monroe (1982b) observes that there is no theoretical ideal time period over which life events should be rated. In the present study, conforming to Sarason *et al.*'s (1978) approach, the 12-month period was adopted for the IRES. The independent variable, negative IR stress, provided an index of the subject's perceptions of those negative IR events that had occurred in the year before being tested. The measures of strain were obtained a further six months after assessing the IRES. Thus it is possible that the *stress-strain time lag was as long as* 18 months. The increased time lapse appears to reduce the strength of the relationship. From Table 7.5, zero-order stress-strain correlations were much smaller for the longitudinal than the cross-sectional analyses. The time lag problem is aggravated when studying IR stress in South Africa: The pace at which change is occurring in contemporary IR practice is so rapid that the consequences of events happening a year earlier could well be superseded by more recent events whose impact remains untapped. Randolph (1981) warns of the dangers *of conducting longitudinal empirical research (specifically, cross* lagged correlational analysis) in environments undergoing rapid change.

Furthermore, many of the items included in the IRES deal with 'hassles' rather than major life crises. For example, it is highly unlikely that the IRES event 'being called abusive names' would exert the same psychological impact as the event 'death of a spouse' appearing in Holmes and Rahe's (1967) scale - especially after 18 months have passed. Because daily events are perceived to exert an immediate effect, researchers studying *daily events use short-term designs when investigating*

the consequences of such hassles (e.g., Rehm, 1978; Stone & Neale, 1984). The short-term effects of hassles is demonstrated by Stone and Neale (1984). They found significant same-day associations between negative experiences and moods. However, no significant relationships were recorded when moods were measured either one or two days later (Stone & Neale, 1984). Therefore, the non-significant IR stress-strain relationships might be attributable to the extended time period between measurements which weakened the relationship. Future research using the IRES might benefit by reducing the recall period and the Time 1-Time 2 period as well. Also, a clearer understanding of the IR stress-strain relationship might be obtained if the 'hassle' items of the IRES are separated out and tested in a short-term longitudinal design.

A third reason for the lack of significant stress-strain findings concerns the low IR stress levels recorded: If you do not perceive your situation to be stressful to begin with, it is unlikely that you will experience subsequent strain (Lin, Ensel, Simeone & Kuo, 1979). Comparisons between stress-strain correlations in the present thesis support this view. In both the initial study (see Chapter 6) and the main study (see Chapter 7) the same measures of IR stress, job satisfaction and propensity to leave the organisation were used, thereby allowing for comparisons of cross-sectional, zero-order stress-strain correlations. In the initial study, where the sample recorded the higher levels of negative IR stress, the stress-strain correlations for job satisfaction (r = -,56) and propensity to leave (r = ,29) were higher than the correlations found in the main study (job satisfaction: r = -,46; propensity to leave: r = -,23). Similarly, Barling and Milligan (1985) report a cross-section zero-order correlation of ,45 between negative IR events and psychological well-being also using the General Health Questionnaire (Goldberg 1972), whereas in the present study the corresponding correlation coefficient was smaller (r = ,32).

Whether due to longitudinal design, covariate controls, extended time periods, or low IR stress levels, no significant stress-strain re-

lationships were found in the present study. This absence of significant stress-strain relationship has implications for interpretations of moderator effects.

The low levels of stress found in the present study hamper the analysis of moderator effects. Typically the impact of moderator variables is best demonstrated at high stress levels (House, 1981; Jayratne & Chess, 1984; Kaplan, Cassel & Gore, 1977; La Rocco *et al.*, 1980).

If IR stress does not cause strain how can the relationship be moderated by hardiness and social support? James and Brett (1984, p. 307) talk of

> "a complete mediation model (which) has the form x ---> m ---> y, where x is the antecedent, m is the mediator, and y is the consequence. The antecedent x is expected to affect the consequence y only indirectly through transmission of influence from x to y by the mediator m ... *all* of the effect of x on y is transmitted by m."

Applying the 'complete mediation model' (James & Brett, 1984) to the present study x (IR stress) would affect y (strain) only via m (hardiness or social support). However, it is conceptually incorrect to assume that IR stress causes hardiness or social support, which then influence measures of strain. Indeed, in La Rocco *et al.*'s (1980) model of occupational stress, social support (or lack thereof) causes job stress, rather than job stress causing social support. Also, the statistics of the present thesis were not intended to measure the complete mediator effect. In moderated multiple regression it is assumed that the independent and moderator variables are associated independently with the dependent variable and that the product of the independent and moderator variables contribute a significant increment to the amount of explained variance in the dependent variable (Zedeck, 1971). Furthermore, because moderated multiple regression adopts an additive form (Zedeck, 1971) the fact that one term in the equation contributes 0% of the variance in the dependent variable does not negate the contributions of the remaining terms as would be the case in a multiplicative model. Thus because IR stress does not contribute to the variance in the strain variables it does not interfere

with the contributions of the moderator main effects or the interaction terms. Indeed, in the analysis of variance it is common practice to ignore main effects if interaction terms are found to be significant (Kerlinger, 1973). In the present study IR stress alone may be insufficient to cause strain but, for example, high levels of IR stress coupled with low levels of hardiness and/or social support may increase subsequent strain levels. In fact, the greatest level of strain has been found in those people experiencing high levels of life change and low levels of social support (Antonovsky, 1979; Dean & Lin, 1977).

Moderator Variables

Hardiness. Hardiness as a main effect did not contribute significantly to the variance in any of the three dependent variables. However, for both job satisfaction and propensity to leave the organisation, interaction terms involving hardiness were significant. This finding of a non-significant main effect but significant interaction effects conforms to the prerequisite pattern of a moderator variable (Zedeck, 1971). Hardiness moderates the IR stress-strain relationship. From Figure 7.2 and 7.3 directionality of the interaction effects can be determined: Hardiness consistently reduces the negative impact of IR stress on job (dis)satisfaction and propensity to leave the organisation.

People who are highly committed, who regard environmental demands as challenges rather than threats and believe they exert control over their lives rather than feeling powerless, are less likely to be adversely affected (for job satisfaction and propensity to leave) by IR stress than those who are not classified as hardy. These finding conform to past research on hardiness. From the late 1970's (Kobasa, 1979a 1979b) through to the present (Kobasa, 1982a, 1982b; Kobasa, Maddi & Courington, 1981; Kobasa Maddi & Kahn, 1982; Kobasa, Maddi & Puccetti, 1983; Kobasa, Maddi & Zola, 1982; Kobasa & Puccetti, 1983; Maddi 1980; Maddi & Kobasa, 1984) Kobasa and her associates have found that hardiness buffers the negative

health consequences of life events stress. For example, Kobasa, Maddi and Kahn (1982) conducted a 5-year prospective study of middle and upper-level managers. They found that life event stress was associated with subsequent illness. However, hardiness reduced the impact of stressful life events on illness: In the high stress subgroup those classed in the high hardiness group (N = 552,89) reported significantly (p < ,01) lower levels of illness symptoms than those classed in the low hardiness group (N = 1 254,20).

The current results obtained not only corroborate previous hardiness research, but also make several novel contributions. First, Kobasa has examined the buffering effect of hardiness mainly using illness symptoms as a consequence of life events stress. Although Ganellen and Blaney (1984), Kobasa (1982a) and MacEwen and Barling (1986) extended the scope of hardiness research by including psychological measures of strain, no studies could be found that explore the buffering effects of hardiness on work-related consequences of stress. By examining the effects of hardiness on job satisfaction and propensity to leave the organisation the present study extends the scope of the impact of hardiness to organisational outcomes.

Second, to date, most hardiness research has relied on general life events scales (e.g., Holmes & Rahe, 1967; Sarason *et al.*, 1978) or work-home role conflict (MacEwen & Barling, 1986) as measures of stress. Yet at the same time, specific sample populations (i.e., mainly senior managers) have been investigated. The question then arises: Is hardiness a moderator of all types of events (as suggested using general life events scales), or is it applicable only to work-related situations (as suggested by the almost exclusive reliance on management samples), or is it a combination of the two? The present study clarifies the ambiguity by demonstrating that the work-related consequences (i.e., job satisfaction and labour turnover) of work-related stressors (i.e., as measured by the IRES) are moderated by hardiness in a diverse sample of economically active people.

Similarly, a third issue regarding sampling strategies of existing hardiness research is raised. With two exceptions (Kobasa, 1982a; MacEwen, 1986), Kobasa's research is based on upper level management samples. Interestingly, where a sample of lawyers were investigated only one component of hardiness, commitment, was found to moderate the stress-strain relationship (Kobasa, 1982a). Similarly, Ganellen and Blaney (1984) studied the effects of hardiness in a sample of female undergraduates. They found commitment and challenge, but not control, significantly moderated the stress-strain relationship. MacEwen and Barling (1986) studied the moderating effect of hardiness in a sample of employed mothers. They found no significant main or interaction effects involving hardiness. The present results rev[illegible] that the hardiness composite significantly moderates the stress-s[illegible]ra[illegible]tionship in a diverse sample of working people (see Table 7.1[illegible]). The findings lend further support to the generalisability of the buffering effects of hardiness.

However, unlike Ganellen and Blaney (1984) or Kobasa (1982a), the present study did not examine the three hardy components separately. Instead, given the high, intercorrelations between the three hardiness constructs (Kobasa, Maddi & Courington, 1981), only the composite measure of hardiness was used. Furthermore, for the sake of parsimony, the 20-item version of the hardiness scale was chosen in the present study (Kobasa & Maddi, 1982, Note 1). Given the differential effects of the hardiness components in non-managerial samples (Ganellen & Blaney, 1984; Kobasa, 1982a), future IR stress research should examine the buffering effects of commitment, control and challenge separately.

Despite past findings of hardiness as a significant main effect (e.g., Kobasa, 1982b; Kobasa, Maddi & Courington, 1981; Kobasa, Maddi & Puccetti, 1981; Kobasa, Maddi & Zola, 1982; Kobasa & Puccetti, 1983; Maddi, 1980; Maddi & Kobasa, 1984), hardiness was not a significant main effect for any of the three consequences of IR stress. Given that hardiness was a significant moderator effect, the present findings are as

predicted: In the proposed model of IR stress hardiness was included as a moderator variable and not as a main effect (see Figure 7.1). Indeed, personality variables (such as hardiness) are traditionally considered as moderator effects rather than main effects in organisational stress research (e.g., Ivancevich & Matteson, 1980; Lazarus & Folkman, 1982; McGrath, 1976; Schuler, 1980; Shirom, 1982; Strumpfer, 1983). Furthermore, in several studies where hardiness was found as a significant main effect, no significant hardiness interaction effects were recorded (Kobasa, Maddi & Courington, 1981; Kobasa, Maddi & Zola, 1982). Because main and no interaction effects were recorded in these studies Kobasa and her associates revised their conceptualisation of their hypothesised predictions. The absence of any significant hardiness main effects in the present study, then, supports rather than contradicts *a priori* predictions.

A further finding warranting discussion is the consistent absence of any significant IR stress x hardiness x supervisor support interaction effects. However, before this is covered it is first necessary to discuss the results on social support.

Social support offered by supervisors. Results of the present study reveal that supervisor support serves as a main effect of psychological health. Supervisor support exerted a direct, significant (R^2 change = ,02, $p < ,01$) effect on psychological health. The supervisor support main effect was also found to be significantly associated with job satisfaction ($p < ,01$), but because it accounted for none of the job satisfaction variance this particular finding was not considered to be psychologically meaningful. No significant main (or interaction effect involving supervisor support) effect was found in the propensity to leave analysis. The findings also support the hypothesis that social support offered by supervisors moderates the IR stress-job satisfaction relationship. However, from Figure 7.2, no clear-cut direction of the significant supervisor support interaction effect is evident.

The findings in the present study reflect the ambiguity surrounding the exact role of social support in general, and in organisational stress literature in particular (Abdel-Halim, 1982; Etzion, 1984; La Rocco *et al.*, 1980; Seers *et al.*, 1983). Certain authors (e.g., Bedeian *et al.*, 1983; Etzion, 1984; Jayratne & Chess, 1984; La Rocco & Jones, 1978; Pinneau, 1975) claim that social support exerts a direct effect on measures of strain. Others (e.g., House & Wells, 1978; La Rocco *et al.*, 1980; Orpen, 1982; Wells, 1982; Winnubst *et al.*, 1982) found strong evidence for the moderating effect of social support. The lack of consistency can be attributed to differences in a) the theoretical assumptions underlying how social support influences the stress process (Seers *et al.*, 1983); b) the differences in samples investigated (Abdel-Halim, 1982); and c) differences in the sources of social support investigated (Bedeian *et al.*, 1983). Many authors fail to differentiate between sources of social support, collapsing distinctions between, say, spouse and supervisor support (Kobasa & Puccetti, 1983). La Rocco *et al.* (1980, p. 212) emphasise

> "the need to specify which stress/strain relationships are not susceptible to buffering effects, which are most susceptible to main effects and which are relatively impervious to the effects of social support."

In the present study supervisory support exerted direct, but no interaction effects on psychological health, whereas an interaction effect but no direct effect was found in the job satisfaction analysis. For propensity to leave, neither direct nor interaction effects were significant. The pattern of findings in the present study support La Rocco *et al.*'s (1980) call for specificity in social support research.

The finding that supervisor support exerted a direct effect on psychological health can be expected, especially in IR: IR focuses primarily on the relationship between workers and management (Van Coller, 1979) - a relationship that is structurally conflictual (Allen, 197?) and therefore, inherently stressful (Kahn *et al.*, 1964). Thus a supportive relationship with one's supervisor may not only make work situ-

ations less stressful (Roskies & Lazarus, 1980), but may eliminate a major source of stress in IR, namely, poor relations with one's immediate superior (see Chapter 4).

There is considerable empirical evidence of the supervisor support (main effect) - psychological strain relationship: For example, Winnubst *et al.* (1982) report a significant correlation between supervisor support and threat, irritation, depression and anxiety in a sample of Dutch industrial employees. Jayratne and Chess (1984) report significant correlations between emotional support offered by supervisors and measures of emotional exhaustion, irritability and somatic complaints but not for depression and anxiety. In a sample of social workers, Beehr (1976) found that supervisor support correlated significantly with measures of depressed mood and lowered self-esteem. Similarly, in the present study zero-order cross-sectional supervisor support-psychological health correlations were significant, as were the zero-order longitudinal correlation between supervisor support (Time 1) and psychological health (Time 2). Thus the finding that supervisor support exerts a direct effect on psychological health is consistent with existing theory and research.

For the two work-related outcomes of IR stress, job satisfaction and propensity to leave the organisation, no significant supervisor support main effects were found. However, a significant supervisor support interaction was found for the job satisfaction analysis ($p < .01$). This finding replicates past research. For example, Bedeian *et al.* (1983) investigated the moderating effects of supervisor support in a sample of 206 nursing staff and found, amongst other things, that supervisor support buffered the impact of role stress on job satisfaction. Bedeian *et al.* (1983) observe that their results are consistent with past findings. Sears *et al.* (1983) also found that supervisor support significantly moderated the stress-job satisfaction relationship. Interestingly, Sears *et al.* (1983) report significant interactions not only for support offered by the immediate supervisor but for the unit manager and branch manager as well.

Seers *et al.*'s (1983) findings lead to important implications for IR stress research. Given the intensity of stress experienced on the shopfloor (Piron *et al.*, 1983) it may be inappropriate for workers or shop stewards to ask support from their immediate supervisors, who in fact are often perceived as the source of their problems (see Chapter 4). It may be more realistic to establish social support networks with managerial representatives such as department managers, members of the IR or personnel departments or union officials who are less intensely involved in shopfloor activities. Future IR stress research therefore should broaden the focus of social support offered, to included resources beyond the level of the immediate supervisor.

Orpen (1982) examined the moderating effects of supervisor and peer support in a sample of clerical workers in South Africa. He found the support variables moderated the job stress-satisfaction relationship among blacks but not among whites. Orpen (1982) suggests that these differences may be because of the higher stress levels experienced by the black clerks.

The racial differences in social support effects reported by Orpen (1982) yield relevant implications. The results underline the importance of noting racial differences when conducting stress research in South Africa. In this thesis significant racial differences were found both in the initial and the main studies. Furthermore, the covariate 'race' accounted for 6% of the variance in job satisfaction, more than the total variance explained by all significant main and interaction terms in that analysis. This finding suggests IR stress may be experienced very differently by the different race groups. Indeed, the higher stress levels recorded for blacks in the first study (see Chapter 6), reflects the social realities of racial discrimination operating in South Africa. Future research, therefore, would do well to examine the IR stress process separately for the different race groups. For example, Orpen's (1982) finding that black clerks regard peer support to be more important than supervisor support provides further evidence for analysing the different

race group's responses separately, and for examining sources of support beyond the supervisor in future IR stress research.

Although the job satisfaction results provide some evidence for the moderator effect of supervisor support the significant interaction accounted for only 1% of the variance, and no clear pattern of interaction was discernable for this effect (see Figures 7.2). In addition, no significant supervisor support interactions were found for either the psychological health or the propensity to leave analyses. The failure of supervisor support to emerge as a clear-cut moderator of IR stress now will be discussed.

Past research on the interactive effect of social support is equivocal. For example La Rocco *et al.* (1980) found overall evidence of the buffering effect of social support. However, when focusing solely on the job stress-psychological health relationship only four out of 36 supervisor support interactions analysed were significant, and in one of the four significant effects supervisor support increased rather than reduced the resultant strain. Thus, on closer inspection, La Rocco *et al.*'s (1980) findings are only marginally more favourable than what one might expect due to chance (i.e., 8,5% success at the 5% significance level). Similarly, Pinneau (1975) found that positive buffering effects of social support were highly selective, and, because of the many analyses performed, may also have been due to chance. Jayratne and Chess (1984) failed to demonstrate the moderating effect of supervisor support on psychological outcomes, while Beehr (1976) could only provide suggestive evidence that supervisor support buffers the effect of role ambiguity on psychological health.

If social support is considered to exert a buffering effect on the stress-strain relationship in general (e.g., House 1981), why is there a lack of evidence of the organisational stress-supervisor support-strain relationship? More specifically, why were there no supervisor support interaction effects found for the IR stress-psychological health/propensity to leave relationships in the present study?

One explanation is provided by the mobilisation hypothesis. Jayratne and Chess (1984) distinguish between the mere existence of support and its mobilisation: "Support may exist in the environment, but individuals may not use it until or unless they perceive it as something that could in fact alleviate stress and strain" (Jayratne & Chess, 1984, p. 157). La Rocco *et al.* (1980 p. 213) note that

> "When stress and strain are low, support is not mobilized, though it may be potentially available. When stress or strain increases, support is mobilized to the extent that it seems relevant to alleviating the stress or strain."

The mobilisation hypothesis helps to explain the finding that for the psychological health analysis, supervisor support exerted a significant main effect but no interaction effects: As stated earlier, the IR stress levels were low in the present study. Consequently, although supervisor support might have been present, the stress levels were too low for support to be mobilised. Kaplan, Cassel *et al.* (1977) observe that social supports are likely to be effective only in the presence of stressful circumstances. As House (1981, p. 33) observes, the buffering effect of social support (or in fact any moderator variable) "has no beneficial effects on health among persons with little stress, but the beneficial effects of support become increasingly apparent as stress increases."

The mobilisation hypothesis also accounts for the simultaneous presence of hardiness yet absence of social support as an interaction effect in the present study. Whereas social support might require active mobilisation (Jayratne & Chass, 1984), hardiness is a personality construct, and as such, its existence is independent of perceived stress levels. However, the mobilisation hypothesis does not explain why supervisor and family sources of social support significantly moderated the IR stress-job satisfaction relationship.

A second possible explanation for the absence of any supervisor support interaction effects for psychological health regards the suitability of supervisors as a source of such support. Beehr (1976) suggests

that supervisors might not be the best source of psychological support. La Rocco *et al.*'s (1980) findings clearly demonstrate the superiority of peer support over supervisor support as a buffer of psychological strain. In investigating IR stress, given the structural conflict of interest between labour and management (Allen, 1971), it may be more realistic to consider peers rather than supervisors as an effective source of social support. Conversely, Abdel-Halim (1982), House and Wells (1978) and Wells (1982) all found supervisor support to be more salient than peer support. Thus the importance of supervisor support cannot be overlooked in favour of peer support. A more realistic approach might be to consider both peer and supervisor support in future IR stress research.

Besides the supervisor-peer debate, there are other factors detracting from the suitability of including supervisor support as a moderator variable in IR stress research. Abdel-Halim (1982) suggests that seeking help from supervisors (or peers) to resolve work-related problems may expose the individual's weaknesses, leading to increased feelings of personal inadequacy: "...the individual must weigh carefully the gains and losses involved in seeking support from others in his/her attempts to deal with stressful work problems" (Abdel-Halim, 1982, p. 292). The pervasiveness of conflict in IR (Hyman, 1975) may discourage workers from seeking supervisor support if such support places the subordinate in a compromising position (Abdel-Halim, 1982).

A further problem is met when considering the role of supervisor support in the South African context.

> "Black employees have white leaders or supervisors, whom they generally dislike and distrust because they see them as representatives of the minority regime that currently rules the country. ... Hence, it is not surprising that Blacks will feel they receive less support from their leaders than will their white counterparts... On the other hand, because of the division of jobs along racial lines, most of the fellow workers of Blacks are also Blacks with whom they sympathise as fellow sufferers or victims of social discrimination" (Orpen, 1982, p. 382).

Thus social support offered by supervisors may well entail unique considerations in IR stress research in South Africa. If one considers the animosity that exists between black workers and white mangers (Schlemmer *et al.*, 1984) white supervisor support may not be offered readily to black workers. Furthermore, given the mobilisation hypothesis (e.g., Jayratne & Chess, 1984), even if the support is offered, it might not be acceptable to the black worker, especially if it is seen to place the worker in a compromising position (Abdel-Halim, 1982).

A third explanation for the non-significant findings concerns the type of support offered (Tardy, 1985). In the present study only emotional support was considered. It is suggested that, given the adversarial union-management relations in South Africa (Kamfer, 1982), a union member will be less likely to enlist managerial assistance for emotional support than for other types of support such as appraisal, informational or instrumental support (House, 1981). Future research (particularly in South Africa) should examine different sources and types of social support operating in the IR stress process.

A fourth explanation of the present results concerns the limited role ascribed to social support in moderating the IR stress process. In this thesis it has been hypothesised that the moderating effect of supervisor support (and in fact family support and hardiness) will be limited solely to the relationship between the subjective stressor (IR stress) and the strain variables. However, whereas the outcome facet in the IR stress model was not differentiated in the present study, in other models of stress, differentiations are made between strain and more serious consequences of organisational stress, namely physical and/or mental illness (e.g., French & Caplan, 1973; House, 1974; Matteson & Ivancevich, 1979). By extending the stress sequence to include both strain and illness phases the number of places at which moderator variables can exert an impact is increased. For example, La Rocco *et al.* (1980) suggest that social support exerts three interaction effects (i.e., on the stress-strain relationship, the strain-illness relation-

ship, and the stress-illness relationship), and three direct effects (i.e., on the job stress, job strain and illness variables). Other studies have adopted similar models of assessing the impact of social support (e.g., Jayratne & Chess, 1984; Winnubst *et al.*, 1982). By examining six instead of two relationships a more comprehensive understanding of the role of social support (and hardiness) might be gained.

A related possibility for the modest social support findings in the present study is provided by Seers *et al.* (1983). They differentiate between the buffer and the coping role of social support. In the buffer situation stress is negatively related to strain when support is low, but unrelated when support is high. Alternatively, coping occurs when support is positively related to strain when stress is high, but unrelated when stress is low. In the present study the generally consistent absence of any moderator variables exerting a significant effect on all three strain measures might be indicative of a coping rather than buffering relationship, given the low levels of IR stress. Again this would lead to the mobilisation notion of social support.

Four explanations have been provided for the absence of any supervisor support interaction effects found in the psychological health and propensity to leave analyses. The general lack of consistent findings regarding emotional support offered by supervisors suggests that future IR stress research should involve alternate sources of work support (e.g., peer, IR/personal representative, department manager, shop steward, union official) and types of support (i.e., appraisal, informational and instrumental). Moreover, in line with the mobilisation hypothesis, social support should be examined in samples exhibiting high levels of IR stress (House, 1981; Jayratne & Chess, 1984).

Social support offered by the family. In the present study, the main effect family support did not contribute significantly to the variance in any of the dependent variables. Although no significant family support interactions were found for either the psychological health or the pro-

pensity to leave analyses, a significant family support interaction was found for job satisfaction ($p < ,01$), accounting for 2% of the variance. Furthermore, from Figure 7.2 family support yielded a positive effect on the IR stress-job satisfaction relationship.

As predicted, family support moderated (but did not exert a main effect) the IR stress-job satisfaction relationships. Significant moderating effects involving family support have been reported repeatedly in the literature. For example, in a one-year longitudinal study Holahan and Moos (1981) found that decreases in family support were significantly related to increases in psychological maladjustment. Billings and Moos (1982) found that family support attenuates the effects of work stress on depression and physical symptoms. Etzion (1984) reports that life support (incorporating spouse, family and friend support) moderates the stress-burnout relationship. Gore (1978), conducted a two-year longitudinal study into the psychological and physical consequences of retrenchment arising from plant shutdowns in a sample of 54 rural and 46 urban male blue-collar 'terminees'. She found that social support offered by wives, friends and relatives collectively, buffered the deleterious psychological and physiological consequences of job loss (Gore, 1978).

Interestingly, none of these studies consider the buffering effects of family support on *work*-related outcomes. Where work-related outcomes have been considered (cf. La Rocco *et al.*, 1980), results have been unconvincing. For example, Sears *et al.* (1983) assessed the moderating effect of family support on the role stress-job satisfaction relationship. Of the ten analyses conducted only one significant interaction effect was found (Sears *et al.*, 1983). Thus the present study provides some evidence (albeit limited) of family support as a moderator of the effects of IR stress on job satisfaction. Once again, though, only a small amount of variance was explained by family support in the present study.

As with the IR stress and hardiness variables, no significant family support main or interaction effects were found for the psychological health or propensity to leave measures. This result is surprising, par-

ticularly for psychological health, since past family support research focused primarily on psychological or physical rather than work-related measures of strain, and yielded significant interactions (e.g., Billings & Moos, 1982; Gore, 1978; Hollahan & Moos, 1981, 1983; Kobasa, 1982a, 1982b; Kobasa & Puccetti, 1982). La Rocco *et al.* (1980) examined the buffering effect of family support on both psychological health and work attitudes. Whereas only one of the 27 stress-family support-work attitude calculations was significant ($p < ,05$), six of the 27 stress-family support psychological/physiological health analyses were significant ($p < ,05$). One possible explanation for the absence of any family support effect in the psychological health analysis emanates from the specificity hypothesis (La Rocco *et al.*, 1980): Specific stressors are best moderated by those sources of social support closest to the stressors in question. Thus IR stress would best be moderated by work-related support rather than sources of support located outside the workplace.

While the specificity explanation holds for the psychological health and propensity to leave results, it contradicts the findings obtained in the job satisfaction analysis where family support yielded a more clear-cut and positive effect than supervisor support. Alternatively, it is suggested that possible reasons for the present results are related to factors such as the methodological problems, the low levels of IR stress and the conceptual problems associated with psychological health and propensity to leave (discussed later), rather than because of family support.

In the present study the relationship between hardiness, supervisor and family support has been addressed in the context of the IR stress process. Only one other study could be found that assesses the role of these three moderators (i.e., Kobasa & Puccetti, 1983). In the present study a significant stress x hardiness x family support interaction was found. Both hardiness and family support alleviated the negative effects of IR stress. Kobasa and Puccatti (1983) also found a significant stress x hardiness x support interaction. However, they found that whereas

hardiness attenuated the harmful consequences of stress, family support exerted the opposite effect. These findings were somewhat unexpected by Kobasa and Puccetti (1983) who predicted that hardiness and social support (in that order of importance) both buffer the effects of stress.

Second, neither in the present study nor in Kobasa and Puccetti's was the three-way stress x hardiness x supervisor support interaction found to be significant. This is somewhat surprising given the salutary effect of both hardiness and supervisor support as moderators of stress. Similarly, in the present study no three-way stress x supervisor support x family support interactions were significant.

Consequences of IR Stressors

In the present study IR stress x moderator interaction terms accounted for a small but significant ($p < ,01$) amount of variance in the two work attitude outcome measures, job satisfaction and propensity to leave the organisation. These results concur with past research findings, where both job satisfaction (e.g., Abdel-Halim, 1982; Beehr & Newman, 1978; Orpen, 1982; Sarason & Johnson, 1979) and propensity to leave the organisation (e.g., Bedeian & Armenakis, 1981; Bedeian *et al.*, 1983; Kemery *et al.*, 1985; Rousseau, 1978) have been found as measures of organisational strain. However, no significant ($p < ,01$) predictor variables were found for the psychological health consequence of IR stress. This finding contradicts *a priori* predictions and past research where psychological health has been associated consistently with the organisational stress process (e.g., Banks *et al.*, 1980; Barling & Milligan, 1985; La Rocco *et al.*, 1980; MacBride *et al.*, 1981; Wall *et al.*, 1978; Winnubst *et al.*, 1982).

One possible explanation for these findings concerns the sensitivity of the respective outcome variables. Beehr and Newman (1978) caution against using job satisfaction as the only psychological consequence measure because it does not reflect a sufficiently noxious indicator of

job strain. Similarly Strumpfer (1983) differentiates between early signs of strain such as low job satisfaction and the longer term effects of stress including mental ill-health. Furthermore, Strumpfer (1983, p. 14) adds "with respect to the more severe psychotic conditions, work distress probably cannot be more than a precipitating factor." Given the low levels of stress experienced in the present sample it is unlikely that the psychological health measure would be greatly affected, even though the scale used was designed to reflect mild psychotic disorders (Goldberg, 1972). Conversely, work attitudes represent less severe outcomes of stress and are more sensitive to IR stress levels of a low intensity. Thus the low stress levels might have been high enough to influence job satisfaction and, to a lesser extent, propensity to leave the organisation but not of a sufficiently large magnitude to affect psychological health.

Furthermore, other organisational stress studies using the same 12-item measure of psychological health (Goldberg 1972), record higher scores of strain than those found in the present study (M = 22,09). For example, Banks *et al.* (1980) report higher levels of psychological strain in samples of unemployed men (M = 2",61, N = 91) and women (M = 26,25, N = 44). Thus, although the General Health Questionnaire "provides a useful estimate of the severity of psychiatric illness for use in the study of employment related and occupational problems" (Banks *et al.*, 1980, p. 193), it is possible that the levels of strain in the present sample were not sufficiently high to impact on the scale.

Goldberg (1972) established a threshold score of 2 for the 12 item General Health Questionnaire using the dichotomous 'GHQ' scoring technique: Those people scoring greater than 2 can be considered to be suffering from mild psychiatric disorders (Goldberg, 1972). The scores on the General Health Questionnaire in the present study were recoded according to the dichotomous 'GHQ' method for comparative purposes. It was found that the sample mean (M = 1,95) was below the threshold score (i.e., 2). In fact only 30% of the sample recorded greater than 2, and 46% scored

0. In contrast, Banks et al. (1980) using the di hotomous scoring method report a mean of 4,76 with 60,4% scoring greater than 2 in their sample of unemployed males; and a mean of 3,91 and 59,1% scoring above 2 in the female sample. These figures clearly demonstrate the low levels of psychological strain in the present study.

If the pattern of results found are because of difference in severity of strain measures, then the model of IR stress needs to be modified. Instead of all forms of strain being included in one facet, it would be necessary to distinguish between milder forms of strain such as job satisfaction and propensity to leave the organisation, and the more severe consequences of IR stress, such as psychological illness. In many models of organisational stress such differentiations between less severe (strain) and more severe/long term (illness) consequences of stress have been specified (e.g., Brenner, Sorbom & Wallius, 1985; Cooper & Marshall, 1976; French & Caplan, 1973). For example, Ivancevich and Matteson (1980) distinguish physiological (e.g., blood pressure, serum cholesterol) and behavioural (e.g., satisfaction, absenteeism and turnover) 'outcomes' from the more serious 'diseases of adaptation' (e.g., coronary heart disease, ulcers, anxiety and depression). For the IR stress model, the consequences facet could be divided into strain and illness components. Thus the causal link would be IR stress ---> strain (e.g., job satisfaction or propensity to leave) ---> illness (e.g., psychological ill-health). Indeed, in the present study the psychological health outcome correlated significantly with job satisfaction ($r = -,34$) and propensity to leave ($r = -,26$), a finding consistent with this revised causal chain of IR stress. However, further research on independent samples would be necessary to verify the revised model (James *et al.*, 1983). As Bentler and Bonett (1980, p. 604) warn, "when a model is modified empirically rather than theoretically, cross-validation or another method for assuring that the statistical theory is not grossly violated becomes essential."

The sensitivity argument might also explain why three significant interactions were found for job satisfaction, yet only one significant interaction was recorded for propensity to leave. IR stress x moderator variable intertactions might influence job satisfaction, but the level of resultant dissatisfaction may not be sufficiently great for the person to seek alternative employment. Indeed, the current unemployment crisis in South Africa (see Spence, 1986) may influence people's propensity to leave their job. It is suggested that in the current recessionary economic climate, people would endure higher levels of stress than they would under normal conditions before considering changing jobs. Thus if this were true, job satisfaction represents a more sensitive index of job strain than propensity to leave the organisation.

A second, related reason for the pattern of results obtained derives from La Rocco *et al.*'s (1980) work. They advocate specificity in stress research:

> "the more specific and focused the type of stress or strain in question, the more likely it is to be affected primarily or only by a limited set of sources of support closely related to the stress or strain in question" (La Rocco *et al.*, 1980, p.214).

Support for the specificity hypothesis is illustrated in the findings of three particular studies (Bedeian & Armenakis, 1981; Jackson, 1983; Kemery *et al.*, 1985). Bedeian and Armenakis (1981) found that role stress causes work-related tension, which in turn reduces job satisfaction, which then increases propensity to leave the organisation. Kemery *et al.* (1985) attempted to cross-validate Bedeian and Armenakis' (1981) model, using four separate samples; three accountant samples and Jackson's (1983) post-test sample of hospital employees. Kemery *et al.*'s (1985) findings supported the Bedeian and Armenakis (1981) model for the three accountant samples but not for Jackson's (1983) sample. Kemery *et al.* (1985) suggest that the most likely reason for the lack of fit in Jackson's sample (besides small sample size) was the variation in meas-

urement: job-related tension was measured for the accountants sample but Jackson (1983) used a measure of overall emotional strain.

> "Our failure to find support for the hypothesized model from (the) hospital employee sample suggests that job-related tension and overall emotional strain are differentially related to the other measured variables, which is understandable, since job tension is but one component of overall emotional strain" Kemery *et al.* (1985, p. 371).

Thus Kemery *et al.*'s (1985) results are evidence that work-related consequences of work stress are more sensitive than general psychological consequences of stress which may be influenced by a variety of non-work factors. Therefore, it is possible that the work-related strains (i.e., job satisfaction and propensity to leave the organisation) were influenced by work-related stressors (IR stress), whereas the psychological health measure is too general to be influenced by such a specific sources of stress.

However, there are certain problems with the specificity explanation. If La Rocco *et al.*'s claims of specificity were true a) how could general personality traits (hardiness) and family support influence the IR stress-work strain relationship? b) how come Barling and Milligan (1985) found that IR stress influenced psychological health using the same two measuring instruments? and c) why supervisor support and family support interactions were found for job satisfaction but not for propensity to leave. Therefore, the specificity argument is not sufficient to explain the findings obtained in the present study. Instead it is suggested that a combination of the sensitivity and specificity for the measures chosen, and the methodological problems (particularly the low IR stress levels), account for the modest IR stress-strain relationships found in the present study: specifically a) why no significant predictors of psychological health were found; and b) why the significant interaction effects found for the work attitude measures accounted such a small percentages of variance.

Limitations of the Study

It is suggested that the methodological limitations of the present study greatly influenced the findings. Therefore, a discussion of relevant methodological issues should help to clarify further the results obtained. The limitations are presented for the three major methodological sections of the study, namely, sample, measurement and statistics.

The Sample

One of the major problems in the present study is the low levels of negative IR stress scores recorded: Out of a possible score of 189 (excluding ratings on unlisted events), the average score on the IRES negative impact scale was 29,2. This figure is appreciably lower than scores obtained either in the first study (M = 35,29; see Chapter 6), or in the only other application of the IRES, (M = 39,0; Barling & Milligan, 1985). Low IR stress levels might have masked any significant relationships found in the present study.

> "One problem prevalent in life events research has been the relatively low level of disturbance in the sample under study; this lack of variability in the dependent measure may limit the power of the design to adequately reflect underlying associations. Thus, although potentially important relationships may exist, current methodologies may not be powerful enough to adequately tap them" (Monroe *et al.*, 1983, p. 339).

Several sampling problems experienced help explain the low IR stress scores obtained.

First, in choosing subjects it was hoped that a representative sample of all people involved in IR would be obtained. However, access to people was denied in certain organisations that had recently experienced labour unrest. Arguably, therefore, those people exposed to the highest levels of stress were excluded because it was felt that participation in the study might further aggravate the sensitive IR climate in their organisations. Similarly, access to some of the more volatile unions was denied

for various reasons, again indicating the sensitive nature of IR in South Africa. Thus the results of the present study might be limited solely to those people involved in a tranquil union-management climate. Given the volatile nature of IR in South Africa (see Chapter 4), the generalisability of the present findings are potentially extremely limited.

A second limiting factor of the sample was that the people arguably experiencing the highest levels of stress in South Africa (i.e., the black unskilled workers; White, 1982) were excluded from the present study because of literacy problems (see Spence, 1986). Furthermore, virtually all the responses that were discarded because they were completed incorrectly (i.e., due to a lack of understanding of the questionnaire) came from unskilled, blue-collar workers. In fact the final sample consisted of only 25% of workers, many of whom held skilled, white-collar jobs. The composition of the sample reflects Rosnow and Rosenthal's (1976) suggestion that respondents to questionnaires are usually better educated and have higher social class status. The blue-collar jobs, then, were inadequately represented in the present study. This may have contributed to the low stress scores found because the underrepresented blue-collar jobs are particularly stressful (e.g., Axelrod & Gavin, 1980; Shostak, 1980). Thus, either because of restricted access or literacy levels, the present sample was not representative of many of the classes of people particularly prone to IR stress.

Despite the possible exclusion of certain groups of people involved in IR, the sample did cover diverse organisational settings in all spheres of economic activity throughout South Africa. This diversity does enhance the generalisability of the present findings (Cook & Campbell, 1976).

The generalisability of results is further questioned because of the low response rate. At Time 1 the response rate was 33,5%. Of the 752 people that completed the initial (Time 1) questionnaire, 61,3% returned usable responses at Time 2. Although Etzel and Walker (1974) suggest that response rates in mail surveys greater than 30% are acceptable, the effective response rate in the present study was only 20,5% (i.e. 61,3%

of 33,5%). Fullagar (1986) observes that response rates in union-related research are usually low. However, Bush and White (1985, p. 427) caution that "probably the most serious threat to the validity of data from questionnaire studies results from low response rates." Similarly, Rosnow and Rosenthal (1976) suggest that the validity of results derived from 'volunteer' samples must be questioned. In the present study the low response rate suggests a 'volunteer' sample. Furthermore, given the problems of access mentioned earlier, the present sample is derived from 'volunteer' organisation.

These threats to the validity of the findings must be borne in mind. However, Rosnow and Rosenthal (1976) found that the bias associated with 'voluntary' samples was greatly reduced by sending successive follow-up reminders. Francel (1966) also reports that follow-ups increase response rates. Consequently follow-up reminders were sent at Time 1 and Time 2 in an effort to increase the response rate and reduce the bias of the results.

Another factor limiting the generalisability of the findings regards the difference found in the demographic variable, job category, between the initial (Time 1) and final (Time 2) sample. The final sample contained a significantly greater proportion (75%) of managers than the initial sample (71%). Again, this difference limits the generalisability of the study. However, the magnitude of the difference between the initial and final samples (i.e., 4%) does not appear that meaningful. Furthermore, no other significant differences were found for the remainder of the demographic variables investigated.

Measurement

Two classes of criticism are levelled against the measurement of the IR stress process in the present study. First, various criticisms of the specific measuring instrument are stated. Thereafter the overall strategy of data collection that was adopted is challenged.

The measuring instrument. The present study can be criticised because all questionnaires were in English. This practice increased the chances of subjects misunderstanding questionnaires. Indeed, as mentioned earlier, most of the incorrectly completed questionnaires were received from people whose first language was not English. Also, given the ideological overtones associated with language in South Africa, administering English-only questionnaires may have alienated certain people and increased the chances of obtaining a biased sample. However, given certain reservations that blacks have expressed about Afrikaans (e.g., as a source of contention in the 1976 Riots), English has become the language of choice in South African IR circles. For example, the three major professional IR journals (namely, the South African Labour Bulletin, the Industrial Relations Journal of South Africa, and the South African Journal of Labour Relations) contain predominantly English material. Furthermore, given the cultural diversity of South Africans involved in IR, if the instruments were to be translated, for which cultural group should such adaptations be made? If separate scales were constructed for the different subgroups, to what extent would they be comparable (see White, 1982)? Bulmer (1983) cautions that the meaning of words vary in different cultures. Consequently, questionnaire translations can lead to distortions in meaning (Bulmer, 1983). Thus it was decided not to translate instruments in the present study.

Doubt is raised about the suitability of some scales where the ranges of responses were truncated. For example, 52% of the scores on the family support measure were located in the top 15% of the scale; 52% of the propensity to leave the organisation measure were found in the top 22% of the scale. Thus the modest results obtained in the present study might be due to the limited ranges yielded by these instruments. "If an adequate sample range is not used and a somewhat truncated range is employed, then

the obtained correlation will be artificially depressed" (Neale & Liebert, 1980, p. 80).

There are certain problems with the social support scales used. First, both the supervisor and family support scales are deficient because they focus mainly on emotional support (Tardy, 1985). Although emotional support is the most universally recognised, other forms of support such as instrumental, informational and appraisal support are also important moderators of stress (House, 1981). Therefore, these alternate types of support should be assessed in future IR stress research. Indeed, given the conflictual nature of IR (Allen, 1971), it is possible that supervisors will be more willing to give instrumental, informational and/or appraisal support than emotional support.

Second, Tardy (1985) criticises Procidano and Heller's (1983) Perceived Social Support from Family Scale because it fails to distinguish between the provision and the receipt of social support. "The distinction between these two directions in which social support occurs is clear and fundamental" (Tardy, 1985, p. 188). Despite these criticisms Tardy (1985) regards Procidano and Heller's (1983) scale highly.

The exclusion of one of the items from the 15-item Job Satisfaction scale (Warr *et al.* 1979) represents an omission by the researcher. However, the scale used in the present study demonstrated adequate psychometric properties and the omission did not seem to detract from the worth of the scale.

In the present study, following Kobasa's approach (e.g., Kobasa, Maddi & Kahn, 1982; Kobasa Maddi & Puccetti, 1982; Kobasa & Puccetti, 1983), hardiness was treated as a univariate composite index. However, the three components of hardiness, commitment, control and challenge, have been found to yield differential moderating effects (Ganellen & Blaney, 1984; Kobasa, 1982a). Ganellen and Blaney (1984, p. 160) observe that "information may be lost if hardiness is treated as a composite." Future research should therefore examine the moderating effects of com-

mitment, control and challenge independently on the IR stress-strain relationship.

Problems with the overall research strategy. In the present study only one source of data was used, namely, self-report, paper-and-pencil responses. Although all instruments included in the questionnaire were psychometrically acceptable, certain problems with this overall strategy are defined. First, Wilde (1972) cautions that with the self-report method the assumption is made that respondents can and will answer all questions accurately. This is not always the case. Response biases (e.g., social desirability and acquiescence) and defensive tactics (e.g., denial or rationalisation) are used by respondents (Derogatis, 1982). Thus the data in the present study is vulnerable to these inaccuracies.

Second, the research approach adopted in the present study can be criticised for focusing solely on the individual as a source of data. Staw (1984, p. 653) states "Greater confidence must be placed in studies which measure job characteristics and symptoms of stress in an objective manner... than in studies which rely on self-reports of both working conditions and stress." Future IR stress research should avoid relying solely on self-reports and should incorporate objective data and/or physiological indicators of stress and strain (e.g., Gore, 1978; Sharit & Salvendy, 1982). For example, Bluen and Jubiler (1986) examine both psychological (state anxiety) and physiological (heart rate and blood pressure) consequences of participation in labour negotiations.

Third, Crump Cooper and Smith (1980) observe that predesigned questionnaires either omit important work stressors or distort the importance of those that are included. Given that most questionnaires used in this study were originally designed for overseas (and therefore different) samples, it is possible that the modest findings are due to the unsuitability of the contents of scales used.

Fourth, Baehr and Newman (1978, p. 687) observe

> "Both perceptions (of job stressors) and psychological consequences are routinely assessed via self-reports; correlating two self-report measures, however, is likely to lead to over-estimates of the strength of the relationships between constructs, due to this common method variance. Therefore, interpretation of the results of such studies must be guarded."

Thus the modest results obtained in the present study may be attributable, in part, to method variance.

Fifth, by relying on paper-and-pencil tests and surveying a wide range of people, the nomothetic approach was adopted in the present study. However, such an approach "masks the subtlety of the ideographic nature of stress" (Fineman & Payne, 1981, p. 62). Indeed, Firth (1985) observes that there has been a movement away from positivist stress research toward qualitative research which involves the interviewing of individual subjects. Similarly, Bluen and Fullagar (1986) criticise the over emphasis on experimental and survey methods in psychological research in IR. They suggest instead a more participatory form of research, particularly at this stage of development of IR in South African (Bluen & Fullagar, 1986). The issues of qualitative research and participation of both researcher and researched was incorporated, to some extent, in the initial study (see Chapter 6): Interviews were conducted with 20 people involved in the IR process. The interview data provided beneficial guidelines regarding the various aspects of the IR stress process. However, no further use of the qualitative approach was made in this thesis. Future research would do well to pursue more closely this ideographic approach to investigating IR stress.

In defence of the paper-and-pencil, self-report method adopted in the present study, Weyer (1982, p. 333) observes

> "Of all the different methods used to obtain data about pressures experienced by individuals in their natural job situations, questionnaires are probably the more common alternative. They are economical to use, can be scored objectively, and have a certain face validity since the subject is asked directly about how he or she feels toward various aspects of the job environment."

Self-report measure are also highly amenable to actuarial methods of study and are sensitive to a broad range of measurement contexts (Derogatis, 1982).

Statistical Issues

Although certain findings in the present study were statistically significant, only a small amount of variance in the dependent variables was explained. One reason for the small amount of variance explained concerns the inclusion of covariates in the statistical analyses. In the present study attempts were made to eliminate spuriousness by including plausible confounds as covariates (Cook & Campbell, 1976; Holahan & Moos, 1981; Kenny, 1975; Neale & Liebert, 1980). The resultant moderated multiple regression equations a) satisfied the assumptions underlying both *causal analysis (James et al., 1983) and moderated multiple regression* (Kerlinger & Pedhazur, 1973; Lewis-Beck, 1980; Pedhazur, 1982); and b) contained significant predictor variables. Thus the equations met the criteria for statistical significance (James *et al.*, 1983).

From the results it is evident that much of the variance in the dependent variables was explained by the covariates. Arguably, if the covariates had been omitted, the predictor variables would have explained a great deal more of the variance in the dependent variables. However, *the validity of such findings would be questionable. Indeed, it is sug*gested that many of the findings in the literature might be spurious since adequate control measures are not adopted. Thus although the amount of variance explained was small in the present study, the chances that the results were spurious were greatly reduced.

Even with the inclusion of the various covariates, the causal assumption of self-containment (i.e., including all relevant determinants of the dependent variable in the model) may well have been violated (James *et al., 1983). If one considers the diverse factors that influence psy-*

chological health, job satisfaction and propensity to leave the organisation, it becomes apparent that many such variables have not been accounted for in this study. Kemery *et al.* (1985) criticise their own work on the same grounds:

> "Given practical constraints we did not include all known determinants of job-related tension, job satisfaction and propensity to terminate employment in the present analyses. The consequence of these omissions is a potentially biased estimate of the structural parameters relating the endogenous and exogenous variables in the models investigated" (Kemery *et al.*, 1985, p. 373).

In defence of this criticism, first, plausible demographic confounds were controlled for in the present model. Second, by including the equivalents of the dependent variables measured at Time 1 as covariates, all the variables influencing the respective dependent variables would be controlled for at Time 1. Thus the potential for unmeasured effects is limited to the impact of extraneous variables after the Time 1 measures had been recorded.

Zedeck *et al.* (1971, p. 238) observe that the purpose of any moderator variable approach is "to improve validity in situations in which predictions are poor". Yet in the present study, certain zero-order correlations between predictor and outcome variables are fairly high. For instance, IR stress correlates significantly with job satisfaction (r = -,33). Hardiness correlates significantly with both psychological health (r = -,37) and job satisfaction (r = ,37). Where correlation coefficients are relatively high, it is both difficult and impractical to improve on *validity coefficients* (Zedeck *et al.*, 1971).

However, according to Zedeck *et al.* (1971), the magnitude of 'relatively high' correlations is approximately ,5, somewhat greater than the largest correlation obtained in the present study ($r \leq$,37) which accounted for 13,6% of the shared variance. Furthermore, the dependent variable for which the highest zero-order correlations were obtained (i.e., job satisfaction) was the variable for which interaction terms accounted for the greatest proportion of variance. Thus the relatively

high validity coefficients initially recorded did not detract from the findings of the moderated regression analysis.

Based on the findings of the present study it is possible to refine the IR stress model originally proposed at the beginning of Chapter 7. In so doing cognizance is given to the various methodological and conceptual issues discussed in this chapter.

CHAPTER 9

TOWARD A MODEL OF INDUSTRIAL RELATIONS STRESS

The aim of the present thesis was to investigate the stress associated with the practice of IR, so that a model of IR stress could be developed. Although isolated IR practices have been studied (e.g., Barling & Milligan, 1985; Galin 1981; Gore, 1978; Jackson, 1983; Kinicki, 1985), no empirical research could be found that examines the stress associated with diverse aspects of IR. This represents an omission because two central features of IR, conflict and change (Fox, 1971; Goldenberg, 1978; Hyman, 1975; Jackson, 1977; Kochan, 1980; see Chapter 1), are important sources of stress (e.g., Dohrenwend & Dohrenwend, 1974; Kahn *et al.*, 1964; Lazarus, 1966; McGrath, 1976; Perkins, 1982; see Chapters 2 & 3). Furthermore, many of the practices and roles associated with IR are potentially stressful (e.g., Barling & Milligan, 1985; Bluen & Fullagar, 1986; Galin, 1981; Kahn *et al.*, 1964; Kasl & Cobb, 1970, 1979, 1980; Kinicki, 1985; Koch & Fox 1978; MacBride *et al.*, 1981; Nicholson, 1976; Nicholson & Kelly 1980; Shostak, 1980; Wood, 1983; Wood & Padlar, 1978; see Chapter 4).

Consequently, two studies were undertaken in this thesis. The first study was aimed at developing a scale to measure the stress associated with the practice of IR, following the life events paradigm (e.g., Dohrenwend & Dohrenwend, 1974, 1978; Holmes & Rahe, 1967; Monroe, 1982b; Sarason *et al.*, 1978; Zimmerman, 1983; see Chapter 6). In the main study (see Chapter 7), following the person-environment interaction perspective (Cox, 1978; Lazarus, 1966; McGrath, 1970; see Chapters 2 & 3), a multivariate causal model of IR stress was developed and empirically validated.

Although statistically significant results were obtained in the main study only a small amount of variance was explained in the respective dependent variables (see Chapter 7). However, these findings, along with

the results of the first study (see Chapter 6) and the conceptual and methodological issues discussed in Chapter 8, provide the necessary guidelines to propose a revised model of IR stress (see Figure 9.1). To avoid repetition, the discussion focuses primarily on the elements of the revised model not included in the earlier model (Figure 7.1). Certain implications and research priorities have also been identified. These will be discussed after the revised model of IR stress has been presented.

A Revised Model of IR Stress

IR Stressors

The results of both studies support conceptualising IR stress within the life events context (Dohrenwend & Dohrenwend, 1974). By adopting a life events approach, diverse aspects of IR can be investigated in one study. Furthermore, the results suggest that it is important to consider the perceived desirability and impact of life events as well as merely the occurrence of events (e.g., Sarason *et al.*, 1978; Vinokur & Selzer, 1975; Zimmerman, 1983). Inclusion of both the occurrence of events and their perceived impact seems warranted in the IR stress model. Furthermore, examining both objective and subjective sources of stress conforms to the interaction perspective of stress (Cox, 1978; Lazarus, 1966; McGrath, 1970) and allows for a comprehensive investigation of the stress process (Cox, 1978).

In the present study, Sarason *et al.*'s (1978) approach to measuring life events stress was adopted. This approach entails measuring three variables: occurrence of events, and their perceived negative and positive impact (Sarason *et al.*, 1978). Results of the present study, which reflect past research (e.g., Barling & Milligan, 1985; Sarason *et al.*, 1978; Vinokur & Selzer, 1975), show that the occurrence and negative variables accurately measure IR stress, whereas the positive measure does not. Thus, the occurrence (objective stressor) and negative (subjectively

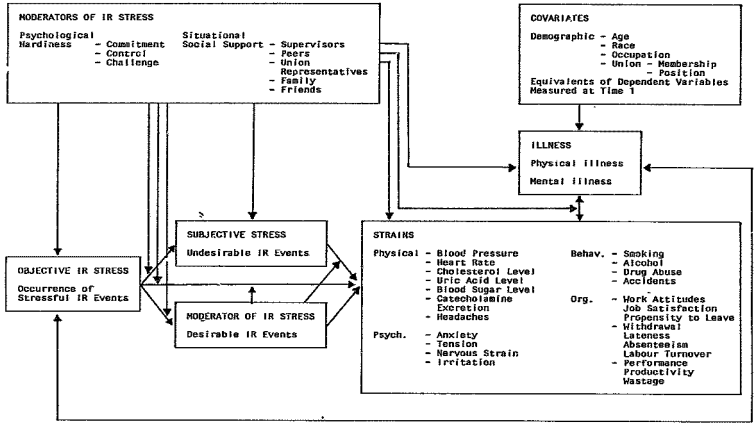


Figure 9.1: A revised model of the IR stress process

(Psych. = Psychological; Behav. = Behavioural; Org. = Organisational).

perceived stressors) variables are included as sources of stress in the IR stress model.

Two methodological modifications are proposed. First, the high correlation between the two IR stress measures presents a problem of multicollinearity (Lewis-Beck, 1980). One solution is to introduce an interval between measuring the two variables. In the present study, the cross-sectional correlation between the objective and subjective (negative) measure of IR stress was ,75. However, in the present study, if a six month interval between measuring objective (Time 1) and subjective (Time 2) stress responses had been introduced, a reduced correlation coefficient (i.e., r = ,42) would have been obtained that no longer challenged the assumption of multicollinearity (Lewis-Beck, 1980). In future IR stress research, the introduction of such an interval would also provide additional time for the person-environment interaction to take effect.

Second, given a) the absence of any significant IR stress-strain relationships in the final analyses; and b) the lack of consensus regarding optimal recall time in life events research (Monroe, 1982b), the recall time period for the IRES should be shortened (e.g., to three months). Not only would a shortened recall period address the problem of inaccuracy of recall in life events research (Monroe, 1982b; Zimmerman, 1983), it may also overcome the absence of any significant longitudinal IR stress-strain effects recorded in the present thesis.

Similarly, the duration between measuring the negative impact of IR stress and strain could be shortened, particularly because many IRES terms are 'daily hassles' (Dohrenwend *et al.*, 1984; Monroe, 1982c) rather than chronic stressors (e.g., 'language problems', 'attending IR meetings', 'making or handling complaints'). Shortening the acute IR stress-strain measurement interval to a few days would conform to current practice in daily life event research (e.g., Monroe, 1982c; Rehm, 1978; Reich & Zautra, 1983; Stone & Neale, 1984). Thus, IRES items dealing with

daily hassles could be included in a separate scale used to measure the acute impact of IR hassles in a short-term prospective study.

Although the positive IR events variable was not suitable for inclusion as a stressor, it may serve as a moderator variable. Recent findings attest to the validity of positively perceived life events as a moderator of stress (Cohen & Hoberman, 1983; Zautra & Simons, 1979). For example, Cohen and Hoberman (1983) report that both positive life events and social support buffer the impact of negative life events on depressive symptoms.

Sarason *et al.* (1978) also recognised the positive role of desirable life events in stress research. Instead of using interactive analysis (e.g., Zedeck, 1971), Sarason *et al.* (1978) adopted an additive approach. They subtractad the positive from the negative life event scores, yielding a 'balance' score. However, the approach (a) overlooks possible (negative x positive) interactive effects, and (b) can violate the multicollinearity assumption if the discrepancy between positive and negative scores is great since the negative score will closely resemble the balance score. Indeed, in Chapter 6, the negative scores (M = 35,29) were sufficiently greater than the positive scores (M = 16,89) to yield a multicollinear relationship between the negative and balance scores (r = ,85).

It is proposed, then, that desirable events serve to moderate the impact of undesirable IR events in the same fashion as the other moderator variables impact on the stress-strain relationship. However, because objective events precede the perceived impact of those events (e.g., Cobb, 1974), the points at which desirable events influences the IR stress process are fewer than for the other moderator variables (see Figure 9.1).

Thus all three measures of the IRES are included in the revised model of IR stress. However, it is proposed that each one measures a different aspect of the stress process (i.e., the occurrence scale measures objective IR stress, the negative impact scale measures subjective IR

stress, and the positive scale represents a moderator of the IR stress-strain/illness process.

Strain and Illness Caused by IR Stressors

sent study, significant IR stress x moderator interaction effects were recorded for job satisfaction and propensity to leave the organisation, but no significant main or interaction effects involving IR stress were found for psychological health. Explanations offered for these findings include (a) that according to the specificity hypothesis, work stressors will yield a greater impact on work outcomes than on non-work outcomes (La Rocco *et al.*, 1980); and (b) that psychological health reflects a more serious outcome of IR stress and therefore is less sensitive to the low stress levels recorded for the present sample. Thus, the outcome component in the revised IR stress model has been divided into two; a strain and an illness facet. Similar divisions appear in other stress models (e.g., Brenner *et al.*, 1985; Cooper & Marshall, 1976; Cox, 1978; French & Caplan, 1973; House, 1974; Matteson & Ivancevich, 1979; McGrath, 1970; Schuler, 1980).

Strain refers to the short-term, less severe consequences of IR stress that, over time, leads to longer-term illness. This division also reflects Selye's (1983) general adaptation syndrome: If the organism is forced to handle excessive demands indefinitely, without respite, the final stage of the stress process, the *Stage of Exhaustion*, will occur, and the organism will experience distress, manifesting in illness (see Chapter 2).

Based on the present results and the literature, then, in the revised model, psychological health has been included as a measure of illness, whereas job satisfaction and propensity to leave the organisation have been included as measures of strain (e.g., Beehr & Newman, 1978; House, 1974; see Figure 9.1). It is suggested that, with the proposed methodo-

logical and conceptual modifications, these changes will reflect more clearly the consequences of IR stressors.

For both theoretical (e.g., Selye, 1956, 1982) and methodological (Beehr & Newman, 1978; Crump *et al.*, 1980; Wilde, 1972) reasons, additional measures of strain and illness are included in the IR stress model. These diverse measures are derived from a variety of sources, including self-reports (e.g., job satisfaction), physiological measures (e.g., blood pressure), organisational records (e.g., lateness) and third-person reports (e.g., performance). In so doing, the present study's problem of relying solely on self-reports (Wilde, 1972) will be averted in future IR stress research.

The variables contained in the strain and illness facets of the model were discussed earlier when developing the organisational stress model (see Chapter 3). Therefore, it is not necessary to repeat the discussion here. One difference, though, is that in the previous model only one outcome facet was presented, whereas in the revised IR stress model, there are two outcome facets (i.e., strain and illness).

Moderators of IR Stress

Results of the main study suggest that hardiness and social support offered by supervisors and family exert a small but significant impact on the relationship between IR stress and work attitudes, but not on psychological health. From these results, certain modifications to the role of moderators in the IR process are proposed.

Hardiness. The most consistent moderator of the IR stress-strain relationship was the hardiness composite. These findings yield important implications for the generalisability of hardiness. Past hardiness research has examined the effects of hardiness focusing solely on samples of American managers (e.g., Kobasa & Puccetti, 1983), lawyers (Kobasa, 1982a) or undergraduates (Ganellen & Blaney, 1984) or working mothers

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