The perceived legitimacy of minor illness as a reason for absence

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Abstract

This thesis investigates the role played by minor illness in how individuals legitimise absence from work. In particular, it considers the role played by different types of minor illness and motivational and environmental factors associated with perceived legitimacy.

The investigation is based on two large data sets, collected from staff of the Northern region of the Employment Service, a department of the Civil Service. The first survey of 1307 respondents studied relationships among the perceived legitimacy of 18 illnesses, work and absence attitudes and stress. The second data set combined interview and survey data from 230 respondents on perceived health; susceptibility to illness; organizational trust; job satisfaction; perceived frequency of illness; likelihood of absence. Actual absence data were also obtained for 115 of the respondents.

The results showed that perceived legitimacy of illness was related to actual absence and that men legitimise illnesses as reasons for absence significantly more than women. Sex differences were almost pervasive in the findings, supporting the proposition that the sexes be considered as separate populations in terms of absence behaviour; there were also very pronounced grade and age differences. Factor analyses of the perceived legitimacy scale suggest illness clusters, which relate to absence behaviour. Perceived legitimacy and absence are both linked to many of the dependent variables including stress, lack of recognition, job satisfaction and trust in management. However, climate, perceived health status and susceptibility to illness were related to actual absence but not to perceived legitimacy. Findings indicate the importance of attitudes to absence and malingering, including the use of penalties and incentives to control absence, and the existence of an 'Absence Ethic' is proposed. The findings suggest that there are direct and indirect effects for some variables and there is evidence of reverse causality and a cyclical pattern of attitudes-absence-attitudes.

The general implications are considered for research, the management of absence and absence control in the target organization.

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The purpose of this thesis is to investigate the role played by minor illness in how individuals justify or legitimise absence from work and to shed light on the possible motivational or environmental factors associated with perceived legitimacy. It considers the different roles played by different groups or types of minor illness. The investigation is based on two large pieces of data collection over the period from 1990 to 1992, both based in the Northern region of the Employment Service, a department of the Civil Service.

This chapter discusses the general concept of absenteeism, illustrating the size of the problem and the issues it raises. The problems of absence as a topic in the academic and non-academic literature are discussed. The chapter then develops the notion of minor illness as a central theme in short-term absence, identifying in particular the differentiation between types of minor illness and their legitimacy as reasons for absence. The initial hypotheses for research are developed and the chapter concludes with an outline of the rest of the thesis.

Absence and work behaviours

All people can relate to the issue of attending or being absent from work. Even people not in work can recall their attendance or absence at school. One can observe a range of attitudes and behaviours, ranging from those who have never had a day off work to those who take time off frequently and for many reasons. However, absence is one area where symptoms and causes can easily be confused. For example, absence and job satisfaction may be causally related in both directions (Clegg, 1983). It is also known that flexible working hours are associated with reduced absenteeism, possibly due to increased autonomy, reduced home/work pressures, being able to balance role overload more easily (Levine, 1987). Similarly with shift systems; the 'back shift' [2.00pm - 10pm] seems, on balance, to be the one most prone to high absence levels, probably

explained by its encroaching onto social and personal time much more obtrusively than other shifts.

There are many more examples of areas of work behaviour being shown to relate to absence in some way; all of these add to the overall knowledge base but are difficult to assemble into an overall causal model. Studies based on the models so far derived demonstrate the difficulty in predicting absence behaviour and there is evidence questioning the relevance of some of the variables in those models (e.g. Steers and Rhodes, 1978 and 1984; Fichman, 1984 and 1989; Brooke and Price 1989; Rhodes and Steers, 1990).

Absence as a human resource management issue

Current figures (IDS, 1988) suggest that costs of absence are hundreds of times greater than those due to industrial action. Examples of sickness absence rates typically range from 2 or 3% up to 18% of employee time. Between 300 and 600 million days are lost per annum in the UK, many times more days lost than for strikes or industrial injuries even in 'bad' years.

The whole topic seems to be neglected by managers. On the basis of the author's supervision of many projects and dissertations each year in the Human Resource Management /Personnel /Occupational Psychology fields, trends in popularity of various issues can be discerned. Such topics as appraisal, selection, stress and accidents appear regularly as work-based projects. Only relatively recently has the so-called popular professional literature addressed the issue of absence as a significant cost to employers; for example, the current trend to advertise short courses to train managers to 'control' absence.

Textbooks of Human Resource Management or Organizational Behaviour tend to devote very little space to absence despite its costs to employers (e.g. Torrington and Hall,

1987) and the general literature on absenteeism as a personnel or HRM problem consists simply either of descriptions of absence 'facts' or of a few absence 'correlates' such as stress or job satisfaction. Therefore, for the student or manager to get any information on absence, it seems necessary to go straight to dedicated 'management' texts on absence. These tend to cover procedural and control issues with a brief discussion of a series of correlates of absence which have been generally taken as 'rules' to aid control in management literature (e.g. Sergeant, 1989). The correlates include age, sex, day of week, time of year, travel-to-work arrangements, grade, pay rates, amount of overtime, shift system, accidents, leadership and job satisfaction.

Upon inspection however, the matter is much more complex than a set of partly-proven correlates. It is apparent, from local organizational knowledge, that many employers measure little more than they are required to by law in order to reclaim sick pay, thus making it difficult to understand anything other than superficial relationships. Many psychological factors seem to relate to taking time off work. For instance, absence can be seen as an indicator of other issues, e.g. stress, while others see time off for "sickness" as an entitlement. The problem of absence is clearly both important and only partly understood, two major reasons for developing further research in this area.

Minor illness and absence

It has been suggested that absence literature falls into two main categories (Huczinski and Fitzpatrick, 1989), one being written for the manager and orientated towards 'business solutions' and the other being more academic. From the author's discussions with managers in the region, there is little evidence that the academic literature informs the manager. This may be due to the long delay between published scientific research and its utilisation, or to the fact that the academic literature is not fully developed and thus not yet able to provide the prescriptive answers sought by management. It may also

be due to the complexity of absence behaviour which may defy full explanation and thus thwart attempts by managers to 'control' it.

Against this general background, the specific focus chosen for this research is the relationships between minor illness and absence behaviour. Minor illness is often cited as a cause of [short-term] absence. Indeed, it has been suggested that it is responsible for more than 50% of all absence (IDS Surveys 1986 and 1988). However, in general terms, little is known about why some people take time off work for minor illness whereas others do not. Minor illness is located [with accidents] as a factor influencing 'ability to attend' in the Steers and Rhodes (1978) model, thus implying its causal role directly. Nicholson (1977) suggested that absences could be placed on a continuum of individual control, from A to B, where B represented those absences which are entirely under the potential control of individual choice and A represented those with no discretion; this continuum is situation-specific, dependent on the interaction between the person and the environment. In this context, minor illnesses may have some discretion associated with them, implying a variable role in absence causation. Minor illness has been treated as a uni-causal rather than a multi-causal concept in absence research, which arguably limits its role as a determining factor. As a research topic in its own right, minor illness has definitional and measurement problems (McCormick and Rosenbaum, 1990); research into absence from work has also suffered from these types of problems (Martocchio and Harrison, 1993). It is therefore not surprising that putting the two together reveals few investigations and none which consider the roles of different minor illnesses and their effects upon absence behaviour.

It has been shown that absence attributed to minor illness has many issues associated with it, such as the prevailing absence culture (Nicholson and Johns, 1985). Absence culture is defined as a function of the trust in the psychological contract and the impact and homogeneity of the cultural salience of absence on the individual. The extent to

which the decision to be absent is under individual control (Nicholson, 1977) must also be considered if data are to be analysed meaningfully. There are many variables, such as stress and job satisfaction, known to relate to absence behaviour but their effects are moderated by grade, sex, age and other factors and are not always clear in terms of extent or even direction (Fitzgibbons and Moch, 1980).

In summary, there are already known to be many reasons why absence behaviour is so varied and unpredictable but these are not so well known as to significantly improve prediction or to enable absence reductions to be achieved.

Legitimacy of minor illness as a reason for absence

Measures of actual absence do not always inform about its causes; when reasons given for absence are collected, many aspects relating to individual causation are necessarily lost in the need to obtain large samples of data. There are problems concerning the accuracy of measurement and some disagreement about what the various measures [total time lost, spells of absence] mean in terms of causation and absence culture. To understand why some people take time off when others do not requires absence behaviour to be viewed in alternative ways (e.g. Johns and Nicholson, 1992; Martocchio and Harrison, 1993). One possible alternative is to consider the extent to which employees believe that illnesses justify taking time off from work as a dependent variable instead of the actual time taken.

Thus the focus on the role of minor illness is based on the assumption that absence behaviour is varied and that minor illness is often cited as the reason for a large proportion of it. It is clear that minor illness affects people differently and even where the effects are similar, the resulting absence behaviour may vary considerably. Some of this variation may be accounted for by culture, climate, and other salient factors and some by perceptions of differing minor illnesses as justifiable reasons for absence. The

notion of the Protestant Work Ethic includes 'hard work', achievement, beliefs in a just world etc. (Furnham, 1990). However, attendance is not apparent directly in the literature associated with the work ethic. It is proposed here that an 'Absence Ethic' may partially determine attendance, although it may be irrelevant to working hard when actually present at work; this Absence Ethic would relate to [amongst other things] pride in good attendance and a dislike of those who malinger.

In order to consider malingering [when used as an attribution of other's behaviour] as an undesirable activity, one must firstly have a notion about what actually is acceptable [and to whom] as a reason for being absent. This is the basis of the concept of legitimacy. It is particularly important because there are many potential reasons for absence which may not always result in actual absence. Thus the study of minor illness implicitly raises the question of its legitimacy as a reason for absence. Serious illness is obviously a legitimate reason, not being ill is not. Somewhere in between lies minor illness, covering a wide spectrum of events and feelings which could be viewed as 'trivial' in the morbidity statistics, and which would be a matter of choice, to some extent, about attending.

Little is known about the nature of the relationship between minor illnesses and their legitimacy as reasons for absence. However, it is apparent that the vast spectrum of minor illness types might relate to absence in different ways. The author's past consultancy experience [e.g. job design with blue-collar workers at Plessey, 1980] involving the examination of hundreds of medical certificates and also of supervising student workplace projects on absence is illustrative of the relative frequencies with which some reasons are cited [e.g. the URTI- upper respiratory tract infection; Coryza -common cold etc.] and the extent to which minor illnesses result in absence.

Data collection problems

The investigation of complex employee absence behaviours such as absenteeism involves many research and measurement considerations. It is a sensitive issue for both management and union, thus creating problems of access to all levels of data for the researcher; incomplete data or data collected over too short or long a time period can affect the predictive power of any model. But without absence data, any interpretation of causality may be inaccurate or even wrong and thus attempts to manage the problem may be counter-productive. Thus, data collection in this area is typically highly problematic, and considerable effort is usually required to test meaningful hypotheses.

The nature of applied research is such that it inherently includes constraints upon methodology and measurement. Absence research is a classic example of this, in that data may be incomplete or inconsistent over time, and it has the particular additional problems of sensitivity and often long time periods between cause and effect.

Different minor illness types

That different groups of minor illness may have differential effects may offer a partial reason for the lack of consistency of relationships found over periods of time in some research. It is proposed here that different illness effects act through moderator variables, such as sex, job grade and age. It is known that there are different patterns of relevant behaviour [e.g. consulting a GP] by sex, social class and age (McCormick and Rosenbaum, 1990) for different minor illnesses types. It is reasonable to suggest that this might also be the case for minor illnesses' legitimacies as reasons for absence. In practice, for example, it would seem to be clear that people could perceive absence for viral illness in quite a different way to that for migraine, depression or diarrhoea. These differences could be accentuated in particular situations e.g. children in family with a variety of viral infections, possibly more likely to happen to women, and it is likely that these differences would reflect the different incidence across social class. Similarly,

domestic or dual career stress, cited often as being a greater problem for women than men, should affect the perceived legitimacy of absence due to illnesses that can be caught from children. Stress due to 'sick building syndrome' might result in greater frequency and perceived legitimacy of colds and throat infections as a consequence of working in a poor building.

The need to ask the workforce

Researchers such as Morgan and Herman (1976), Nicholson and Payne (1987), Johns and Xie (1995), have explored the attitudes to absence of the workforce. However, in the main, it is managers who have been questioned about the absence behaviour of their subordinates. Precipitate handling of absence by managers can have negative consequences [as Nicholson, 1977 has shown] and it is also perceived by many managers as being a very sensitive issue. Yet the only reliable and practical way to ascertain how individual workers perceive the issue is to ask them. This has usually not been done, possibly because of the perceived sensitivity of the issue. With many absence levels of 4% to 6%, occasionally reaching 15%, the costs are huge and even small savings in the percentage rates could produce significant organizational savings. It is not at first glance easy to see why some local managements are reluctant to investigate absence.[1]

Minor illness as an influence on the ability to attend/attendance motivation model has not been fully explored. Nicholson and Payne (1987) and Johns (1992) showed that it is perceived as a frequently occurring factor but is underestimated in its effect.

[1] Anecdotal feedback from some personnel managers locally suggests that the reasons for the sensitivity include the fears of unemployment and redundancy and potential responses of the Trades Unions, who may even restrict the attempts to obtain and analyse absence data.

Focus of this research

The focus of the present research is on what happens at the boundary between attendance and absence i.e. at those points where there is a minor illness but where attendance is a matter of choice of the individual. From the evidence of the literature and casual experiences, it is clear that many under-investigated factors have some bearing on the decision to attend. Whilst there are grade and age differences in absence patterns, these differences are likely to be moderated by how people perceive the absence of themselves or others for different illness types and perceptions of own health (Gibson, 1966).

The fundamental proposition of this thesis is, therefore, that minor illness and its perceived legitimacy as a reason for absence is a significant part of an explanation of absence behaviour. Furthermore, it is investigated whether there are significant and possibly systematic variations in these perceptions and attitudes with a variety of factors including grade, sex, age, type of work, work attitudes, stress, organizational trust and perceptions of health and illness. It is proposed that minor illness cannot be considered as a unitary variable in this context but must be treated as a series of variable illness/symptom types which enter the absence equation in different ways.

Within the context of the role of minor illnesses as legitimate reasons for absence, the following initial hypotheses are proposed to illustrate the areas of investigation. These were refined and developed into ten more specific operational hypotheses which are discussed in chapter 3:

Hypothesis a: that perceptions of the legitimacy of reasons for absence will vary between and within groups of managers and employees, according to work attitudes, stress, attitudes to absence, perceived level of absence of self and immediate others.

Hypothesis b: that there are differences in work attitudes, perception of the psychological contract, and attitudes to absence according to minor illness types, moderated by grade, sex, stress level and organizational trust.

Hypothesis c: that health status and perceived susceptibility, job involvement, stress, commitment, organizational trust and social context/absence culture will influence both the perceived legitimacy of minor illnesses as reasons for absence and absence itself.

Hypothesis d: that perceptions of absence or attendance will differ by sex, grade and the perception of the reward/penalty system in relation to absence and its fairness.

Hypothesis e: that there exists, as a sub-set of absence culture, an 'absence ethic' which involves attitudes to attending work and which affects perceived legitimacy of absence and intention to be absent.

The structure of this thesis is as follows:

Chapter two provides an overview of the relevant empirical literature, and then considers the theories of absence behaviour, showing how minor illness and legitimacy fit into them. The chapter then reviews the main areas of literature that impinge directly on to this research; including the morbidity of minor illness, stress, work attitudes, culture and organizational trust, climate and task structure, psychological contract and minor illness and their effects on absence behaviours.

Chapter three considers the modelling of absence behaviour. It then details the development of the hypothetical model and derivation of ten specific hypotheses. Consideration is then given to the roles of qualitative and quantitative information and error sources.

Chapter four covers the methodology developed for each of the two phases of the data collection, i.e. the postal survey and the interviews of a subset of respondents. The organizational setting is described, followed by the sample, procedure and schedule of measures for each of the two stages of data collection. There is also a discussion of the constraints of the investigation and issues raised which relate to the reliability and validity of this study.

Chapter five describes how the dependent and independent variables used in the hypothesis testing were derived from the data, including the use of factor analyses. These are followed by tests of representativeness of the respondents.

Chapter six contains some preliminary analyses and descriptive statistics, followed by the testing of each of the nine hypotheses. There is also a section on the non-quantitative information gained from the interviews. The final section is an analysis of many of the variables in relation to actual absence data obtained from a sub-sample of respondents.

Chapter seven highlights five main findings from the research and includes a model derived from the data, which is compared to that derived in chapter three. This is followed by a discussion of each of the hypotheses. It concludes with a discussion of generalization and validity issues.

Finally, chapter eight presents the conclusions and implications, particularly those for further research.

Chapter 2

Literature review

Introduction

The purpose of this chapter is to review the literature base for the study. Initially, the chapter reviews the general and historical background to the study of absence and how absenteeism has been viewed by various social science disciplines. Next, the main theories of absence are considered and integrated into a model for minor illness as a legitimate reason for absence.

The chapter then considers separately the main concepts relevant to this research, i.e. legitimacy and attribution, minor illness and absence and reviews the evidence for minor illness groupings. The final sections are devoted to the theoretical bases for inclusion in the study of work attitudes and job satisfaction, stress, absence cultures and organizational trust, psychological contract, job context and climate.

In absence research, there are a number of writings containing extensive summaries of the literature and several meta-analyses of various factors. The main sources of these are: Muchinsky (1977); Chadwick-Jones et al (1982); Johns and Nicholson (1982); Goodman and Atkins (eds.) (1984); Farrell and Stamm (1988); Edwards and Whitston (1989); Hackett (1989); Bycio (1992); Martocchio and Harrison (1993). In the thesis the cut-off date used for citations is March 1996.

Absence as an interdisciplinary field of study

Much research into absence has considered it as a dependent variable resulting from different work factors. Thus, it is often seen as a health symptom 'caused' by poor leadership, work group norms, motivation and attitudes and these factors have been assembled into predictive models by several writers. These are discussed later.

Social learning theory has demonstrated the role of imitation and observational learning, without any observable change necessarily being apparent at the time in shaping behaviour or attitudes (Bandura, 1977; Weiss and Shaw, 1979; Wood and Bandura,

1989). Indeed, modelling or imitation can be more powerful than direct reinforcement in changing behaviour or values (Bandura, Ross and Ross, 1963; Weiss, 1978). If a person can learn work performance or work attitudes through copying the behaviour or values of others and as a consequence of the reinforcers they are perceived to obtain, then social learning may well be an important part of any model of absence behaviour and should be taken into account in attempts to change the behaviour.

Schein (1980) referred to 'rational economic man' in early organization theory, and this concept is one which still underpins much economic theory (Frank, 1990); it implies that an employee will behave in a purely rational way in order to maximise self-gain and minimise risk of punishment. This places absence in the position where it can be part of a cost-benefit calculation that results in a deliberate and balanced decision to attend or not. Frank makes the case that emotion, ethics, and other 'psychological' attributes affect the decision, meaning that people do not behave purely rationally. He also points out that most economic thinking has not incorporated irrational, psychologically-driven behaviours.

Thus, the study of absence involves [at least] psychology, economics, industrial relations and occupational health. To investigate one area of absence behaviour may mean the consideration and integration of several areas of knowledge.

Absence as withdrawal behaviour

Absence can be considered as a form of work withdrawal, part of a much larger set of potential behaviours such as lateness, daydreaming, turnover and accidents. Organizational withdrawal has been defined as 'behaviours employees engage in to remove themselves from their jobs or avoid their work tasks' (Hanisch, in press) and an underlying withdrawal construct -a latent trait- has been suggested by Hulin and Hanisch (1990).

The proposition that accidents and absence are both motivated forms of withdrawal was found in one study (Hill and Trist, 1962), but the relationship is understood to be inconclusive. Goodman and Atkin (1984) suggest potential reasons for links between absenteeism and accidents, of which two have particular relevance to the legitimacy of illness as a reason for absence: firstly, that absence creates a vacancy which results in increased stress amongst those working who have more work to do; secondly that absence is dysfunctional and therefore in some jobs those returning to work may have less than optimal vigilance for a while. Both of these absences may in turn increase the probability and perceived legitimacy of the absence of those who were not the absentees.

In accident research, the process of estimating risk involves the surveying of unsafe events and estimating how likely they are to result in accidents. Behaviour is more likely to be directed toward task-related events and goals than to minimise risk (McKenna, 1988). In order to understand why accidents happen and thus manage the workplace to reduce their occurrence, it is important to analyse risk and its perception before acting to reduce it. Exactly the same logic may be applied to absence research, where the ratio of illness to absence may be considered relative to perception of absence.

The link between turnover and absence is relevant to withdrawal. The concept of 'met expectations' [along with the availability of alternatives and desire/intent to leave in the case of turnover] is central to the withdrawal decision (Porter and Steers, 1973). This leads to the question of what the expectations are in the psychological contract. Absence and turnover are, however, very different forms of withdrawal, exhibiting differences on a number of dimensions such as perceived negative consequences of withdrawal and spontaneity of action to withdraw (Furnham, 1992). There is evidence that absence and turnover are related to each other in only some studies (Muchinsky, 1977), do not always covary with many work factors (Porter and Steers, 1973) and relate differently according to which measures are used (Wolpin and Burke, 1985). Some support is provided for models of both progression of withdrawal and independent forms of

withdrawal from computational modelling of withdrawal behaviours [not including accidents] by Hanisch and Hulin (1995, in press). In short, there is mixed evidence to support the notion of common correlates of both absence and turnover (Muchinsky, 1977).

The notion of absence as one part of a continuum of withdrawal or interrelated set of progressive or alternate withdrawal behaviours is not clear from the literature. Whether these behaviours have some common causes has been theorised but is unproven, leaving questions of common motivational bases for the various forms of withdrawal behaviour.

Main fields of literature

The literature relating to absence from work falls largely into two main classes (Huczinski and Fitzpatrick, 1989). One is the 'academic' literature, mostly journal articles which often contain quite complex statistical evidence and consequently are not generally known or used by the practitioners in management. The second class, management books and articles, on the other hand are largely prescriptive and mainly identify control procedures, some of which have been shown to be inappropriate or counter-productive (Nicholson, 1977; Huczinski and Fitzpatrick, 1989; Harvey and Nicholson, 1993).

The 'management' literature has become more popular in the last few years and there has been growth of short whole or half day courses on 'how to manage absence'. These imply that absence control procedures can produce savings for managers under budgetary pressures. Whether or not savings can be achieved or are lasting, more fundamental issues of the conflicting signals to employees of control [through absence policies] and autonomy ["employees responsible for their own development"] are often overlooked in the pressure on managers to reduce absenteeism (Edwards and Whitston, 1989). However, some of the 'academic' literature would suggest that there is a place for carefully designed procedures (Farrell and Stamm, 1989).

The approach in the 'management' literature is generally deliberately simple, assuming no prior knowledge on the part of the manager (e.g. Sargent, 1989). Absence correlates such as job satisfaction and stress are usually discussed in a simple prescriptive way, often treated as unitary variables with predictable effects, although they form moderator variables in many models of absence in the academic literature. It is possible to read much of the management literature and be convinced that these issues can be easily addressed via monitoring and application of control measures to 'solve' the absence 'problem'.

The academic literature contains the main elements needed for the understanding of absence behaviour. However, it would seem that models are not yet sufficiently advanced that they can predict individual attendance with any accuracy. The variables that influence absence behaviour are so numerous and complex with so many interactions that it is difficult to incorporate them all into a simple model, although it has been argued that this may be what is needed to further advance our overall understanding of the issue (Martocchio and Harrison, 1993).

Historical perspective

The earliest study which illustrated the impact of absence on work performance was conducted during and following the introduction of the National Insurance legislation in the United Kingdom (Buzzard and Shaw, 1952). This investigation, comparing measures in 1945-47 and 1949-51, suggested that sick pay increased absence three- and four-fold in four Civil Service departments, implying that most or all of this increase occurred only because employees were being paid to be off sick. There existed at the time, in job design terms, a general climate of work simplification and some management styles were very orientated towards Tayloristic methods. For many years following, in the U.K. paid sick leave was offered to 'white-collar' workers in addition to the statutory sick pay in law, but 'blue-collar' workers were required to manage on

state sick-pay. These early actions may well have had profound effects on subsequent attitudes towards absenteeism and its perceived legitimacy.

Much of the literature has considered absence as one of the behavioural outcomes in studies conducted for other purposes (e.g. Broadbent and Little, 1960). For absence to be considered an outcome, measurement principles are required, for example what should be included in the definition of absence (Behrend, 1978; Landy and Farr, 1983).

An early attempt to synthesise the available information (Jones, 1971) suggested that absence resulted from a number of factors, including job satisfaction, amount of overtime, journey to work, marital status, number of children, sex, job level and grade, working conditions, shift, amount of autonomy, leadership, organizational factors such as climate and culture. Not all effects were clear in direction, e.g. those relating to shiftwork, and it was suggested that the factors could also interact, although how and why was not pursued. No models of absence were offered to explain the phenomenon, rather absence was included as a variable in other models (e.g. Herzberg et al, 1959; Herzberg, 1966).

Current theories

A key early model of absence, and one of the few to consider issues of legitimacy, was that of Gibson (1966) which considered how the individual's need orientation and the organization's, called 'organizational space', overlap in the area called 'work space'. This constitutes the individual-organizational contractual domain within which the work contract is negotiated. He envisaged the contract as consisting of three parts- formal, consensual and discretionary, the latter two being described as quasi-contracts, and it is the discretionary contract which allows for independent action by both the organization and the individual. This can be construed as an equivalent form to the 'psychological contract', enabling the discussion of ethical commitment, justice and a sense of fair play on the part of the contracting agents. The individual's need system and belief-value

system will lead to some form of identification with work and this affects the relationship between the perceived duties and rewards.

Gibson saw work identification as an important direct influence on absence, supposing that high-identification workers have to overcome positive attachment before being absent from work, thus finding it harder to legitimise absence. Equally, workers with negative identification can legitimise absences more readily. Sex, status, age, length of service, size of organization, 'authenticity' [faithfulness to the intent and terms of the contract] and belief-value systems that were 'cosmopolitan' rather than 'local' were seen as moderating factors. He raised the notion that employees who are dissatisfied but in positions of high responsibility may contribute to a climate which strengthens the norms attached to the contract, making it more difficult to legitimise consensual or discretionary absence at variance with the formal contract.

Steers and Rhodes (1978) set out a model where two factors, the employee's *ability* to attend and *motivation* to attend, determine attendance. Other variables such as values, expectations, job satisfaction, personal characteristics, job factors, group norms and peer relations influence these two factors rather than attendance directly.

The model tends to under-emphasise organizational measures such as organizational culture and its differential effects as described by Nicholson and Johns (1985). The role of job satisfaction, whose relationship with performance is not clear and which varies from culture to culture, is not defined other than to suggest that "other things being equal, when an employee enjoys the work environment and tasks that characterise the work situation, we would expect them to have a strong desire to come to work." (Steers and Rhodes, 1978). Steers and Rhodes only discuss attendance, without considering differential effects with types of absence measure such as frequency or total days lost (Farrell and Stamm, 1988). Their model may be considered as conceptual rather than

measurement-based, thus avoiding the definition of absence cultures and the different reasons for failure to attend (Nicholson and Johns, 1985).

The model implies a continuous and self-regulating "decision" to attend. However, homeostatic feedback systems, e.g. that attendance/absence might influence expectations and values, are not included in the model, nor are other linkages that would seem intuitive, such as the influence of values and expectations upon pressure to attend via incentives and penalties.

According to Steers and Rhodes, "A fundamental premise of the model .....is that an employee's motivation to come to work represents the primary influence on actual attendance, assuming one has the ability to attend". Ability to attend could therefore be presumed to be largely outside the control of the individual and illness and accidents treated as unavoidable reasons for involuntary absence.

The Steers and Rhodes model was refined, modified and extended by Brooke and Price (1989), by identifying seven factors as intervening variables: job involvement, commitment, health status, alcohol involvement, work involvement, organizational permissiveness and kinship responsibility. Independent factors, influencing these seven, included routinization, centralization, pay, distributive justice, role ambiguity, role conflict, role overload and job satisfaction. When the model was tested on a hospital sample of both clinical and non-clinical staff, job involvement, distributive justice, organizational commitment and health status were not significant. Brooke and Price reformulated their model to exclude these variables, but raise some interesting comments and issues concerning them, since commitment in particular was seen by Steers and Rhodes to be a central mediator in their model. More fundamentally, these findings were not consistent with Steers and Rhodes' notion that illness and accidents were conceptually linked and both involuntary.

Brooke and Price state that job-related, individual and attitudinal variables are more important determinants than health status in their study and suggest that this supports the proposition that sick leave use has non-medical determinants (Hammer and Landau, 1981; Nicholson, 1976; Rushmore and Youngblood, 1979; Smulders, 1980; Nicholson and Payne, 1987). They refer to 'personal illness' and 'medical appointments' as being amongst the most often cited reasons for absence in the recall-assisted frequency measure that they used.

Both the original model and Brooke and Price's developed version seem to underestimate the effect of minor illness in the absence 'equation'. In addition, it is difficult to understand why commitment was unrelated, unless it was an artefact of the sample because many nurses may identify more strongly with their profession [and thus their work] than with their employers.

Fichman (1984, 1988, 1989) has argued that the dynamic operation of a set of motives underlies absence. Since these change in strength over time, they must be considered if we are to explain the timing of absence and attendance. Unfulfilled motives are assumed to increase in strength with time, so it should be possible to relate motive strength to the 'hazard' rate of absence. Thus, his process theory of absence focuses on the prediction of the switches from one behaviour to another. The theory is consistent with the distinction between approach and avoidance perspectives (Hackett and Guion, 1985). However, Fichman's assumption that involuntary absence [which includes all illnesses] hinders motive fulfilment more than does voluntary absence was not supported by his research. His findings "imply that persons return to work from different types of absence in the same condition" and he concluded that past absences [and thus unfulfilled motives] did not influence current attendance-spell motive levels for the workgroup studied, although the findings may be specific to this type of averse job (Fichman, 1988). Nevertheless, this theory emphasises the influence of changing patterns of motivation upon the decision to attend.

Nicholson (1977) suggested that absence could be placed on a continuum of individual control, from A to B, where B represented those absences which are entirely under the potential control of individual choice and A represented those with no discretion, resulting in involuntary absence. The essence here is whether the absentee could have made a decision about attendance or non-attendance, i.e. the extent to which *individual choice could have been exercised.* Where an absence might be on the A-B continuum is dependent upon the constraints on, or barriers to, attendance and thus the continuum is dependent upon person-environment interaction. The forces imposing on behaviour will vary between people and environments. One such force may be the perceived legitimacy or acceptability of the illness. Nicholson suggests that it is possible to construct a continuum of previous actual absences and their causes as a diagnostic tool and a continuum for potentially absence-inducing events.

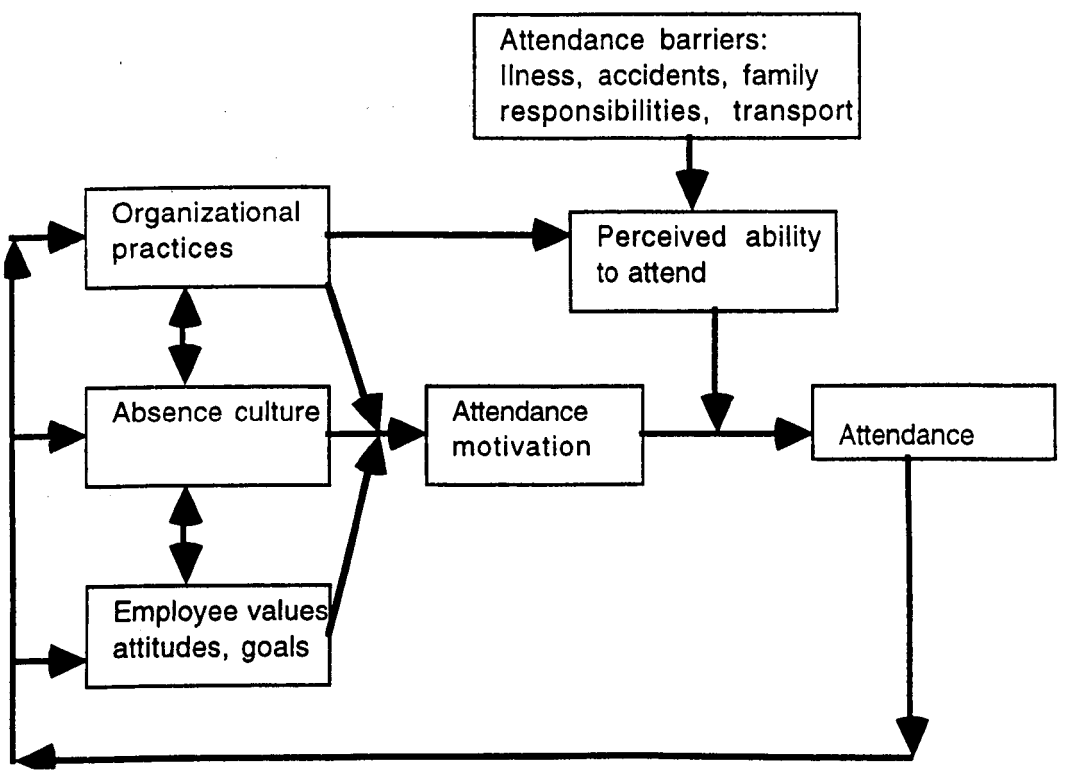
The A-B continuum forms part of a more comprehensive Attendance Motivation Model proposed in the same paper by Nicholson (1977). Assuming attendance has some built-in inertia whose threshold must be exceeded for absence to occur, Nicholson defines an intervening variable of 'attachment', closely related to attendance motivation and both lying between the contextual influences and the A-B continuum and subsequent attendance/absence behaviour. Attachment is defined as "the degree to which the employee is dependent upon the regularities of organizational life" and consists of personality traits, orientations to work, work involvement and employment relationship (Nicholson, 1977).

The theory of reasoned action, that intentions are the immediate predecessors of behaviour (Fishbein and Ajzen, 1975), and the theory of planned behaviour (Ajzen, 1991) have been used in attempts to derive a general decision-making theory to explain absence behaviour. In addition, Martocchio and Harrison (1993) propose that attitudes, subjective norms and perceived behavioural control have separate impacts on attendance

motivation- defined as intention- or the strength of conscious plans. to attend. Harrison and Bell (1995) add another variable, the moral obligation to attend. to these three influences and found evidence for all four in explaining variation in attendance motivation. Attitudes, subjective norms and moral obligation in the context used above may be important components of absence culture, and perceived behavioural control may be closely related to Nicholson's (1977) A-B continuum.

Nicholson and Johns (1985) showed the significance of different absence cultures and their impact upon types of absence. The different types of absence culture are discussed in more detail later in this chapter, but the concept has been incorporated into a 'diagnostic model' of attendance by Steers and Rhodes (1990), shown in Figure 1.

Figure 1. Diagnostic model of employee attendance (Rhodes and Steers, 1990)



It can be seen in Figure 1 that Rhodes and Steers have added organizational practices [defined as absence control policies, work design factors, recruitment and selection policies and the communication by management of clear job expectations] and absence culture to the original (1978) model. However, the notion of choice and the A-B continuum and its implications for the role of minor illness as legitimate reasons for absence are not included, nor are the implications of the Brooke and Price (1989) investigation.

Combining current theories

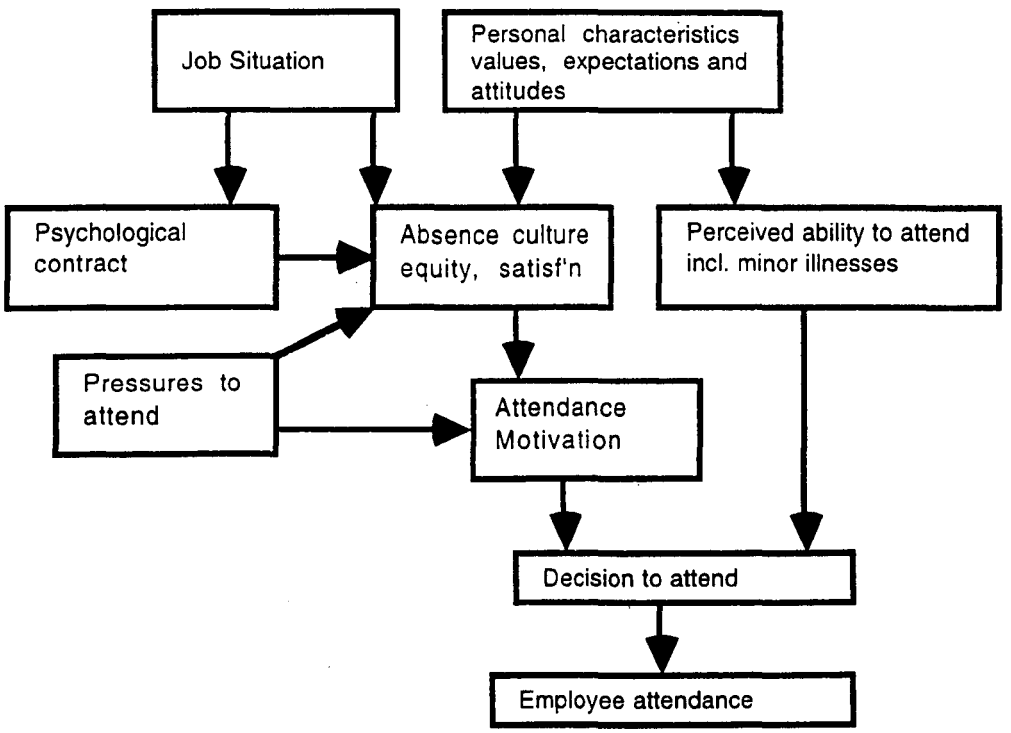
Putting these three models together needs to take into account the large number of dependent or independent, organizational, group or personal, content or context variables and their direct or moderating effects. These are summarised in Table 1, showing eight overlapping categories of variables.

Table 1: Summary of factors that are relevant to modelling absence

Effects	Context factors	vs. Job factors	Organizational factors	vs. Personal factors
Direct	Physical env Journey to work Location Deal with public	Perceived equity Job satisfaction Task variability Responsibility	Absence culture Rules, procedures Group norms Management styles Organizational structure Climate	Perceived health Susceptibility to illness Family commitments Grade, length of service Personality Trust and commitment Motivation Age, sex Stress tolerance
Indirect	Stress Absence culture	Psychological contract Stress	Psychological contract Values/expectations Absence culture Work ethic Climate Managerial values	Psychological contract Stress Values/expectations Work ethic Perceived equity Moral obligation

From the discussion of the various absence models, it can be suggested that perceptions of equity and justice and the 'absence culture' may affect the relationship between the psychological contract and motive to attend. A combined model, based on the variables in Table 1, by grouping factors together for simplicity might look like Figure 2.

Figure 2. An outline combined model based on Rhodes and Steers (1990), Gibson (1966) and Nicholson and Johns (1985)



In this figure, job situation can be taken to include what Rhodes and Steers (1990) refer to as organizational practices as well as the concepts of commitment etc. The Rhodes and Steers (1990) model does not develop 'ability to attend' beyond its original concept in their earlier theory (Steers and Rhodes, 1978 and 1984). 'Ability to attend' implies that minor illnesses can be considered, in terms of Nicholson's (1977) model, simply as constraints/barriers to attendance. Fichman (1988) treats illness as involuntary in much the same way. Neither Rhodes and Steers, Fichman nor Kaiser in his recent (1996) integrative attempt to remodel absence behaviour, consider the role of perceptions of

minor illness in influencing choice or decision to attend. In this combined model, there is a relationship between perceived ability to attend and decision to attend. Minor illness is placed in an important direct causal role, implying that it may involve choice (Nicholson, 1977); the choice may also be a function of psychological contract and perceived equity or fairness (Gibson, 1966) and the prevailing absence culture (Nicholson, and Johns, 1985).

Satisfaction has been proposed to be an important determinant of the decision to attend (Steers and Rhodes, 1978). It has also been shown to relate to the perceived level of equity in a work situation, in that it is unlikely that an employee could be highly satisfied if they perceived that they were being treated inequitably. It is implied by this combined model that perceived equity relates to the choice of attending by firstly affecting attendance motivation, thus suggesting an indirect role for satisfaction here. This may help to explain the unclear relationships found in research between absence and satisfaction (Nicholson and Johns, 1985).

Minor illness types may have differential effects in this model but this will be discussed later. Only those relationships which may have a direct impact on the model as it affects choice of absence or attending have been included, so it could be theorised that there are other linkages which need not be pursued here.

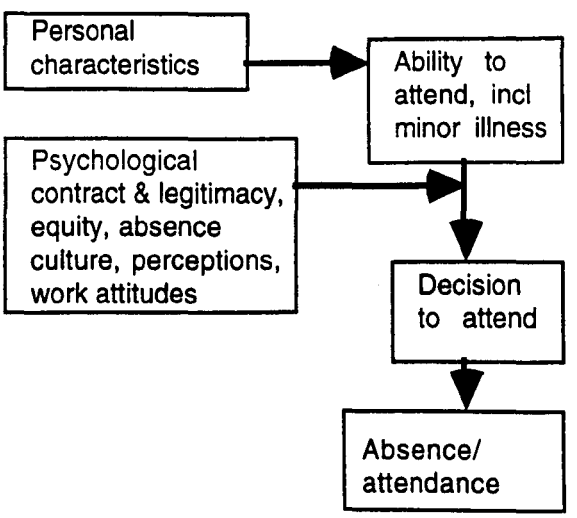
The combined model as proposed cannot be tested in its entirety, since there are too many variables for a single study. However, some of the issues raised, such as the role of minor illnesses in attendance decisions, the possible indirect role for job satisfaction and the importance of personal characteristics such as values and attitudes in relation to absence, sex and grade are examined in this study.

Likely correlates of minor illness as a reason for absence

Many factors have been cited generally as potential causes of absence, including job satisfaction, stress, autonomy, various work attitudes and management style; many others have been shown to moderate these effects, such as age, grade, sex, hardiness, personality variables (Muchinsky, 1977; Chadwick-Jones et al, 1982; Clegg, 1983; Keller, 1983; Goodman and Atkins (eds.), 1984; Farrell and Stamm, 1988; Ferris et al, 1988; Brooke and Price, 1989; Edwards and Whitston, 1989; Hackett, 1989; Bycio, 1992; Martocchio and Harrison, 1993;). Some variables have more influence than others in relation specifically to minor illness and the A-B continuum of choice of attending (Nicholson, 1977) and these are discussed in further sections in this chapter.

For a given job situation, and incorporating minor illness and the A-B continuum, the 'combined' model can be summarised into a much simpler form, as illustrated in Figure 3. This suggests that there are also personal characteristics that may be relevant to the link between ability to attend and choice of attending.

Figure 3: Variables affecting the role of minor illness as a reason for absence



The influence of sex, age and social class on minor illness is known from morbidity statistics although these do not always follow clear-cut patterns (McCormick and Rosenbaum, 1990). This variability is also found in absence statistics (IDS, 1988; General Household Survey 1993, 1995). Given that these three factors influence both minor illness and absence, it can be assumed that they influence the interaction of minor illness types with absence. However, it has been shown that higher frequency of visits to General Practitioners [GPs] does not translate into higher levels of absence (Corney, 1990; McCormick and Rosenbaum, 1990; Bird and Fremont, 1991; Gijsberg et al., 1991). This suggests perceived level of health and susceptibility may act as moderators.

Hardiness as a construct has been investigated in terms of its relationship to absence. Hardiness has been described as "a constellation of personality characteristics that function as a resistant resource in the encounter with stressful life events" and contains the three components of commitment, challenge and control (Kobasa et al., 1981). It has been suggested that hardiness has an attenuating effect on stress in relation to well-being (Kobasa, 1979; Kobasa et al 1981; Kobasa, et al, 1982). Whilst it is not entirely clear how hardiness relates to illness reports (Kobasa, 1979; Allred and Smith, 1989), it would seem that vulnerability/resistance to stress is central to the concept. Studies involving hardiness with anxiety, neuroticism, low self-esteem and external health locus of control would reinforce this (Keller, 1983; Ferris et al, 1988; Parkes and Rendall, 1988).

In summary, it can be seen that sex, age and social class [or job grade] need to be considered as moderators in the relationship between minor illness and absence. It can also be seen that stress, perceived health status and susceptibility and work attitudes [such as job satisfaction, climate, task structure, trust in colleagues and management, attitudes to absence and absence culture] can be hypothesised to have effects upon this relationship. The literature relating to these variables is discussed later in the chapter.

Legitimacy and attribution

These concepts concern the reasons cited for actual or potential absence and how they are perceived in others [attribution], the expected probability that any event or reason will result in absence [susceptibility] and the extent to which those reasons are considered to be valid or acceptable [legitimacy]. Suchmann (1995) defines legitimacy as "a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions" but he goes on to apply this to the organization rather than to the attribution of behaviour of individuals; nevertheless, this definition, by laying emphasis on 'proper' or 'appropriate' actions in relation to norms, values and beliefs has relevance to absence behaviour.

Nicholson and Payne (1987) designed a study to assess the frequencies of various reasons given for absence [particularly in relation to the A-B continuum (Nicholson, 1977)]; 280 employed persons were asked about event frequency, absence susceptibility [probability] and frequency, lost time and causes. Over 80% of the sample cited minor ailments as events, by far the most frequently occurring of the possible events given. Minor ailments were also cited as much the most frequent cause of absence, while other B-type events such as work overload were rarely cited. Nicholson and Payne point out that their respondents "seem to be underestimating the rate at which they actually take absences for minor ailments" and that serious illness is the only clear A-type event for all the sample. Underestimation of the rate of taking time off for minor ailments was also found by Johns (1992). He found manager-employee differences in the estimation of absence of themselves and others, all clearly in the direction of self-serving behaviour. These findings contradict some economists' views that "there will be incentives to misrepresent health state by reporting their sickness as being higher than it is", referred to as "shirking" and whose incidence is inversely related to wage rate (Barmby et al. 1993). It would seem here that psychologists' and economists' views of attribution and self-serving behaviour are superficially at odds.

Reasons given for absence may relate to its perceived consequences. It has been suggested that the existence of an absence culture is related to the consequences that individual feels will result from absence and that many people subjectively evaluate the costs and benefits associated with absence, often perceiving few consequences from absence (Haccoun and Desgent 1993; Nicholson and Johns 1985; Morgan and Herman 1976; Vroom 1964). The cost/benefit view is one which is typified by 'rational economic man' and is the operating principle behind many measures to control absence.

Nicholson and Payne (1987) showed that over one in four incidents of minor ailments actually results in absence, thus placing them towards the B-end of the continuum, but that people actually placed them at the A-end of the susceptibility scale. They suggest that "it is plausible that people are more liable to use quasi-medical reasons to justify their absence when it comes to reporting on actual events than when rating their own hypothetical susceptibility" and that "since illness is a justifiable cause, absences may be remembered as minor illnesses even if that was not their original cause". Although it is true that most people would find it easier to justify absence that is due to serious illness, it is unlikely that absence will always be perceived as justifiable by those who have attended work whilst having minor illnesses, i.e. have chosen to attend in a situation from at the B-end of the continuum. There are additional complications when illnesses are perceived to be unacceptable e.g. a 'taboo' on stress-linked illnesses. Thus, going absent for reasons of 'serious overload of duties at work' may be seen as a sign of weakness, being unable to cope with the job and potentially unpromotable.

The relative importance of minor illness as a reason for absence and its location on the A-B continuum is central to the concept of legitimacy. It is likely that there are complex interactions of different minor illness types with other psychological variables; "people were disinclined to give multiple reasons for their absences but it is not unreasonable to expect mixed motives to underlie many of the absences associated with feeling marginally unwell" (Nicholson and Payne, 1987). Attribution theory would support an

interpretation such that if absence is a negatively valued act, and it may be more or less negatively valued in different cultures, then the cause would more likely to be attributed to factors outside personal control, such as minor illness (Miller and Ross, 1975; Hewstone, 1989; Brown and Rogers, 1991; Guerts et al, 1994). Thus, negative attribution will distort the causes given as reasons for absence with the effect of making minor illness appear more frequently than is actually the case. Nicholson and Payne suggest that "the claim to have a minor illness constitutes a broad blanket attribution that obscures complex mixed motives". These motives would include situations where the real reasons for absence may be socially unacceptable, e.g. anxiety and stress, family commitments; there are also many other potential organizational as well as personal reasons such as perceived inequity in relation to pay, effort or in terms of the absence culture.

The effects of attribution of minor illness as reasons for absence may be to reduce its perceived legitimacy in some cases and enhance it in others, and it is arguable that lower levels of legitimacy will be found for some illnesses more than others. The factors that may affect differing levels of legitimacy might include the salience to the individual of the illness in terms of its past experience.

Is tonsillitis good enough as a reason for withdrawal? Do those with jobs involving talking to other people see this as more legitimate as a reason for absence than those whose jobs are relatively independent of others? A fundamental issue here is: what do people understand an illness to be? In other words, what one person may consider to be tonsillitis, another may consider to be a sore throat. The issue of perceived legitimacy is influenced by individual understanding of what each illness is and its severity. Therefore when a decision to be absent is made, the individual may attribute as a reason a more severe illness of the same type i.e. some form of self-serving bias (Miller and Ross, 1975; Hewstone, 1989; Brown and Rogers, 1991). From the above, it would seem to be the case that attempts by the organization to apply pressure to those who are

absent will result in a change in patterns of reasons for absence toward those with greater levels of legitimacy in the spectrum of minor illnesses.

Minor illness morbidity and epidemiology

The morbidity of minor illness has been studied quite extensively, although not usually with the purpose of addressing absence. There is a time lag of nearly a decade in publishing morbidity statistics from general practice (McCormick and Rosenbaum, 1990) and these show differences across age groups, sex, marital status and social class for three levels of illness severity using standardised patient consulting ratios. There are also many investigations of minor illness incidence for specific groups of people (e.g. Ernst and Angst, 1992; Corney, 1990; Bird and Fremont, 1991; Gijsberg et al. 1991).

The use of prescriptions provides some indication of the incidence of minor and chronic illnesses; the most frequently prescribed drugs are [in order of descending frequency] those relating to the central nervous system, cardiovascular, infections, respiratory, skin/mucous membranes, gastro-intestinal and rheumatic illnesses (McCormick and Rosenbaum, 1990). However, this includes all ages, disabled and able-bodied. and therefore can have little use as an indicator of the incidence of minor illness in employed populations.

Table 2: Standardised ratios of GP consultations by age and sex of patient to actual population. (adapted from McCormick and Rosenbaum, 1990)

	'Trivial' illness'		'Intermediate' illness	
Sex	16-44 yrs	45-64 yrs	16-44 yrs	45-64 yrs
men	13526	7528	9220	5827
women	25227	9684	15404	7517

Note: these have been standardised to the ratio of consultation per capita in each group

The incidence of consultations with general practitioners provides information which may be more relevant. Overall, these suggest that women consult more than men , single adults are least likely but widowed and divorced most likely to consult; consulting frequency is greater for the lower classes and less for those who are employed (McCormick and Rosenbaum, 1990). In an analysis of the literature relating to sickness certification in general practice, similar results were found, but in addition weekday effects[2] were considered to be one of several doctor-related explanatory variables, along with rate of consultation, attitudes, level of postgraduate training (Tellnes, 1989). Considering data for those of working age, it can be seen in Table 2 that there are many more consultations by women, even when these figures are matched with census records. Whilst pregnancy is one obvious explanation, it cannot account for the differences in the older age group, and only accounts for some of the difference in the 16-44 age group.

Corney (1990) found that the presence of physical symptoms was predictive of consultation in both sexes but psycho-social symptoms or distress predicted consultation behaviour only in women; there was no evidence of increased consultations being related to physical accessibility or time availability. He suggested that the increased consultation levels for women are linked to the greater ease with which they are able to divulge personal information about these symptoms. Bird and Fremont (1991) identified the importance of social roles and found that when gender roles are controlled "being male is associated with poorer health than being female". They suggest that these findings are more consistent with the known higher longevity of women than are the raw morbidity data. Gijsberg et al. (1991), again commenting on the generally higher levels of morbidity among women, consider that higher female symptom sensitivity, defined as "a readiness to perceive physical sensations as symptoms of illness", may be a primary explanation. All of these sources refer to methodological problems in data collection,

[2]such as when new sickness certification starts early in the week, the doctor, for curative reasons, wants to give the patient a few extra days off at the weekend.

such as social class differences, and also problems in the definition of morbidity; the definitions of 'trivial', 'intermediate' and 'serious' used in the statistics on consultations with general practitioners are likely to cause methodological biases.

When the numbers of consultations are considered by sex and social class, for different illnesses, it can be seen from Table 3 that the pattern is rather mixed.

Table 3: Standardised incidence of consultation of illnesses with GP by sex and social class. Source: McCormick and Rosenbaum, 1990

	Class and Sex							
	I/II		IIIN		IIIM		IV/V	
Illness	m	f	m	f	m	f	m	f
Depression	91	78	87	98	101	112	120	120
Anxiety	101	87	117	97	85	107	115	114
Conjunctivitis	100	104	101	87	100	95	99	113
Hypertension	102	82	120	99	92	110	98	113
Heart	91	84	120	89	101	116	101	110
Acute URTI	87	87	104	101	106	107	108	110
Sinusitis	114	107	105	95	92	102	88	90
Tonsillitis	90	92	111	103	109	107	91	97
Laryngitis	117	110	106	89	93	98	78	94
Bronchitis	86	83	97	90	106	112	113	119
Asthma	96	82	105	99	97	106	107	121
Women's		88		95		110		110
Arthritis	84	89	87	96	104	104	124	112
Back Pain	72	85	92	92	110	115	134	110
Cough	87	84	113	103	104	112	106	106
Abdominal	85	80	95	89	107	116	115	120
Sprains etc.	81	87	88	107	109	97	120	121
Preventative	118	112	94	97	90	95	92	90
Social etc.	86	74	104	78	100	116	119	141

Whilst these data show very general trends toward higher incidence among lower social classes for both sexes, there are some results which are not easily explained, for example for tonsillitis, hypertension, sinusitis and laryngitis. There may also be anomalies in definition or measurement, such as those for 'cough'. Nevertheless, there are higher rates among lower social classes for abdominal, back pain, depression, bronchitis, acute URTI, asthma, arthritis sprains, womens' and social illnesses. Higher

social classes showed higher incidences of hypertension, laryngitis, sinusitis and preventative consultation.

The fact that they are standardised in relation to the total number of consultations means that direct male/female comparisons for each illness for each grade can be made in general terms. The broad trends would suggest some variation in the patterns of illnesses by sex, for anxiety, hypertension, heart and sinusitis, with lesser variations in tonsillitis, asthma, sprains etc., conjunctivitis and backpain. The explanation of these sex differences could be due to differences in the level of reporting of symptoms, measurement differences or artefacts from the measures based on only 25 practices being untypical.

To summarise, the relationship between social class and morbidity is clear in general terms but more complex and less clear when separate illnesses are considered. From the evidence, it cannot be assumed that, if social class is held constant, morbidity is greater for women, since the data show mixed results. The matter is clearly not simple or easily predicted.

Minor illness and absence

There are few investigations linking minor illness and absence, and fewer still which consider different minor illnesses and their effects on work behaviour.

North et al (1993) attempted to "describe and explain the socio-economic gradient in sickness absence" by analysing absence data from 20 civil service departments in London and making comparisons across ratings of perceived health and many biographical variables. The findings [and those cited by Marmot et al (1995) conduced on the same data] were consistent with other cited reports of higher rates of sickness absence among less skilled non-manual or manual employees. The 'gradients' were also observed among managerial and executive staff. Perceived health status was a strong

predictor of rates of both short, and to a greater extent long, spells of absence. Sex did not predict consistently across grades; although women showed higher total numbers of both short and long absence spells for most grades, it is not clear [for example] whether absence due to pregnancy was included. Psycho-social work characteristics based on the strain model of job demands and decision latitude of Karasek et al (1981) were predictors of short, and to a lesser extent long, spells of absence.

North et al (1993) discuss the possibility that grade differences might to some extent be spurious because managers and professional employees are more likely to be absent without record than lower status employees. They also suggest that the 'snapshot' measurement of many of the explanatory variables may render causality difficult to determine, and that relevant causal factors may not have been measured. The inescapable conclusion is that there is still no satisfactory explanation of the substantial grade differences even after a wide range of risk factors have been taken into account. The possibility that some of the measures taken at that time may be more predictive of future absence than contiguous absence was also considered.

It is important to consider which variables mediate the relationship between absence and minor illness. If absence due to minor illness is often at the discretionary B-end of the continuum (Nicholson, 1977), this raises the question of how far the individual *perceives* that he/she has any discretion and what may affect that perception. The greater percentage of people (43%) suffering migraine headaches who missed one or more days off work than those with tension headaches (12%) may reflect differing levels of perceived discretion (Rasmussen et. al. 1992). Personality may have a key role here.

It has been suggested by many authors that there is a 'disease-prone personality' related to low 'hardiness' (Kobasa, 1979, etc.). There is weak evidence for such a generic personality that involves depression, anger/hostility, anxiety and possibly other aspects of personality. Coronary heart disease was the only illness, of those investigated,

clearly related to all groups of personality variables studied by Friedman and Booth-Kewley (1978); in this study, there was no evidence for different diseases having different personality traits associated with them, although some low correlations with extraversion/introversion were found. Personality may function like diet: 'imbalances' can predispose one to all sorts of diseases affecting the immune system function and metabolic processes rather than particular organs

Minor illness types and personality

Minor illness, personality and immunity are linked causally, but not always in the same way for all minor illnesses (Evans and Edgerton, 1991 and 1992: Stone, Bruce and Neale, 1987; Woods and Burns, 1984). The dependent variables used by Evans and Edgerton (1992) were symptoms, which were reduced by factor analysis to four main groups. These were colds [sneezing, nasal discharge, fever, chills, watery eyes, eye strain and upset stomach], malaise [muscle aches, breathlessness], headache [and neckache] and cough [and sore throat]. The four groups of symptoms were linked to three mood factors [derived from aggregated data of mood descriptions] of 'happiness', 'tense depression' and 'hostile depression'. They postulated that any phenomenon which has salience as a cause of worry or upset to the individual [e.g. undesirable life-events] can reduce well-being and increase the likelihood of catching minor illness. The lagged relationships reported corresponded exactly to the "incubation period" for colds and throat infections, and the mood states associated with this relationship were anger, scepticism and tension. This and other studies (Kiecolt-Glaser et al, 1987; Lam and Power, 1991) have suggested that reduced immunity and [minor] life events are also associated with 'depressive' moods. Evans and Edgerton described hostile depression as possibly linking to part [but not all] of the Type A profile and showed that mood changes towards hostile depression occurred some four days prior to the onset of colds. They also found more insomnia, head and neck aches for those whose scores were raised on 'tense depression', compared with those who remained 'happy'.

Jenkins (1985) showed that minor psychiatric morbidity, i.e. depressions and anxiety states, was associated with increased retrospective and prospective measures of absence, both frequencies and total days lost. She commented that depression is recorded at a low rate [perhaps 50% of its true level] on medical certificates from general practitioners, possibly because patients who are depressed may offer physical symptoms instead of psychological complaints. The reason for this may be the stigma of being diagnosed as depressed or because depression itself will result in increased individually perceived levels of 'malaise'.

These investigations raise the issue of the classification of minor illnesses, which has no obvious previous research base. Some aspects of Evans and Edgerton's classification are particularly interesting because they are different to what might have been intuitively expected, such as cough and sore throat as a separate factor to colds and their use of depression as an independent variable rather than a symptom. Influenza and chest infections are not evident in any of their factors, although respiratory illness was a symptom but not significantly related to any of the mood states.

Respiratory virus infections, i.e. colds and influenza, have been shown to affect various types of visual, reaction time and search performance and these effects have also been found during the incubation period for the illness and even after clinical symptoms have gone. The presence of sub-clinical influenza infections can also affect some aspects of performance (Smith, 1990).

The popular belief that certain types of people are illness or disease-prone does not appear supportable when applied generally to all illnesses, but there is accumulating evidence that some personality traits like anger, depression and anxiety are predictive of a number of highly specific illnesses, although the 'mechanisms' [endocrinal, immunological] are not always clear. There may even be the possibility of illness-

specific disease personalities, but the existing evidence does not seem to support this (Friedman and Booth-Kewley, 1987).

Beyond this personality-illness-absence link, there is variability in psycho-immunity which is not explained by physical or personality characteristics but which has its origins in events at work or at home. It may be that one such source of variability is stress or strain. So an argument with the boss, or having little autonomy but being under intense pressure, increases the likelihood of a person exhibiting symptoms of depression and of catching colds and throat infections in particular. However, the tendency to report nervous strain was shown to relate to self-diagnosed susceptibility to illness but not directly to job factors; high-susceptibility employees reported nervous strain for even very low-demand jobs (Cherry, 1984). This might be interpreted as reinforcing the notion of the disease-prone personality, with stress having a mediating role, as has been found in investigations of the Type A and Type B personalities.

More generally, it can be said that psychological functioning can influence immune system mechanisms and thus vulnerability to infections (Friedman and Booth-Kewley, 1987; Kiecolt-Glaser et al, 1987). However, it is clear that people are not affected equally by these pressures, and they do not all acquire infections at the same rate even if subjected to similar events, implying different levels of adaptation (Selye, 1976). If some job features were perceived to be difficult to adapt to, this could alter the individual's perception of the situation and reduce well-being, thus increasing susceptibility to illness. But for another person, this may not increase the chances of catching a cold but may manifest itself as headaches or other 'malaise'. This suggests that there are clear but situationally specific processes, a notion which is reinforced by the relatively small main effect and the large interactive effect with organizational factors, of personality on absence (Furnham, 1992).

It has been suggested that employees will tailor their absence patterns to the boss's needs (Nicholson and Johns 1985) and this principle can easily be applied to giving socially acceptable reasons for absence. Some diseases and illnesses are less socially acceptable (see for example Jenkins, 1985) and would thus appear infrequently in absence returns. Hammer et al (1981) showed that pressure - from employee ownership - to legitimise withdrawal resulted in increased involuntary absence to replace the previous voluntary absence. So the cognitive dissonance created by absence from one's own company was resolved by changing the reason and presumably changing one's perception about the illness and its severity.

Work attitudes, job satisfaction and absenteeism

Whilst not producing consistent results, work attitudes have, in general, been shown to affect absence (e.g. Clegg, 1983; Hackett et al., 1987; Brooke and Price, 1989; Bycio, 1989).

Central to the original Steers and Rhodes (1978) model, and of importance as the fifth largest significant factor in the Brooke and Price (1989) revised version, is job satisfaction. The research into its relationship with absence has produced mixed results with relationships found in some organizations but not in others, thus implying a situational or cultural component (Steers and Rhodes, 1984; Hackett and Guion, 1985; Nicholson and Johns, 1985; Farrell and Stamm, 1989; Hackett. 1989; Hackett et. al., 1989). Nicholson and Johns defined four absence culture types, and their prediction is that only in type III [low salience/low trust] will job satisfaction be a good predictor of absence. They see this type of absence as 'calculative' where the psychological contract is based on a calculative exchange of money for effort. Therefore, absence culture [and other, undefined variables] would seem to act as a moderator on the job satisfaction -absence relationship. How job satisfaction fits into the absence equation is not clear (see Clegg, 1983; Nicholson and Johns 1985; Brooke and Price, 1989).

Nor is job satisfaction a very strong predictor of work performance (discussed for example in Karasek and Theorell, 1990). From a job design perspective, several points can be made:

* job satisfaction, absence, productivity, turnover, ill-health and even sabotage are all *outcomes* of good or poor job design, i.e. dependent variables.
* decision latitude, skill underutilization, psychological demands, perceived control and influence over change processes [innovative potential] are important factors in well-being and associated with lower risk of illness.
* mechanisms for 'active learning' [growth] and motivation [and therefore many work attitudes] are largely separate from those mechanisms associated with job stress.

These points suggest that job satisfaction may not be a direct cause of absence, but both may be seen as outcomes of job design factors. Therefore, the predictive power of job satisfaction may only be to the extent that its covaries with absence via common causes of both.

There are common beliefs that part-time workers demonstrate differing work attitudes [such as less commitment and lower job satisfaction] to full-time workers because they invest less time into the organization and have jobs which are often secondary in the family. However, Shockey and Mueller (1994) found 13 out of 14 at-entry measures to be the same, suggesting that it is therefore the structural conditions of work that produce these often-observed differences. In contrast McGinnis and Morrow (1990) found no differences at all for measures of perceived organizational climate, job satisfaction and work commitment, concluding that employment status may not be a useful predictor of work attitudes; they suggest that future research in this area should include a wider variety of variables. These findings could also be said to lend support to the notion that many work attitudes stem from job design factors.

Hackett (1989) synthesised the results from three meta-analyses in order to establish the relationship between work attitudes and absenteeism. He identified sex as a strong and consistent moderator; the more females in a sample, the stronger the association of absenteeism to job satisfaction. He suggested that future research should address the separate psychological processes, antecedents and consequences of absenteeism for each sex. The strongest relationships involved the facets of work, overall and intrinsic satisfaction. suggesting that the link between absence and job satisfaction and work-related behaviours is likely to lie in the intrinsically motivating aspects of the work or job itself.

Hackett raises the issue of why the [modest] relationship between absence and job satisfaction is not stronger and comments upon the notion of a strong and direct link between absence and work attitudes as being too simplistic. He suggests that more attention be paid to extra-organizational factors and (as previously suggested by Johns and Nicholson, 1982) the absentee's perception of these factors.

Johns (1988) has suggested that the reasons for the relationship being only modest might include:

[1] Some absence is simply unavoidable because of illness, weather conditions etc.

[2] Opportunities for off-the-job satisfaction on a missed day may vary

[3] Some organizations have attendance control policies that can influence absence more than satisfaction does

[4] The influence of work group norms on acceptable absence behaviour may be much stronger than individual satisfaction levels.

The use of incentives and penalties to control absence is a complex issue and the motivational effect of absence control procedures on actual attendance [as opposed to

performance] is not clear (Scott and Markham, 1982; Scott et. al., 1985). Absence control programmes have become more fashionable in recent years and Nicholson (1976) has shown that there can be unforeseen consequences of ill-planned control programmes. Most of the research in this area has largely been confined to managers' attitudes and this is a major weakness in the ability of the research to be able to predict employee' absence or even explain it. The evidence suggests that there is often introduction of control programmes without considering their implications (Scott and Markham, 1982; Scott et al, 1985) and that managers' ratings of the effectiveness [in terms of duration] of control programmes does not appear to relate to the actual effectiveness of the programmes (Scott and Markham, 1982). Existence and knowledge of control procedures may have an effect upon the intention and decision to attend, although behaviour may reflect a different understanding of the limits of attendance/non-attendance than are actually the case, depending on how employee recall their current 'tally' of days lost (Nicholson and Payne, 1987). Both theory (e.g. Edwards and Whitston, 1989) and anecdotal evidence lead to the suggestion that incentives and penalties may have indirect roles in relation to absence and act as independent variables to affect perceived equity of treatment and commitment and other measures which themselves then affect absence. Recognition of good attendance may well be the most effective motivator and superior to any penalty system for absence (Nicholson, 1993). However, absence may not appear to influence management's response to matters such as promotion (Edwards and Whitston, 1993). It would therefore seem to be the case that other factors [such as the perceived legitimacy of absence] are influencing managers' responses.

In a study based on self-reports of total days lost as the dependent variable, Haccoun and Jeanrie (1995) found significant correlations between absence and two main groups of work attitude: one characterised as a social exchange component [after Chadwick-Jones et. al., 1982] and the other describing a 'culture-oriented' tolerance [after Nicholson and Johns, 1985]. Haccoun and Jeanrie comment that the nature of the

dependent variable may have acted to distort their results, which showed a much stronger relationship than expected; they attribute this to the fact that the independent measures were specific absence attitudes rather than generalised job attitudes such as job satisfaction. However, their conclusion that worker attitudes toward absence and the beliefs and perceptions held of the organization were empirically linked is interesting and lends support to the notions of absence culture and an 'absence ethic' as a set of attitudes to absence.

Thus, to summarise, the relationship between work attitudes and absence is not clear and there are no simple explanations for this, although many possible reasons have been suggested.

Absence cultures and organizational trust

Nicholson and Johns (1985) suggest that voluntary absence, i.e. that over which the individual exerts some control, is influenced by trust and salience of the organizational culture, resulting in absence for differing reasons. That variety of reasons for voluntary absence implies that the mechanisms for 'managing' these different absences should also be varied. There may be deviant [Type I- low salience, high trust], constructive [Type II- high salience, high trust], calculative [Type III- low salience, low trust] and defiant [Type IV- high salience, low trust] absence types, according to these four cultural types.

Salience in this context refers to the homogeneity and distinctiveness of beliefs associated with absence and their impact upon the individual. These beliefs could relate to the protestant work ethic and to the psychological contract. If salience is high, this should result in homogeneity of absence behaviour; if it is low, then absence behaviour should be quite varied. In a large organization such as the civil service, widely geographically spread, one would expect salience to apply at the departmental level rather than organizational level.

Trust relates to the amount of discretion in the psychological contract along with accompanying expectations [Mayer et. al. (1995) add vulnerability to this] and is a highly important ingredient in the long-term stability of the organization and the well-being of its members (Cook and Wall. 1980). It may be measured by inferring trust from other forms of behaviour, as exhibited in [a] the willingness to give increased discretion to subordinates, [b] interpersonal trust within groups and [c] a directly experienced evaluative or affective reaction. It is likely that attempts to change the procedures and rules governing absence [e.g. the introduction of tough control systems] will lower both 'inferred' and 'affective' trust and that this may present problems when other activities [such as forms of development and increases in job scope] encourage increases in trust (Edwards and Whitston, 1989).

Martocchio (1994) showed the impact of absence culture on individual absence, but his definition of absence culture was based on aggregated measures of costs and benefits, i.e. deterrent outcomes and encouraging outcomes. This might be considered to be a narrower way of conceptualising absence culture than "the set of shared understandings about absence legitimacy.... and the established 'custom and practice' of employee absence behaviour and its control" (Johns and Nicholson, 1982) because 'shared understandings' may involve additional judgements about justice and equity as ethical issues rather than simply in terms of personal gain or loss. It has been shown that procedural, interactional and formal justice, but not distributive justice, influence trust in management and this in turn influences commitment and intention to leave (Barling and Phillips, 1993; Dailey and Kirk, 1992). Interactional justice and commitment have been found to influence absence duration and frequency (Gellatly, 1995). The notions of justice and [implicitly from this] trust have already been shown to be integral parts of the [discretionary] psychological contract in the way that Gibson (1960) defined it. It can be argued that perceived justice and trust moderate the relationship between perceived legitimacy, actual absence behaviour and management responses, in that if illegitimate

absence is not perceived or acted upon by management, trust may be reduced and injustice perceived.

From this, it can be concluded that different absence cultures may result in differing types of absence, and that the concept of absence culture might include the notions of justice, equity and trust as part of the psychological contract.

Stress and absence

The role of stress as a potential cause of absence is complicated. Its effects are often mixed in terms of job content and job context and involve interaction with personality; attendance effects may differ from performance effects (Arsenault and Dolan, 1983). 'Stress management' programmes, involving counselling, training and job design, often cite reduced absence as one of the main benefits in the cost-benefit analyses used to support their introduction (e.g. Krausz and Freibach, 1983). Underlying all stress management is that they will reduce stress-induced illness. The illnesses most often cited as being stress-induced include coronary heart disease, lower back disorders, headaches and migraine, allergies, gastric and intestinal disorders and these may result in absence. Stressors include many work factors, domestic and life events and interactions between them, such as dual careers (e.g. Davidson and Cooper, 1984, Cooper and Payne, 1988).

The incidence of major illnesses has been easier to quantify than that of minor illness. Thus, research has been able to compare high and low- stress jobs in terms of the morbidity apparently associated with each. Jobs which create "dystress" as opposed to "eustress" (Selye, 1976) have been shown to exhibit certain features, e.g. low decision-making latitude and high psychological demands, which present health threats to the individual (e.g. Johansson et al, 1978). In terms of the apparent effects of stress, there are large individual differences relating to sex, age, social class , personality, physiology, etc. The concepts of adaptation and later, 'coping style' and 'hardiness'

(Kobasa, 1979; Kobasa et. al., 1981; Kobasa et. al., 1982; Lazarus and Folkman, 1984; Koeske et. al., 1993) have been used to explain the effects of some of these individual differences.

How stress might increase absence can be viewed as a psychological problem when the effect is direct, such as might occur if the employee decided that they felt unable to cope on any given day, or felt that they were 'owed' time off from a lot of stressful effort and hard work. This relates to the psychological contract and to role overload, conflict or ambiguity attributed to work. It may be that some absence due to stress acts as a safety valve and is healthy for the organization, contributing to the mental health of employees (Steers and Rhodes, 1984). However, there may be indirect effects in the stress-absence relationship, relating to psycho-immunity, such that work or domestic pressures may increase likelihood of symptoms such as depression, colds etc. as discussed earlier.

The boundary where an illness stops being an 'irritant' and becomes an important influencing factor of work performance or psychological well-being is unclear, even when biographical individual differences have been "accounted for". Recently, it has been suggested that the evidence for occupational stress 'causing' organizational behaviours such as absence, turnover, poor performance or industrial conflicts is weak and in some cases non-existent (Briner and Reynolds, 1993; Briner, 1996). Indeed, it has been suggested that there may be reverse causality, with absence 'causing' subsequent stress (Manning and Osland 1989). It might therefore be that stress exerts an indirect effect and influences susceptibility to minor illness rather than directly causing illness or affecting work behaviours.

Psychological contract, job context and absence

The psychological contract is "the set of unwritten reciprocal expectations between an individual employee and the organization" (Schein, 1980). It involves an implicit exchange of beliefs and expectations about what constitutes legitimate actions by either

party. Gibson (1966) built into his absence model the influence of both the formal and psychological contracts, emphasising the notions of ethical commitment, justice and a sense of fair play in the discretionary part of the contract.

In recent decades, particularly since the introduction of sick-pay schemes, there has been a gradual enlargement of the scope of legitimate or acceptable causes of absence, moderated by occupational status and trust (Nicholson and Johns, 1985). Thus, there is more discretion to judge whether or not one's illness should result in absence and social beliefs about what would constitute legitimate reasons for absence. Employees in low-discretion low-trust roles may well see their psychological contracts as allowing and even condoning absence for specified illnesses, up to a certain shared group norm and probably known to many employees. Absence cultures, determined by level of trust and salience, represent the form and nature of psychological contract relating to absence within the organization.

Absence control policies have been subject to a recent surge of activity as managers come to recognise that absence is costly to the organization. Control policies often do not achieve their aim and may even exacerbate other problems of morale and lack of commitment. If the organization is trying to develop staff and increase autonomy, control policies may be sending signals to the opposite effect (Edwards and Whitston, 1989). It has been suggested that absence control policies need to be recognition-based to be successful in the longer term. Thus, the climate should be one where both attendance and performance are considered favourably, rather than the emphasis being on penalties for absence or poor performance.

The effect of many absence control policies is to restrict the discretion to judge whether one's own reason for sickness is legitimate. Indeed, such discretion in judgement may rest largely with the supervisor (Judge and Martocchio, 1995; Markham and McKee, 1995). This is achieved either by requiring the immediate superior to counter-sign a sick

note, or by requiring all reasons for illness be noted and returners be interviewed and possibly disciplined. This would result in a change in the nature of the expectations of and reasons for attendance and alter the psychological contract. This could have the effect of moving from one of the two high-trust cultures to the corresponding low-trust cultures. The consequence is that the absence may increase in amount, within the prescribed policy limits and there may be increased 'strategic' use of sick days to lengthen weekends (Markham et al, 1982; Nicholson and Johns, 1985).

Sex differences in work and absence behaviour

Sex interacts with many of the key issues in the study, for example minor illness morbidity, and has already been referred to in several preceding sections of this chapter. However, there are issues relating to the role of gender in the workplace in a wider context, and more specifically sex differences in absence behaviour, which should be considered.

There is continuing debate about the explanation of differences in male and female behaviour, most recently through evolutionary psychology and biology (see for example, Buss, 1995). Whether sex-role or biological sex differences relate to work variables such as job satisfaction has not been resolved, and findings in this area are equivocal (Furnham, 1992). Some writers have referred to the extent to which work behaviour and attitudes are explained by 'indirect sexuality' such as aggression and competitiveness and their effects on organizational culture (e.g. Rogers, 1988). Occupational sex-role stereotyping has been raised by many authors, for example in the context of gender-role and career aspirations (Morinaga et al, 1993) and leadership styles (Bass et. al., 1996), but the fact that women's work roles have been changing for many years further complicates the issue.

In the UK, women now make up nearly 50% of the workforce overall, and nearly 90% of all part-time workers. In particular, in clerical and related occupations full-time

working women form 56%, and part-time women 18%, of the workforce, whereas at managerial level they are 6% and 5% respectively (Social Trends, 1996). More than two thirds of the women that work are married. These figures are vastly different to twenty, and even ten, years ago. Not only are the statistics changing, but so are values, attitudes and behaviour with respect to gender in the workplace; indeed, Grant and Porter (1994) state that it "is constantly being defined and redefined".

Marshall (1993) suggests that women will continue to have limited influence on cultural values until they can lose their current preoccupation with proving their right to be in organizations. Aaltio-Marjosola (1994) considers the way in which contrasting ideas for male and female behaviour evolve and remain in the organizational memory, suggesting that the tendency to glorify organizational cultures imbued with heroic ideals may favour male ways of acting in organizations. A study by Loscocco (1990) lends support to the view that women use a different frame of reference than men in assessing their jobs and their organizations; an example of this is that wives adapt work behaviours to fit the needs of the family significantly more than men (Karambayya and Reilly, 1992).

The role of women managers will be considered later in the thesis in relation to the findings. Horgan (1989) argues that the biggest barrier to women's success in management is the management task itself- that acquiring management skills is especially difficult for women in terms of learning from experience, heuristics, pattern recognition and task importance, fewer role models, less direct and accurate feedback, biases in base rate information and a higher level of uncertainty. Thus, there is evidence that 'male' managers are valued more, perceive women more negatively, etc. (Sachs et al, 1992; Burke 1994) and that an androgynous management style may be appropriate as a coping style for women (Davidson and Cooper, 1992) . Women managers may be perceived as having different values and notions of commitment, leadership style and motivation from men (Billing and Alvesson 1989; Rosener 1990; Davidson and Cooper, 1992). It can be argued that women either adapt to the prevailing 'male' cultural norms and stereotypes if

they wish to be judged as acceptable, or are perceived to be different and are potentially marginalised (Marshall, 1995; Martin, 1994).

The role of gender in the workplace is complicated by perceptions that some tasks are considered to be more feminine or masculine than others. For example, where tasks are allocated, it is often the 'soft' interactive and relational ones which women are given (Pease, 1993). Thus, success and failure will inevitably be judged in different terms if the sexes are doing different tasks: research on attributions for one's own success or failure indicates that men exhibit the typical self-serving bias when the task is described as stereotypically masculine, while women show positive-negative outcomes bias [positive referring to self-enhancing attributions and negative to self-protective attributions] when the task is stereotypically feminine (Mirels, 1980: Rosenfield and Stephan, 1978).

For women working in 'male' environments, there is the issue of tokenism, although the perception of this is not likely to be based on absolute numbers but the proportion of women in the workplace (Rinfret and Lortie-Lussier, 1993; Yoder, 1994). There is ample evidence of women being promoted disproportionately less but the reasons for this are less clear. Clearly, context issues including situational variables, the 'maleness' of the culture and the 'culture trap', stereotypes of women, the fear of women bringing more radical or interactional styles of leadership and the perception of lower commitment are all relevant (Beck and Steel, 1989; Bielby and Bielby, 1989; Schein et. al., 1989; Davidson and Cooper, 1992; Marshall, 1993; Pease, 1993; Aaltio-Marjosola, 1994; Burke, 1994; Tharenou and Conroy, 1994; Rosin and Korabik, 1995; Marshall 1995).

Gender differences in work attitudes are generally low and inconclusive, and are not always tested in investigations, even those measuring job satisfaction (e.g. Diener, 1984; Adelmann, 1987; Spector, 1988; Warr, 1990; Furnham, 1992). For example, Warr (1990) found that women register lower levels of perceived competence and higher

levels of enthusiasm than men but Diener (1984) and Adelmann (1987) found no substantial gender differences in well-being. Yet Greenglass (1993) found that women managers were higher in type A scores, speed, impatience and job involvement than male managers, which, if taken along with other studies' findings, implies that job grade is a moderator of sex differences in work attitudes. Campbell et. al. (1994) found the same levels of job performance but lower commitment amongst women who had children compared to those who did not, and suggest that the temporal demands of work are the reason for this. Their research supports the more general finding that mothers of young children prefer fewer work hours or part-time employment. Sevastos et. al. (1992) found that women were more enthusiastic and 'contented' with their jobs and reported higher levels of aspiration than men amongst white-collar employees in the Australian Public Service; however, they found no significant differences for job-related competence and negative job carry-over [the 'spill over' of work into leisure and family life and its dysfunctional consequences]. None of these reports cited show large [or indeed any in some cases] sex variations in measures.

In a study of women managers' attitudes to work and intention to leave, Rosin and Korabik (1991) show that women managers' valuation of job attributes and their responses to unmet expectations are similar to those of men, but that some of the issues which underlie these values and responses are very different, relating to barriers to advancement, dislike of working in a male-dominated environment, work-family conflict, negative stereotyping and structural inflexibility. Women managers have been found to rate women more favourably than men on traits necessary to managerial success (Ware and Cooper-Studebaker, 1989; Orpen, 1991).

Sex differences in stress have been studied widely. For example, Fontana and Aboyserie (1993) found no significant differences among teachers, whereas Ogus et. al. (1990) found that men were more depersonalised and experienced greater stress and a lower quality of daily life. Women managers respond differently to stress and to

different stressors (Burke and Greenglass, 1989; Frankenhaeuser and Lundberg, 1989) and stress models for women may be more complex than those for men (Hendrix et al, 1994). Davidson and Cooper (1992) present separate models of occupational stress for male and female managers; this gender-specific approach is reinforced from an identity theory perspective by Wiley (1991). Stress due to the role conflict between domestic and work responsibilities is well documented [see for example Davidson and Cooper, 1992]. Stereotypical gender-role attitudes increased role conflict for women but decreased it for men (Izraeli, 1993) but where women were in a male-type occupation, with consequent higher work relative to home burdens, they experienced less role conflict than their counterparts in female-type occupations (Moore and Gobi, 1995). It is clear that there are stress-related variables that differentiate between the sexes, and, from the evidence, those which one would expect to see emerge in any study in this area are: grade, social support, recognition, perceived commitment, management style and role conflict in terms of the home-work interface.

Many studies have identified sex differences in absenteeism in the direction of higher spell frequency and total days lost for women, although job grades tend to attenuate the effect (e.g. Hackett, 1989; Taylor, 1974) and some data show no differences between the sexes. Although sometimes reasons have been offered to explain the differences, such as differing expectations, attitudes to sickness of children and so on (Haccoun and Desgent, 1993; Huczinski and Fitzpatrick 1989), it is difficult to deduce satisfactory and robust reasons for inconsistent findings. Greater frequency of consultation with a general practitioner associated with higher levels of symptom sensitivity for women have already been referred to earlier in this chapter, and lead to the conclusion that there are sex differences in both perceptions and the reality of suffering from illnesses, but this still leaves open the question of *why* this should be so.

Hackett (1989) asserts that future research should really separate the sexes since the satisfaction-absence frequency relationships found in his meta-analysis are all moderated

by sex; this assertion has been more recently endorsed by VandenHeuvel and Wooden (1995). As exceptions to a general trend, Brooke and Price (1989) found the contrasting view "that multivariate relationships between absenteeism and its determinants did not differ significantly for males or females, or across the three occupational groups in the workforce" and Haccoun and Jeanrie (1995) found no gender differences at all in a study relating self-reports of total days lost to personal attitudes and perceptions of the organization in relation to absence.

It is not possible here to survey the large literature on sex differences in behaviour and attitudes, but it can be seen from the literature cited that the picture is by no means simple or clear. However, it can be said that there is enough evidence to suggest that the processes underlying many work behaviours may well be strongly differentiated by sex and sex-related covariates, even if the 'surface' behaviours sometimes appear to be similar.

Summary

This chapter has shown that absence behaviour is complex, related to other work behaviours but not in a simple way. There are several theories that have been developed which show some common factors [job context, job satisfaction, personal characteristics, stress, etc.] but seem to have differing areas of emphasis; in particular, only that of Nicholson (1977) seems to accord much weight to the role of minor illness in determining absence or attendance.

Absence due to minor illness has attracted a number of studies, including some meta-analyses. Research considering the role of several variables, including social class, sex, organizational trust, work attitudes, stress and personality reveals that the situation involves complex attributions interacting with the environment, particularly the prevailing absence culture.

There are important individual differences in minor illness morbidity and the perception of illness, not all of which can easily be explained. A few studies have attempted to link minor illness to absence behaviour, although there are many more attempting to link other psychological variables, such as personality, to minor illness.

Attribution theory, in the form of the perceived legitimacy of illness as a reason for absence, can help in the interpretation of reasons for absence due to minor illness, taking into account self-serving biases and the psychological contract.

Chapter 3: Empirical issues and development of hypothetical models

The purpose of this chapter is to show the development of the models that form the basis of the hypotheses to be tested. The first model was developed with the purpose of collecting data by postal survey. The second model for the second wave of data collection was derived after analysis of the first.

The chapter begins by discussing some general theoretical issues in modelling absence behaviour. The development of the two models are then each discussed in turn, followed by their synthesis into a single model, from which the hypotheses are developed. Finally, the role and limits of quantitative and qualitative data are considered, along with possible error sources in the models.

Theoretical issues in modelling absence behaviour

There are a number of methodological issues in absence research that have not been resolved. These include the role of inductive and deductive theories, the analytical models, the nature of the independent variables, the measures used as dependent variables, and the fundamental nature of the phenomenon of absence behaviour itself.

Inductive and deductive theories have produced inconclusive and sometimes contradictory evidence in terms of their capability of explaining what is happening when an individual is absent. The failure of inductive theories to explain absence behaviour may be attributed to measurement weaknesses, particularly in the definition of the dependent variables, though this begs the question of whether the theory is merely being 'immunised' (Popper, 1976) or whether the measurement issue is 'genuine'.

According to Martocchio and Harrison (1993), deductive theories, including those of Gibson (1966) and Nicholson and Johns (1985), derive from data and anecdotal evidence and are more likely to lead to a wider variety of research strategies, since they generate testable propositions. However, deductive theorising may benefit from widening the nature of the dependent absence variables, since the implication is that

'absence' is not a unitary concept. This would support the use of perceived legitimacy and self-report measures as dependent variables in addition to actual absence.

Martocchio and Harrison (1993) further distinguish between variance theories and process theories; in variance theories, X is completely determined by Y, whereas in process theories X is a necessary but not sufficient condition for Y and X will cause Y stochastically depending on some probabilistic process. They suggest that most absence research, based on variance theories, has fallen into the trap of seeking to explain variance at the price of huge hosts of variables, whereas process theories [such as Fichman, 1984, 1988 and 1989] allow residual uncertainty inherently in their construction. Other theories, such as Gibson (1966), Nicholson (1977) and Steers and Rhodes (1978) implicitly have dynamic qualities inherent in the measures they include and thus allow for uncertainty. However, whilst dynamic operation is implied, few researchers (other than Nicholson, 1977 and Nicholson and Johns, 1982) actually incorporate this into their work.

Martocchio and Harrison (1993) discuss the implications for a process approach: it involves large number of variables and constructs as possible causes or consequences of absence; they assert that many researchers have taken the safest, yet least informative, route of choosing simple hypotheses and factors that have been studied most often in the past [e.g. work attitudes, personality characteristics, perceived constraints and control]. Those who have attempted to produce integrative theories (e.g. Steers and Rhodes, 1978 and 1984) have been beset by the problem of narrow dependent constructs linked to broad explanatory constructs. Thus the question of defining the dependent variables has been crucial but not properly explored.

A fully integrated [process or variance] theory of absence would require the operationalization of a large number of independent variables beyond the scope of studies so far (Martocchio and Harrison, 1993). It may be that the act of quantifying

some variables into scales may render them less predictive of absence behaviour. This notion is supported by the fact that the success of variance theories has been quite limited in predicting absence. Similar problems are evident with dependent variables. Absence is a low base-rate phenomenon and most researchers have aggregated absences over some long time period(s) to ensure adequate variance among individuals (Hulin and Rousseau, 1980; Hulin, 1984; Hackett et. al. 1989; Bycio, 1992; Johns, 1994b). This lengthy aggregation makes explanatory data collected at the beginning of the period almost irrelevant for absence near the end (Martocchio and Harrison, 1993) but short time periods are likely to produce ill-behaved distributions. In addition to the time-scale problems of aggregating 'rare' events, there is also the stability or otherwise of independent variables when spread over one or two years.

Causality can be inferred if there is [a] covariation between cause and effect, [b] temporal precedence of the cause and [c] enough control to rule out alternative explanations (J.S. Mill, cited in Martocchio and Harrison, 1993). To this can be added valid measurement of both dependent and independent variables. Research into job satisfaction and many other factors as causes of absence or performance, has historically placed too little emphasis on [c]. Indeed, much absence research has been beset with assumptions about causality that cannot easily be justified, with the result that its predictive power is limited. It has been suggested that causality may be reversed in some cases (Clegg, 1983).

From the above discussion, it is suggested that particular attention should be paid in absence research to dependent absence variables and to the possibility of reverse causality. In addition, it is suggested that deductive theories which incorporate some dynamic qualities offer the best possibilities for modelling absence behaviour.

The original hypothesis and its rationale.

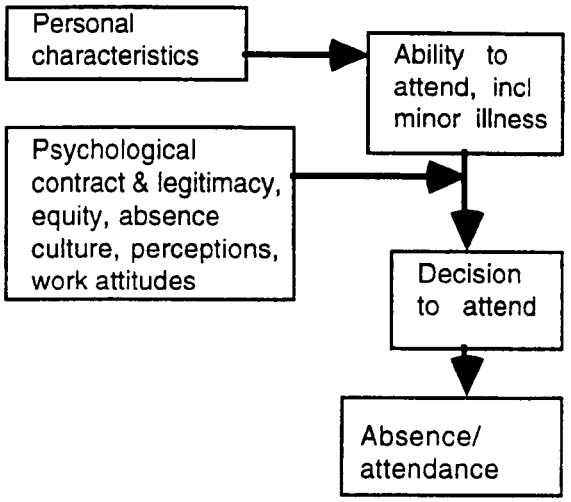
The first development of the model had one objective: to elaborate the previously neglected role of minor illness in absence behaviour. Evidence suggests that the dependent absence behaviour variables should be sub-divided according to different types of minor illness (Evans and Edgerton, 1991 and 1992).

The 1978 model of Steers and Rhodes (also Brooke and Price, 1989) placed minor illness in a simple causative role with little or no discretion implied in its effect upon the decision to attend or be absent. Minor illness was assumed to affect the ability to attend rather than the motive to attend or vice versa. The 1990 model of Rhodes and Steers attempted to incorporate the emphasis given to organizational/absence culture by Nicholson and Johns (1985), but the A-B continuum (Nicholson, 1977) was not incorporated into either of the Steers/Rhodes models. Yet it is relevant to the explanation of the frequent, short spells of absence identified as being responsible for up to 50% of all the days lost in many organizations. Little attention has been given to minor illness as a cause of absence apart from Nicholson and Payne (1987) who argue that it had been consistently underestimated in the literature.

The models were developed in order to examine the importance of minor illness as a legitimate reason for absence, to explain how this involves a complex of many groups of minor illness, each impacting upon absence in different ways and to determine which work attitudes and perceptions were particularly relevant to the different roles of minor illnesses.

The starting point to develop models for testing was the relevant part of the combined model identified as Figure 3 in chapter 2, reproduced here.

Figure 3 Variables affecting the role of minor illness as a reason for absence/attendance behaviour



From the literature, the personal characteristics of particular relevance in the model include sex and social class; age, which is less associated with morbidity than sex or social class, would also be relevant. Social class is not measured here, but job grade indicates occupational status in a workplace investigation.

Research of this kind presents dilemmas about the nature of the data. Actual hard data about absences may show differing results concerning apparent causation which are not easily explained. One can also obtain 'softer' data based on absences that people recall; these too can have problems of accuracy. Nicholson (1977) has argued that absence is phenomenonologically unique, which implies that other indices of organizational behaviour would not necessarily be correlated highly and that some theories of causation might be questioned. Thus alternate 'hard' measures which might have been related in some logical way, e.g. labour turnover, can not be used as indices here.

Many studies of absence distinguish between voluntary and involuntary absence and some also identify reported and non-reported absences (e.g. discussed in Behrend, 1978; also in Barlow, 1982 and Sargent, 1989). Voluntary absence often includes

malingering [as does non-reported absence] but illness is usually identified as contributing only to involuntary [and reported] absence (Mueller et al. 1987). It can be argued that the practice of differentiating between voluntary and involuntary absence creates criterion contamination and leaves the researcher with unstable and non-normal data for the involuntary absence criterion and problems derived from truncated data distributions (Hammer and Landau, 1981). By ignoring the distinction between voluntary and involuntary absence and treating them as one [complex] behaviour rather than two issues, the matter per se can therefore be set aside for the purposes of this study.

The development of the first model

The central focus of the model is the legitimacy of different minor illness groups as reasons for absence. In Figure 3, this concept forms a moderating link between the ability to attend and the choice of attending; it is part of the expectations and beliefs that constitute the psychological contract. Its role in affecting the decision to attend, given the incidence of minor illness, implies a framework of decision-making in determining attendance, whose sequence can be described as:

(i) a minor illness exists

(ii) an estimate is made of the discretion to attend

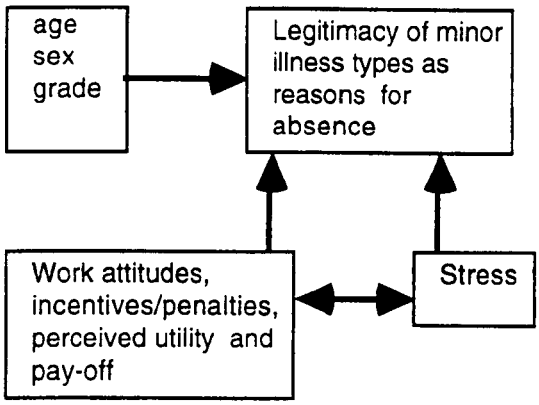
(iii) an estimate of other factors, domestic and work

(iv) the expectations relating to the minor illness are evaluated

(v) a choice or decision is then made concerning attendance.

The first model of this study, represented in Figure 4, separates out the psychological contract and focuses on absence and what illnesses might constitute legitimate reasons for it.

Figure 4. The model representing the first stage of data collection



The literature which suggests a moderating for the personal characteristics of age, sex and grade has already been discussed and these are hypothesised to affect perceived legitimacy in a similar way as in Figure 3.

Figure 4 includes other work attitudes that may moderate the decision. These are proposed more specifically in the first model to influence perceived legitimacy and include organizational climate, attitude to promotion, job structure and attitudes to absence.

Organizational Climate can be measured descriptively and requires a referent organization, making it rather organisationally specific. It has been defined as " ....a relatively enduring quality of the internal environment of the organization that (a) is experienced by its members, (b) influences their behaviour and (c) can be described in terms of values of a particular set of characteristics," (Taguiri, 1968). Agreement between respondents is important in measuring climate because the measures are organisationally rooted, and available measures are rather bulky (Cook et al, 1981).

Attitudes to incentives and penalties as means of determining attendance are a complex aspect of motivation theory. An example of the importance of these particular attitudes is that penalty systems applied to perceived illegitimate absence [or malingering] may be seen as equitable but those applied to legitimate absence may be seen as unfair and may reduce morale, which in turn may alter feelings of perceived legitimacy.

In the same way that the influence of work attitudes is inescapable but unclear in its effect, it would seem intuitively obvious that stress may modify the perceived legitimacy of minor illness [at least those perceived to be stress-linked] as a reason for absence. The link between stress and actual absence may be less straightforward than has been supposed by many researchers (Briner and Reynolds, 1993) and therefore it may be more likely to act as an major independent variable in an indirect way, by influencing work attitudes, perceived legitimacy and the perceived probability that illness would lead to absence. If the focus is moved to the concept of legitimacy itself, then this can be represented as in Figure 4.

It would seem logical to divide stress up into its main component parts for the population under investigation, e.g. job content, context, work-home interface, etc., as proposed by Cooper and Makin (1987). Garrity et. al. (1978) measured the respondents' perceptions of the current stressfulness of his/her lives using a single four point sale ranging from low to high stressfulness, whereas Meleis et. al. used (1989) the 53-item Global Severity Index (Derogatis and Spencer, 1982) as a measure of distress. These studies suggest that there is no general agreement about stress measures, nor indeed does this seem to have affected the debates concerning the effects of stress.

It is theoretically possible that work attitudes could act to increase stress. An example of this would be where attitudes and perceptions are in conflict, such as where there is a high desire for promotion with the perception that this would be an equitable outcome but low expectation that it will actually happen. In such a case, the direction of causality

would be reversed and the effect of stress upon perceived legitimacy would be via changed work attitudes.

The inadequacies of many theories in terms of their explanatory power has already been discussed and one solution may be the use of more discriminatory dependent variables than have been used hitherto (Nicholson and Payne, 1987; Martocchio and Harrison, 1993). This first model focuses on perceived legitimacies of minor illnesses as the dependent variables. This matter was the basis of the study by Nicholson and Payne (1987) and is central to the notion of absence cultures discussed by Nicholson and Johns (1985). It has the advantage that all employees can be measured, and over a relatively short time-span. Actual absence measures are limited by being in binary form, i.e. absent or not absent, whereas indirect measures can be scaled. Nicholson (1977) and Nicholson and Johns (1985) have made the case that the dependent variable "the day off" is actually a set of variables, each associated with different reasons [and different levels of legitimacy]. Attributions of illness can no longer be perceived as involuntary in many cases (Nicholson and Payne, 1987), and the amount of voluntary control available is variable. Thus, there is not always a simple "decision" concerning attendance in the "to be there or not to be there?" mode. Just as 'intention to leave' produces different results when treated as the dependent variable instead of actual labour turnover figures (Muchinsky, 1977; Porter and Steers, 1973), so might other variables, e.g. those relating to the legitimacy of absence, produce different results compared to actual presence or absence.

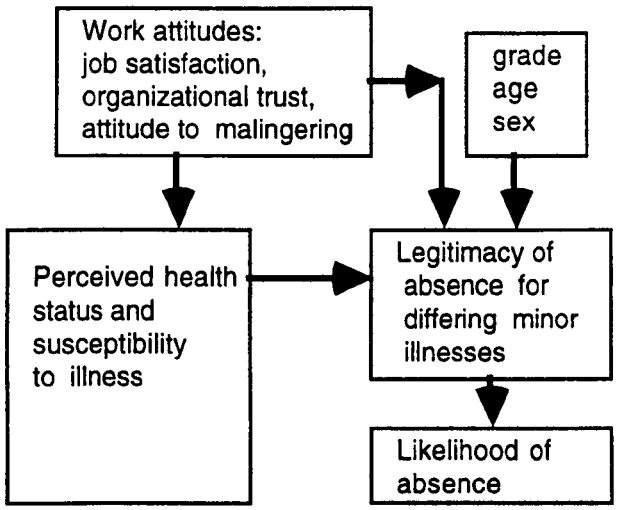
Indirect dependent measures clearly have a value, and some advantages, in absence research. However, these measures must eventually be related to actual absence measures. Therefore, an ideal situation might be one where some indirect absence variables covering a large number of subjects are measured in addition to the direct dependent variable of absence frequency. This is addressed in the development of the second model.

This represents the main focus of the first part of the investigation. where the data were collected using a postal questionnaire. The variables measured had to be those least likely to result in answers biased because of this method of data collection.

The development of the second model

This was developed after the first stage data were collected but before they were fully analysed. The data were to be collected from employees who had volunteered from the first stage. The method was to use the interview with accompanying scales, thus enabling the use of question methods and coverage of more sensitive issues that may not have been willingly or honestly completed with a postal survey. The second model is shown in Figure 5.

Figure 5. The model representing the second stage of the investigation



The same personal variables were used as in the first model, for the same reasons. However, it is possible to add job location/work type and geographical location where this may be related to the model.

The work attitudes used included job satisfaction, organizational trust and attitudes to malingering, and were chosen because it was hypothesised that they would each be related to legitimacy in various ways.

Work attitudes have been used as independent variables determining absence using a variety of scales. Measurement of job satisfaction presents many issues, such as whether the results are bound by the measures, whether it is measured as a general or specific concept, whether it can measured using a single question or a multiple-item scale (Cook et al, 1981). It may vary according to whether the location was a head, regional or local office, and also for certain job types [e.g. more in Job Centres and Integrated Offices and less in the Benefits Offices, because of possible perceived status difference between the Job Centres and Benefit Offices]. In other words, it may be relevant in some situations and less so in others, as originally suggested by Nicholson and Johns (1985).

Organizational trust, defined as faith and confidence in management and peers is hypothesised as allowing more illnesses to be legitimised when trust [especially in management] is low. The concept of trust can be taken generally as involving feelings about people (Wrightsman, 1964) or it can be considered to be a work-related variable involving faith and confidence in both management and peers/colleagues (Cook and Wall, 1980). Trust can be considered as a primary factor, along with salience, in determining the absence culture (Nicholson and Johns 1985) and thus the type of absence. It can be hypothesised to influence the decision to attend by affecting the intention to be absent in the circumstance of some illnesses. For example, if one felt ill, low levels of trust in the manager, or the malingering of others seemingly endorsed by that manager, may make one more likely to take a day off to recover. If however, one was at one's limit for sick-leave that year, then the probability of attending would increase, possibly leaving a feeling of upset and martyrdom. The intention to be absent would be the same in both instances, but actual attendance would vary. Thus trust might not only act independently but also interactively with past absence record and other work

beliefs. In other research trust could easily be relevant as a dependent variable, since it could change as a result of the perceived behaviour of others.

Conceptually linked to organizational trust are attitudes to the perceived malingering of others. If there is perceived endorsement of malingering by managers then this may influence the intention and decision to attend even if one's attitudes to malingering are negative. This may be considered to be conceptually linked to, but different from, the protestant work ethic or some kind of 'employment ethic' (Furnham, 1990; Lea et al, 1987). The role of the protestant work ethic as a direct cause of behaviour is not clear (Yankelovich, 1982; Yankelovich and Immerwahr, 1984) and attribution theory suggests that increased rewards may, paradoxically, tend to reduce the time a person spends doing a job. It is therefore necessary to distinguish a work or employment ethic from an attendance or absence ethic in order to investigate causality of absence or legitimacy of absence, and there are no existing measures of an absence ethic. As with trust and many other independent variables, an absence ethic could take a role of both cause and effect. Attitudes to malingering are therefore included in the model on the logic that, if malingering is perceived to be taking place and [in effect] condoned, this would lead to increased legitimization of illness as a reason for absence as the feeling of inequity to the non-malingerer is thus increased.

Perceptions of one's own health status has proven a useful proxy measure for clinically measured health status (Garrity et al, 1978), insofar as clinical health status is not always easily determined (Chen and Bryant, 1975). Using a 10-point scale similar to Cantril's (1965) ladder, it was found that perceived health, a relatively stable measure, correlated significantly with recent health experiences, life changes, perceived stress and psychophysiological/ psychiatric symptoms (Garrity et al, 1978). Psychophysiological symptoms accounted for 17.6% of the variance, with life change adding a significant 2.4% in the regression equation. Because it has rarely been the primary focus of behavioural science research, there is no conceptual model which specifically locates perceived health in the causal networks relevant to health and illness behaviour, nor have

perceptions of susceptibility to illnesses been included. The Cantril ladder (Cantril, 1965 and 1977) is a form of Behaviourally Anchored Rating Scale (B.A.R.S.) using a 10 point scale anchored at the two extremes and has been used in a number of studies as an indicator of perceived [global] health (e.g. Maeland and Havik, 1988; Meleis et. al., 1989).

Perceived health status and perceived susceptibility to illness are both hypothesised to affect the legitimacy of illness as a reason for absence, but differentially for different groups of illness. Thus, for example, it is proposed that perceived own susceptibility to any illness would raise the perceived legitimacy of that illness and others grouped with it as reasons for absence. Perceived health status in general would simply affect legitimization for all illnesses generally.

The likelihood of being absent for each illness group is included because it provides a further dependent measure which may act as an approximation to actual absence measures. Some investigators into absence have considered the alternatives available because of the poor quality and unavailability of relevant data (Mueller et. al, 1987; Harrison and Shaffer, 1994; Johns, 1994b). The self-report seems to be an underestimate of record-based measures of absence and self reports of frequency are lower than perceived norms of absence (Johns, 1994a and 1994b). Mueller et. al. do not address the matter that absence records themselves may underestimate reality; they suggest that self-report measures might be developed and evaluated for various records-based measures. They advocate that researchers consider why the two are different, whereas Johns (1994b) points out that he expected self-reports to contain unique information rather than be an expedient surrogate for records-based absence.

It may be that the self-under reporting of absence is too simple an explanation of the fact that people clearly do not perceive or recall absence events particularly accurately. Attribution theory, both in terms of how people attribute absences and also their

estimations of how likely absence events were to occur, affects self reporting of absence (Nicholson and Payne, 1987).

A different type of self report is where the respondent is asked when was their last absence and what was its duration. This was the method used by Nicholson and Payne (1987), along with measures of perceived likelihood that illness would result in absence and a multi-choice question for reason for absence. For large N, this will produce a form of ranking from those absent most recently to those absent earlier, which would enable some process analysis to be undertaken on the data. Their findings are particularly relevant to this investigation because the discrepancies found between estimates of probabilities of events and reported frequencies were most prevalent for minor illnesses. Nicholson and Payne (1987) suggest that

".....either people choose to be absent for this reason [minor illness] more often than they anticipate they will, or people's attributions of the causes of their own previous absences are cognitively different from their estimates of susceptibility. On the latter point, it is plausible that people are more liable to use quasi-medical reasons to justify their absence when it comes to reporting on actual events than when rating their own hypothetical susceptibility."

Nicholson and Payne, 1987, p131.

Thus, self-reports may contain much that is attributed to particular reasons which may not be true, particularly in matters where there is some discretion; in addition there may be the tendency to self-report absences due to differing illnesses at different rates.

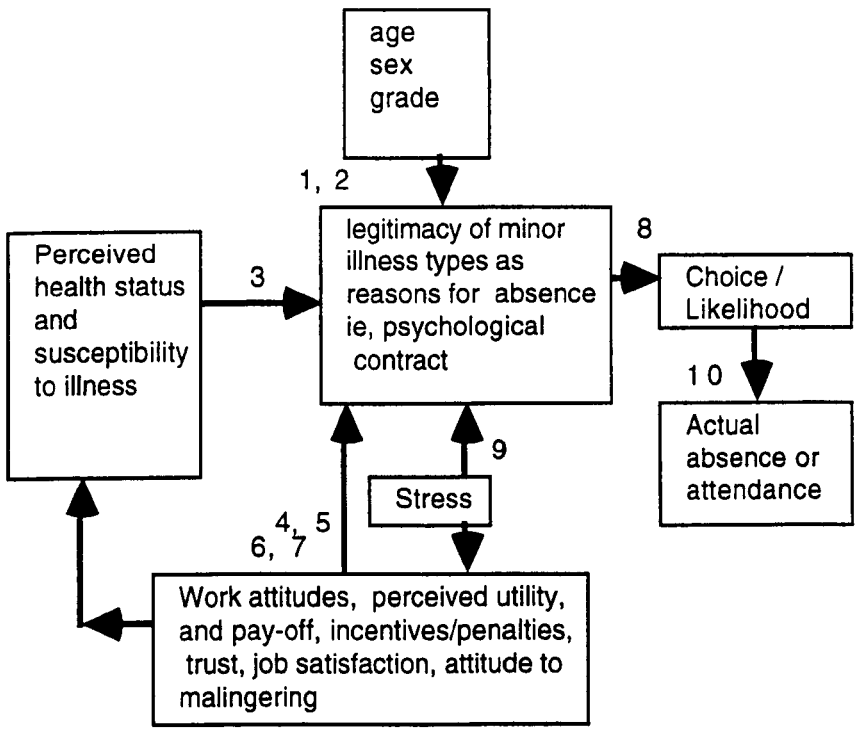
In the next section, Figure 6 shows how the second stage concepts and measures are linked together and also illustrates the hypothesis that work attitudes may also affect perceived health status, for example by lowering well-being and increasing vulnerability to infection.

Combining the models and development of the hypotheses

If the models represented by figures 4 and 5 are combined, and the choice of attending and actual attendance are added for completeness, then the model in Figure 6 is obtained.

The figure shows several absence-related measures as dependent variables: perceived legitimacy, perceived likelihood of absence and actual absence. The first two have already been discussed, as have self-reports and some of the problems associated with collection of actual absence data. However, it is important to consider what forms of actual absence should be used as criteria.

Figure 6. Combined absence legitimacy model



figures refer to hypotheses

The most logically obvious measure of absence is total number of days lost. However, there is no accurate national measure of days lost from work; even the Government has no complete measure (Hansard, 1972; General Household Survey, 1995; Social Trends, 1994). Notwithstanding the limitations to accuracy of number of days lost as a measure, there are methodological problems with the use of this measure as a true representation

of absence in assessing its causality. Long-term sick employees can influence absence statistics disproportionately, especially in small departments, although this particular problem is removed if a measure of spells of absence is used. Other problems include those associated with the link of absence to other events, for example weekends or holidays, and the implications of this for the length of the absence spell. Additionally, patterns of absence cannot be easily discerned from total days lost. Several measures [duration, frequency measures, the 'blue Monday' and 'worst day' indices], have been investigated with the intention of removing methodological problems, but each measure has limitations (Behrend, 1979; Hammer and Landau, 1981; Chadwick-Jones et al, 1982).

Farrell and Stamm (1988) conducted a meta-analysis on over 100 studies using both duration and frequency measures as dependent variables and showed that some variables are more closely associated with one measure than the other. For example, job satisfaction, age and length of service seem to be specially correlated with frequency of spells and not with total days lost. The meta-analytic approach helps in understanding the global range of relevant factors, but is limited in that it ignores variables that are specific to each study. This is exemplified in occupations such as nursing where absence patterns are partly dictated by how likely it is that illnesses can be transferred to patients. Farrell and Stamm's research did not investigate how the data used in the analysis were obtained, and whilst it would be true that in normal distributions biases cancel each other out, it can be argued that there is nothing to ensure quality in the collection of data assembled in the studies they used. However, their overall conclusions are that the method of measurement influences the results and that frequency measures are superior to duration measures.

It can be said that there is general agreement that the optimum absence measure is frequency of spells. Duration would have only limited use in providing a base-line against which to consider spells as the main measure Some recent investigations have

used both duration and frequency as dependent variables, (e.g. Jenkins, 1985) whereas others have used only frequency measures (e.g. Morgan and Herman, 1976; Fitzgibbons and Moch, 1980; Arsenault and Dolan, 1983; Mueller et. al., 1987).

The implications for research of selecting frequency as the dependent variable are that the emphasis will be towards short-term, casual absence. This would therefore tend to decrease the emphasis on those reasons for absence that might prevail for long-term absence, such as chronic illnesses whose occurrence is intermittent or accidents resulting in injuries with long recoveries.

The overall hypothesis, expressed in Figure 6 is that *susceptibility to different illness types and perceived health status influence legitimacy, moderated by work attitudes and personal variables, and this illness/situation/person interaction affects the likelihood of or intention to be absent or attend.*

The model requires conversion into operational hypotheses for testing and measurement. These are listed below:

[Note: the wording "perceived legitimacy" refers below to "the perceived legitimacy of minor illness as a reason for absence"]

H1. Since the epidemiology of minor illness shows higher incidence for women than men, [although the effect is reduced when controlled for status], then this suggests that all minor illness should be more easily legitimised as a reason for absence by women. Sex differences in legitimization should be most pronounced at lower job grades.

H2. That perceived legitimacy differs for minor illness types and that these effects are moderated by sex, status and patterns of stress. Specifically, if some minor illnesses [e.g. headaches, migraine, backache] are stress-linked, then people with high 'stress'

scores should be more likely to legitimise those specific illnesses as reasons for absence than those with low 'stress' scores.

H3. That attitudes to own health and susceptibility interact and affect the perception of legitimacy. In general, if perceived health status is poor, then this implies that all minor illness would be more likely to be perceived as justifying absence. Perceived susceptibility to particular minor illnesses should mean greater perceived legitimization of those illnesses but not necessarily other minor illnesses.

H4. That perceived trust [faith and confidence] in the management of the organization will affect perceived legitimacy, in that if trust is low, it makes absence for any minor illness more legitimate. Faith and confidence in peers should affect perceived legitimacy only to the extent that the job involves replacement by peers when the person is absent.

H5. That perceived fairness and severity in treatment by management [e.g. dislike of malingering, actions to discipline] will directly affect work attitudes and organizational trust [faith and confidence in management] and thus such that perceived unfairness corresponds [indirectly] to greater perceived legitimacy

H6. That work attitudes will affect perceived legitimacy of absence due to minor illness. These include organizational climate, where it is hypothesised that favourable climate would increase the perceived legitimacy of minor illnesses [favourable climate assumes a low perception of malingering amongst peers and this may also be tested] but may reduce actual absence because of group loyalty. A high absence ethic [value placed on high attendance] is hypothesised to relate to perceived legitimacy. It is also hypothesised that the absence culture in this organization is such that job satisfaction is positively correlated with perceived legitimacy. It is hypothesised that attitudes to promotion are unrelated to absence but are directly related to attitudes to absence such that where promotion has a high utility, good attendance will be positively endorsed

H7. Attitudes to the use of penalties and incentives will be related to perceptions of malingering and organizational trust [faith and confidence in management] and will affect absence directly. Those who endorse penalties will be less likely to endorse illnesses that they are not susceptible to as legitimate reasons for absence. Those who endorse incentives will be less likely to perceive minor illnesses that they are not susceptible to as legitimate reasons for absence. High absence ethic should relate positively to endorsement of both incentives and penalties.

H8. That perceived legitimacy affects likelihood of taking time off for each illness group and vice versa.

H9. That stress affects perceived legitimacy and may do so differentially, in that some stressors may affect the perceived legitimacy of some illnesses. That the effects of stress directly upon absence are mediated by this stress-legitimacy link.

H10. That perceived likelihood and perceived legitimacy of absence due to minor illness will be related to actual absence frequency. The Absence Ethic [value placed on attendance] will be negatively related to absence frequency. On the assumption that the organization is probably characterised as low salience/moderate trust [between types I and III], then it is proposed that job satisfaction will correlate negatively with absence frequency. High levels of perceived stress, low trust, high perceived susceptibilities to illness and low perceived health can be expected to be associated with higher absence frequencies.

To summarise, the model in Figure 6, developed into the ten hypotheses identified above, forms the basis of this research which sets out to demonstrate the differential influences of minor illness upon the concept of legitimacy and its relationship to absence.

Role and limits of quantitative and qualitative data.

The notion that different methods of data measurement [for both dependent and independent variables] can powerfully reinforce one another has been raised by many researchers (Webb et al, 1981; Chadwick-Jones et al, 1982; Smulders, 1980) in different contexts. The bases for this, in the context of absence, are that different absence measures assess different aspects of the phenomenon; that information and data may only be available in some forms; that a measurement bias may influence an effect but that differing measures are unlikely all to be similarly biased. It can be argued that there is a need to integrate qualitative and quantitative data into any model or framework of absence.

Absence behaviour presents measurement problems which are manifest in a number of ways:

1. It may not be possible to obtain raw data of spells and total days lost;
2. The data obtained are likely to be an underestimate of reality in that attendance is rarely recorded as absence but absence is probably quite frequently recorded as attendance;
3. Access to data may be restricted by union pressure or management sensitivity;
4. Data which are recorded may not be in a form which is useful to research, the most frequent problem being measurement of total days lost rather than frequencies (Chadwick-Jones et al ,1982);
5. Data may need considerable work to get them into meaningful forms, e.g. only basic raw data available in a number of organizations known to the author;
6. Information relating to reasons for absence may be poorly recorded or may not be recorded at all;
7. Survey results may include biases created by differential response rates from organizations with poor measurement or higher levels of absence (e.g. IDS Surveys, 1986, 1988; CBI, 1987);
8. There may be different recording and measuring methods;

9. Data from employees working unusual hours or days [such as shifts] would require a standardised calendar for employees with 'regular' hours.

Notwithstanding the need to utilise all types of data and information available, scientific method principles can be usefully employed where the data and circumstances allow. There are a number of experimental design formats that can be used, such as those which involve longitudinal measurement and the control or systematic manipulation of independent variables (Campbell and Stanley, 1967). Some designs depend upon complete data sets or on certain numbers of responses but these may be less easily obtained in applied opportunistic field research. It is not always possible in applied research to include control groups when the investigation includes the implementation of some activity or event. Thus, it is likely in many investigations [including this one] that the level of experimental design is towards the lower end of those available (Campbell and Stanley, 1967).

Possible error sources.

Martocchio and Harrison (1993) show that error variance is the greater part of total variance in most, if not all, of the studies they reviewed. There are a number of potential sources for error variance in research of this nature including those relating to:

* measurement of independent variables
* measurement of dependent variables
* differential response rates
* changes in respondents over time

The problems associated with measurement of dependent and independent variables have already been discussed. The representativeness of respondents compared with non-respondents cannot be assessed in any study easily. However, there is no evidence to suggest that the act of responding [compared to non-responding] reflects absence

behaviour or self-serving absence attributions. There is no reason to assume that changes over time would affect respondents differently than non-respondents, but it can be accepted that over a year between measures may make direct comparison dubious (Martocchio and Harrison, 1993).

There are also other sources of error that might reduce internal or external validity. Of the twelve identified by Campbell and Stanley (1967), those that may affect this study are:

* history i.e. events between first and second measures
* experimental mortality between first and second measures
* (self) selection effects for absence data
* experimenter effect
* generalizability

Of these, one particular problem is generalizability where studies are conducted in one organization. It is difficult to estimate whether the magnitude of effects would be different for differing independent variables, although past research cited by Martocchio and Harrison (1993) would suggest that independent variables such as stress and attitudes to work would be relevant generally. The need to meet organizational deadlines and requirements, union requests for non-identifiability of respondents and to make measures specifically relevant to the organization may all reduce generalizability, although this may be minimised by the use of standard published scales.

There is a balance to be found between the advantages of field research being relevant and realistic with its inevitable reduced control and manipulation of variables. This may involve collecting more data, and over a longer time period, in order to achieve some of the different conditions that will enable analyses to answer 'what if' and cause and effect questions. Precautions need to be taken in the choice of methods for obtaining data, for

example: scales questionnaires must be fully piloted so that they are appropriate to the sample; qualitative data should be considered in relation to quantitative data. Martocchio and Harrison (1993) suggest that more laboratory-type experimental investigations, experimental simulations and judgement task as research strategies should be conducted into absence behaviour. They argue that most research is limited field- or survey- based, but do address the problems of implementation of these other methods. They suggest that sample surveys could be used much more extensively than presently, although it may be that the low present usage is partly explained by some field research actually including sample surveys.

Every research method has strengths and weaknesses in terms of its capability to contribute to understanding of absence. This study includes elements of both field study and sample survey as defined by Martocchio and Harrison (1993); they cite lack of internal validity and little control over the constructs or behaviours of interest, non-response bias, low generalizability, as being the main weaknesses of field research and no obvious weaknesses of sample surveys in this context. These potential sources of error as they relate to this study will be discussed in the next chapter.

Chapter 4

Methodology

The purpose of this chapter is to describe the methods of data collection used in the context of the study objectives. The strategy of the investigation was to obtain data that would test the hypotheses in such a way as to minimise the risk of social desirability and to maximise the predictive power of the data obtained through valid measurement. A postal survey was used to gain general information from a large number of people followed by interviews to obtain more detailed answers to more complex and difficult topics. It is often the case in applied research that interviews are conducted first in order to ascertain the core areas to be measured in subsequent questionnaires; in this study, organizational constraints reversed this order so that interviewees were obtained from questionnaire responses. A major consideration was that absence is a sensitive issue for many employees and managers, particularly important in an organization undergoing structural and operational changes.

The study is divided into two main parts, referred to as T1 and T2 because they were conducted at two different time periods. The first part involved a postal questionnaire and the second part contained structured interviews which incorporated work attitude scales. They are discussed below, following the organizational background to the study. The chapter concludes with a discussion of the constraints operating in this study.

Absence in this thesis can be taken to mean non-attendance without prior permission, to distinguish it, as most employers do now, from other forms of authorised absence. That means that all absence that is recorded as sickness falls into this definition.

Organizational Background

This investigation began in mid-1990 with a proposal by the author to the Employment Service Northern Region. Upon acceptance, the Employment Service requested that measurement could begin quickly so that it could be contiguous with the proposed

transfer of absence data to a computer with relevant software for analysis. The data collection was completed by mid-1992.

Absence had become an issue to the regional management, following general concern and direction from at national level. The Northern Region of the Employment Service had received a report on absence just compiled from a survey of employees of its North-West Region; the survey included measures of stress, some work attitudes and biographical and absence measures. A summary of that report and its circumstances is given in Appendix 1. The [Northern] Regional Director had circulated copies of the report to area and unit managers, and the report provided the spur to make a decision to introduce monitoring and control procedures designed to reduce absence. One consequence of this decision was the secondment of an HEO to arrange the transfer of data onto a computer for analysis. During 1991 the monitoring and control procedures relating to absence were introduced, including the completion of attendance cards by managers and the requirement that employees be interviewed upon their return to work following absence. Although none of these activities was specifically related to this research, they were contemporary with it. The present research was not designed to replicate measures from the report in any way.

The source of data is the whole Northern Region of the Employment Service, covering the region from Berwick [near the Scottish border], south to Loftus in North Yorkshire and west to Hexham. The region has had the problems of a declining industrial base and high levels of unemployment for many years, making the workload of this department rather heavy. Most employees here [including higher employment grades] were local to the region and often even to the town or village of their offices. There is quite a strong sense of regional identity which is apparent to outside visitors. The local identity is also quite strong within different parts of the region and many employees would not be prepared to move far geographically [e.g. from County Durham into Tyneside, some 15 to 30 miles] for promotion. In parts of the region, employees would be dealing with

some clients known to them as friends and neighbours for many years, which presents problems of stress that are unique to this type of employment.

There were approximately 2600 employees during the period of investigation. Senior regional management included a regional director, a deputy regional director and four managers responsible for North Tyne, South Tyne, Durham and Cleveland areas. Employees' grades were those standard in the Civil Service; the workforce is predominantly female. Descriptive biographical data are included in chapter 6. High regional unemployment had meant that jobs were relatively secure in the Employment Service, although Government policy in relation to compulsory competitive tendering for certain work areas was perceived to be a potential threat. The Employment Service has had a history of change in terms of its overall structure and role within the Civil Service and there has also been change associated with the introduction of new technology to substitute records of jobs and benefits.

The Employment Service was undergoing substantial reorganisation during this time, including the integration of previously separate Unemployment Benefit and Job Centre offices. In addition, the build-up to the 1992 general election had caused considerable worry to staff about what a change [or otherwise] of government might mean for this part of the Civil Service. Changes in Government policy would have noticeable effects at many levels in the organization and at senior levels these would be discussed as early as two years prior to a general election. One change being implemented at the time of this investigation was the introduction of performance-related-pay at higher grade levels, with the possibility of its later introduction at lower grades. The Employment Service was also planning the introduction of interviews upon the return to work and completion [at local level] of absence monitoring cards, both of which may be seen as potential precursors to penalties. The postal survey and almost all of the interviews were completed before the general election when several of these matters would have been clarified The effects of many of the real and potential changes in the Civil Service would

be apparent to senior grades but little would be known to more junior grades at the time other than the very general anticipation about the consequences of a change of Government. There is no reason to assume that the anticipation of change at either senior or junior grade would affect absence behaviour and attitudes.

There were five types of office in existence during the investigation: Regional or Area Offices, containing functions such as senior management, computing, personnel, training, planning, etc.; Sector Fraud offices, where investigations into personal cases took place [without necessarily meeting the client]; Job Centres, where, for example, 'job clubs' were organized, jobs were advertised and interviews of clients would take place; Unemployment Benefit Offices [UBOs] where claimants of benefit would be seen; [new] Integrated Offices which contained the operations of both Job Centres and UBOs. The number of offices becoming integrated increased gradually during the time period of this research.

The integration of offices was an important exercise for all employees. It was a nation-wide activity and produced very mixed reactions varying from enthusiasm to industrial action across the country. Integration was gradually introduced in the region from early 1990 with targeted completion for most by late 1993; thus the whole research investigation took place during these changes. Integration entailed moving the UBO(s) and Job Centre(s) in a location into one large integrated office, sometimes an extension and conversion of an existing Job Centre or UBO, sometimes a building found and refurbished, or sometimes a completely new building. The possible effects of integration in terms of this study would be likely to involve the psychological problems associated with uncertainty and change. These will be considered in chapter 8.

There is no one prevalent organization culture and management style. Each of the four geographical areas managers have different management styles emanating from the regional manager. In addition, this is true for office managers. Jobs were varied

throughout the different locations and tasks varied within and between offices, such that in one location employees may variously do counselling, interviewing claimants, clerical work, computing work, 'Restart' work, supervisory and management work, etc. Locations varied from pleasant, small town ones to urban locations in poor or 'rough' areas; offices varied from large, with 50 or more employees to small with 10 employees.

The T1 survey

(i) Sample

The current interest of the organization in absence was such that the Northern Region wished to be seen to be active in this area. In particular, there was a desire to obtain some anonymous attitudinal data in addition to the introduction of absence recording measures and proposed introduction of absence monitoring activities. It was not possible to locate a random sample of employees for interview directly; therefore a postal survey was chosen and interviewees could be obtained as volunteers from it. Therefore a postal survey of the whole of the Northern Region of the Employment Service was conducted for the following reasons:

- It presented the opportunity to obtain data from a large group of people, thus facilitating comparisons and analyses of interactions;
- It was simpler to survey everyone than to assemble a sampling frame;
- Volunteers for interview could be sought through the postal survey.

The questionnaire was sent, with an explanatory letter from the author and a covering letter from a senior Employment Service manager, by internal mail in September 1990 to all employees in the Northern Region, approximately 2599. The exact number of employees varied from week to week due to the appointment of temporary and casual staff.

The Employment Service stipulated that the replies were to be anonymous. Information could therefore not be sought which could uniquely identify any respondent unless they volunteered to be identified.

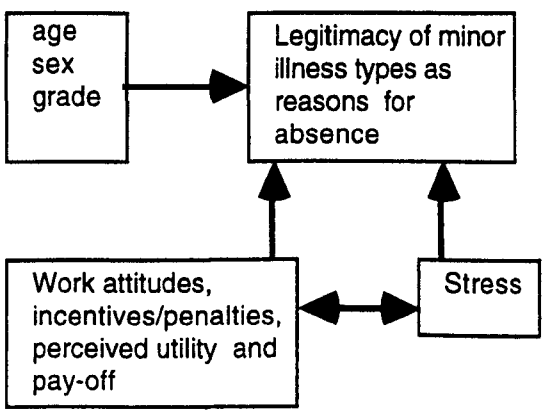
The total number of replies was 1307, which is a response rate of (approximately) 50.3%; 358 gave their name and location with their questionnaire responses, and 10 sent back their names and location separately, all indicating their willingness to be interviewed. Many responses included helpful comments explaining their answers, some adding that they had found it interesting to complete; two sent the form back with a refusal to complete it.

By their candidness, some of the comments clearly demonstrated acceptance of the confidentiality assurances and the follow-up interviews confirmed this.[though non-respondents presumably included many lacking this trust].

(ii) Procedure

In order to obtain reasonably high completion rates, the questionnaire length was restricted to that which could be answered in 5 to 10 minutes (Oppenheim, 1965). To facilitate completion, response format was in Likert-type format, based on 5 and 6 point scales.

Figure 4. The model representing the first stage of data collection



The purpose of the questionnaire was to investigate, in broad terms, the issues surrounding the perceived legitimacy of minor illness as a reason for absence [see Figure 4, repeated here]. The focal point was a scale measuring perceived legitimacy of 18 minor illnesses, forming the dependent variables.

The factors affecting the placing of independent variables into T1 and T2 were:

* the T2 study could obtain more detailed information on selected issues
* some issues were more 'difficult' or 'sensitive' and therefore better placed in T2
* which items would be most likely to be completed honestly by postal survey
* half of the T1 content was pre-determined by the dependent legitimacy variables and biographical items, thus leaving limited space for other variables

The questionnaire was refined several times and was piloted on 12 people, mostly volunteer employees from the Personnel Section of the Employment Service, with comments elicited about the comprehensibility of items, scale format, and times to complete. There were five rounds of modifications before the final version was assembled.

The questionnaire was completed anonymously and replies were sent directly to the author in sealed envelopes. Respondents were invited to give their name and location if they were prepared to be interviewed at a later stage.

The questionnaire and the covering letters used in T1 are included in Appendix 2.

(iii) Schedule of measures

[a] The T1 independent variables

The requirement for anonymity meant that job title, location and name of person could not be asked; in smaller offices, it would be possible to identify respondents from any of those questions. However, job grade, age, sex, etc. were included. Respondents were

asked to write in their job grade, and indicate their age within five scale ranges of ten years, overlapping the 'decades' to encourage honesty (Oppenheim, 1965 and 1994).

Attitudes to incentives and penalties as influencing absence behaviour. These measures addressed the issue of motivation to attend via reinforcement. Respondents were asked using a yes/no/don't know format whether they thought it was a good idea to offer some form of incentive for good attendance; an equivalent question considered whether there should be some form of penalty for poor attendance. In both cases, the question was followed by "if, yes, please tick as many of the following" to indicate forms of reinforcement which might encourage attendance or discourage absence. The use of the word 'penalty' was used after pilot study respondents indicated a clearer understanding than the alternative 'disincentive'.

Stress Discussions with staff had already generated a list of general stressors, some of which were judged to be specific to the Employment Service, such as dealing with clients who they knew personally or the uncertainty associated with the creation of integrated offices. Other stressors, identified from the discussions but not so specific in nature, included responsibility, domestic and dual career issues, job interest, recognition, ambiguity and uncertainty, quantitative overload, not being promoted, monotony and boredom, expectations of others, lack of support, colleagues and the workplace accommodation. A scale was constructed from these using five-point Likert-type items. After piloting on Employment Service employees, the final scale in the questionnaire contained 19 statements, now referred to as the C scale.

Attitudes to work constitute what is now referred to as the A scale and were measured using Likert-type six-point rating scales [no midpoint] which were constructed with the purpose of measuring climate, attitudes to promotion, attitudes to absence, attitudes to job content and structure and amount of involvement with client groups. In terms of measuring climate in a postal survey intended to require a response time of 5 to 10

minutes, a scale of even 50 items such as Litwin and Stringer (1968) would take a large proportion of any survey, even of only some of its sub-scales were used. Therefore, a short measure of climate was constructed using three scale items. A five item scale measured attitudes to absence covering: pride in and recognition of good attendance, absence affecting performance pay, whether work was done by others during absence and whether domestic issues should count as sickness absence. Unscaled items were constructed to address attitudes to promotion, job context and environment, job content, level of difficulty and task structure, flexibility and commitment. Some of these items were included because they highlighted particular problems or issues within the Employment Service and responses would be of special interest to the organization, e.g. limited promotion opportunities at higher grades, interaction with the public, working in offices located in 'bad' areas etc.. In all. after piloting, 24 items were included in this scale.

[b] The T1 dependent variables

In order to measure perceived legitimacy of minor illnesses as a reason for absence, it was necessary to identify those minor illnesses that occurred most frequently, irrespective of whether they resulted in absence. There are no accepted lists of common minor illnesses published, although some articles previously referred to (e.g. Evans and Edgerton, 1991; McCormick and Rosenbaum, 1990) identify some of the most common reasons for absence. Therefore a list was assembled of common illnesses frequently identified by sick-notes at the Employment Service. A scale was constructed which asked respondents to rate on a six-point scale the extent to which 18 minor illnesses were justifiable for people to be off sick, referred to as the B scale. Because the purpose in this case was to identify attitudes to possible causes of absence, the wording deliberately did not ask for the justification of the respondent's own absence, since it was felt that this would encourage post hoc legitimization (Nicholson and Payne, 1987). Thus, the question was worded 'justifiable for people to be off sick'.

The T2 interviews

(i) Sample

In all, 230 were interviewed, from 358 who had indicated their willingness to be interviewed, an 'access' rate of 64.2 %. All offices where a traced respondent was located were visited. Not all respondents could be traced or interviewed for the following reasons:

* Some had been temporary/casual employees, no longer with the office.
* Some had left the Employment Service or moved to another region or office
* Sickness, pregnancy, temporary placement, attending courses etc.; it was not possible to revisit all locations where this was the case.
* Some names were indecipherable on the forms

In addition, eight were interviewed who had returned the questionnaire [unnamed] separately from their 'volunteer' form. thus meaning that T1 data were not accessible for those respondents.

(ii) Procedure

This second T2 stage of the study was conducted following the initial analysis of the T1 results. T2 interviews began 6 months after the original survey data collection, allowing time for analysis to influence T2 design, and continued for 12 months. The interval between T1 and T2 also enabled some refinement of the hypotheses based upon the illness groups emerging from the factor analysis.

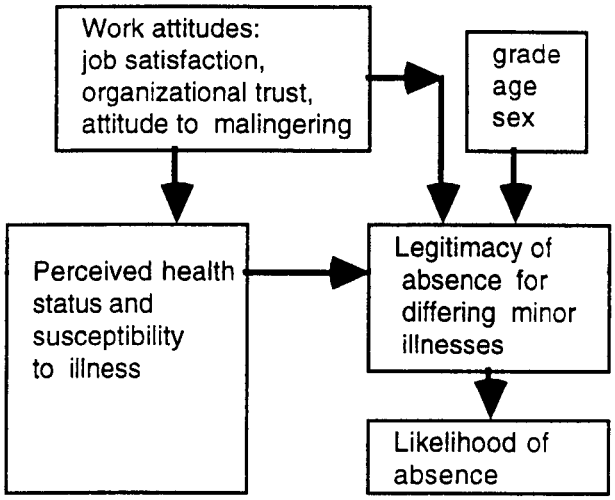
The Regional Director had given approval in principle to the interviews and the four area managers were then contacted to request access and to inform interviewees in advance, as appropriate. Interview questions were piloted on employees from one office which was still a Job Centre (i.e. not yet an Integrated Office). The purpose and nature of the investigation was explained to the Area Managers and Office Managers.

The interviews had originally been intended to be in-depth one-to-one and semi-structured in format. However, to take advantage of the larger than expected number of volunteer interviewees, this format was abandoned as impracticable. There was also a need [emphasised from the T1 results] to measure the T2 variables with some care. Consequently it was decided to convert several interview areas into scale measures Interviewees were therefore presented with rating scales which could be completed during or immediately after the interviews.

The investigation was conducted using written scales incorporated into semi-structured interviews, with respondents singly where possible or in small groups of 2 to 4 if they so chose.

The interviewees were shown their reply slip from the T1 survey to remind them of their willingness to be interviewed, and following the British Psychological Society's Ethical Guidelines which they could see if they wished, were given an explanation of the purpose of the interview, with an outline of the model showing the main groups of variables that were to be measured [the part of the model representing T2, Figure 5, is reproduced again below]. They were given their original survey answers back for perusal if they wished and were given assurances of complete confidentiality that their answers could not be traced at all. Interviewees were told that if they wished that any of their T1 or T2 responses to be removed from the database, this would be done and that this also applied to any answers from the survey as well as the interview questions or scales. They were then given the scales and asked to complete all the questions if they wished, but if they felt that they wanted to omit an item, then the interviewer would prefer some data to none. In fact, there were no T2 omissions and no-one asked for their data to be removed.

Figure 5. The model representing the second stage of the investigation



Interviewees were encouraged to write comments with their answers, which many did; they were encouraged to ask questions afterwards, which many also did. After the scale questions were answered, there was usually a discussion of the issues raised by the scales plus other issues they wished to raise pertaining to the investigation. Much of the originally intended interview topics were now covered by the T2 questionnaire, but there were three areas which remained to be considered as qualitative information, and so interviewees were particularly asked to consider the following: factors which they felt might influence attendance, what reasons for absence they would consider to be legitimate and their attitudes to management's responses to absenteeism. Many interviewees expressed a wish to know what the 'average' was for the A scale T1 items and the incentive/penalty items and they were therefore offered some general information about interim results for those questions so that they could see how their answers compared with the medians. Finally, they were asked whether they would be willing to allow the interviewer to have access to their attendance data on the computer. It was explained that this would help the investigation but they were in no way to feel embarrassed if they did not wish this access to be given. Over 90% of those asked signed to agree to this. This issue was perceived by most people to be highly sensitive

and confidential and many employees knew of these interviews; thus it was extremely important to maintain impeccable ethical standards behaviour at all times. Interviewees seemed to accept that the interviewing was done with no 'hidden agendas' and this was evidenced in the candid nature of many answers to questions.

The T2 questionnaire which formed both a measurement and a basis for interview is included in Appendix 3.

(iii) Schedule

[a] T2 Independent variables

The T2 measures were primarily aimed at obtaining more sensitive information than would have been obtained by postal survey, i.e. where respondents would have been unwilling to put answers in writing to an 'anonymous' person or where follow-up or extra explanation was required. Also, several variables were relatively complex in measurement terms and required explanation and follow-up with respondents [e.g. who constitutes 'management' in the trust scales].

Measures were piloted on 10 employees in one Job Centre. These measures included interpersonal trust (Wrightsman, 1964; Cook and Wall, 1980), job satisfaction (Quinn and Staines, 1979), perceived health status using Cantril ladders (Cantril, 1965 and 1977) and attitudes to malingering.

Trust. Wrightsman's (1964) trust scale was briefly piloted, but it proved too closely related to the basic issue of trust versus dishonesty [which was not what the aims of this study required] rather than organisational trust. The Cook and Wall (1980) measure was preferred because it was work-based and allowed sub-measures of trust [faith and confidence] for managers and peers. It consists of 12 items, three items for each of the four sub-scales, which may be combined to form two measures of trust in management and trust in peers.

Perceived Susceptibility to Illness. A measure of hardiness (Kobasa, 1979, 1981, 1982) was considered and rejected as less appropriate than perceived susceptibility to illness, since a stress measure and attitudinal measures relating to control had already been used in the T1 survey. Additionally, perceived susceptibility could be applied to differing illnesses in a way that hardiness could not. The 10-point Cantril ladder (Cantril, 1965 and 1977) was selected for five general assessments of perceived health: current and recent health [3 and 6 months previously] and level of health where the respondents perceived themselves as likely or unlikely to attend work. The Cantril ladder was also used for perceived susceptibility to seven illnesses (cold, headache, throat infection, viral illness, backache, upset stomach and diarrhoea) selected from the 'B' scale to represent the most common forms.

Job Satisfaction. Whilst the T1 survey had measured some work attitudes, i.e. climate and Absence Ethic, it had not directly assessed job satisfaction. The range of jobs and tasks undertaken and the span of grades covered by this investigation meant that there were very considerable differences in work content, making the use of context specific scales inappropriate. It was also relevant to test how the current problems of this organization of uncertainty about the future, increased accountability and integration, influenced the relationship between absence and its legitimacy and job satisfaction. The facet-free 5 item scale of Quinn and Staines (1979), with a scoring range of 5 to 25, was selected as appropriate in this situation.

Absence Ethic. The T2 part of this measure contained three items on attitudes to malingering with a 7-point Likert-type scale in its final form, modified as a result of the pilot study. These items were included because [a] malingering had been referred to in comments to the T1 questions on the use of incentives and penalties and [b] the concept of an absence ethic was considered to include attitudes to malingering which expanded the measurement of the single item in T1. Data on this were also augmented by interview information.

[b] T2 dependent variables

The measures used by Nicholson and Payne (1987) were adapted in order to measure the probability that various differing illnesses would result in absence, linked with estimates of the frequency of susceptibility of each illness. For this, the seven minor illnesses, already chosen from the eighteen in the T1 'B' scale to form the scales for perceived susceptibility, were used. Respondents were required to tick one of five possible answers relating to how often they had each of the seven illnesses in the last two years, and a further choice of five answers relating to whether they would be likely to attend work if they had the illness. Additionally, respondents were asked to identify the reason for absence, to estimate the time period elapsing since their last absence and how long that spell was, again using the measures used by Nicholson and Payne. A brief pilot study was conducted in order to ascertain whether respondents would be likely to make full use of the width of the scales.

Further dependent variables for T1 and T2

It was also possible to obtain data for attendance of 115 of the second stage respondents, i.e. those who were interviewed and agreed to their attendance records being made available to the author. These data are used in the analyses as absence spells covering two period, one preceding the T1 survey [Sept 1st 1988 to August 31st 1990, period A], and the other during and following it [Sept 1st 1990 to Jan 31st 1993, period B]. These form two further dependent variables, covering in all more than the time span of the investigation. A third dependent variable was created as the sum of spells from these two periods. The small number of respondents involved means that analyses involving these data are supplementary to the main hypothesis testing but nevertheless provide an 'anchor point' for some measures.

Thus, there are three types of dependent variable, all are qualitatively and quantitatively different. The first group in T1 relate to perceptions of legitimacy for minor illnesses; the second group in T2 are estimates of actual absence and the estimated probability that

illness will lead to absence; the third group, spanning T1 and T2, are actual measures of absence frequency.

Constraints and issues

In this study, several methods have been used to overcome [or reduce the importance of] potential measurement problems, including:

[a] using a variety of survey measures e.g. ratings, checklists, Cantril ladders.
[b] collecting data in different ways, including survey, interview, organizational information.
[c] minimising first stage sampling biases by surveying the whole population (though some unmeasurable bias may be introduced by respondent self-selection).
[d] taking great care to explain the reasons for the investigation and create a climate of trust and confidentiality with interviewees.
[e] using a combination of published and purpose-constructed measures.

The major advantages and features of the present data can be summarised as:

* The nature of the answers to both T1 and T2 measures suggests a high level of honesty in many cases.

* A 50% + response rate to the large T1 survey, and evidence that the demographic profile (age, grade and sex distributions) of the sample corresponds closely to that of the whole population strongly suggests that the postal survey data are free from major bias.

* The large number of comments to the postal survey suggests a) that many understood clearly what was being asked of them; b) that many felt the subject to be important.

* Those who volunteered to be interviewed are not significantly different from those who did not in terms of age, sex or grade of employment.

* A reasonable variety of jobs and grades are represented in large enough numbers for meaningful analysis.

* In any study where a range of valid and reliable measures lead to the same conclusion, it has been suggested that this is statistically and methodologically preferable to large amounts of data using one measure (Webb et al. 1981); this should give weight to these results.

* The use of actual absence data to validate and compare with subjectively reported data.

Measurement issues which may affect the reliability and generalizability of the results:

Internal validity, in terms of controlling and defining causality between two or more variables, presents substantial methodological problems in much absence research (Martocchio and Harrison, 1993). The dependent variable is often simply one measure [duration or frequency] and causality is implied in that it is assumed that the independent variables cause changes in absence behaviour rather than vice versa. In this study, the main T1 dependent variable is an attribution or value rather than a behaviour, and this also implies that it is still possible for reverse causality to occur. Indeed it can be suggested that perceived legitimacy could quite logically influence an individual's stress level or job satisfaction (Clegg, 1983); an example might be an individual suffering from an illness that he or she perceives to be an illegitimate reason for absence and the resulting dissonance may be stressful.

Non-response bias cannot be assessed in this type of study, because neither dependent nor independent data were available for non-respondents in order to compare them with respondents. In studies where the dependent variable is actual absence, dependent variables [but not independent variables] may be available in terms of grossed-up absence statistics, raising the issue of what effects the independent variables might have had for the non-respondents. In this study, the use [for example] of Behaviourally Anchored Ratings Scales in the form of Cantril ladders in T2 and also the dependent variables being attributional for both T1 and T2, mean that each respondent acts to some extent as their own control. This could be argued to reduce the likelihood of any bias

from non-representative respondents. Checks against the population of basic biographical variables show no difference between respondents and non-respondents.

Generalizability is a potential problem in terms of the population measured relative to other populations such as other branches of the Civil Service, other organizations in the region and beyond. Other aspects of generalizability relate to knowing the limits and boundaries in extrapolating from sample to population. These will be considered in chapters six and seven, because N in this study is sufficiently large to enable some of these boundaries to be explored.

This study, because of its opportunist nature and time-scale [both "imposed" constraints], has some particular issues which may affect reliability, validity and generalizability and these are shown below:

* Very short purpose-designed measures of climate, structure and promotion attitudes may be less reliable than their published counterparts. Care is taken in interpreting their role in the results.

* The first and second stages of data collection were from six months to over a year apart, thus raising the issue of the relationship between the two sets of measures. However, the extent of correspondence can be and is tested in the results.

* The extent of social desirability responses in the interviews is difficult to evaluate, but may be reduced by the interviewees' perceptions of the interviewer as a trained psychologist from outside the organization, and thus as an independent and 'objective' observer rather than a potential threat to their position, status or reputation. This must be set in the context that the Employment Service employs psychologists as professional career grades, and they may be perceived differently to line management because they regularly conduct confidential surveys, of stress for example.

* This research is based in one region of a large Civil Service department; this may affect the extent to which the results can be generalised over other occupations and job types. There is no logical reason to hypothesise any differences between this organization and many others in the Northern region.

* Whilst there are regional differences in total absence volume (IDS, 1984, 1986 and 1988), the information is not complete and there are higher levels of variation between industry sector and from year to year. No literature has attempted to explain these variations in terms of causation other than in terms of general types of employment differences between regions. There is no evidence to show differing regional absence levels within the same employment sector. Therefore, the regional variations do not justify any reason to suppose regional differences in factor analytic and regression results from attitude measures.

Chapter 5

Data reduction and tests of representativeness of respondents

This chapter is in three sections. The first section describes the construction of the independent variables, including factor analyses of the A and C scales to derive short scales including organizational climate and the 'absence ethic'. The validation of a short scale to measure climate is also described, and the available reliability statistics for published scales are given. For completeness, all independent variables used in the data collection are referred to in this section.

The second section concerns the derivation of the dependent variables. This involves the factor analysis of the T1 B scale, the T2 perceived likelihood data and the perceived frequency of occurrence of illnesses. Additionally, data are presented for actual absences amongst a subset of the T2 respondents.

The third section of the chapter concerns the tests the representativeness of the respondents against known organizational data.

[1] The construction of the independent variables

Work grades and other biographical details

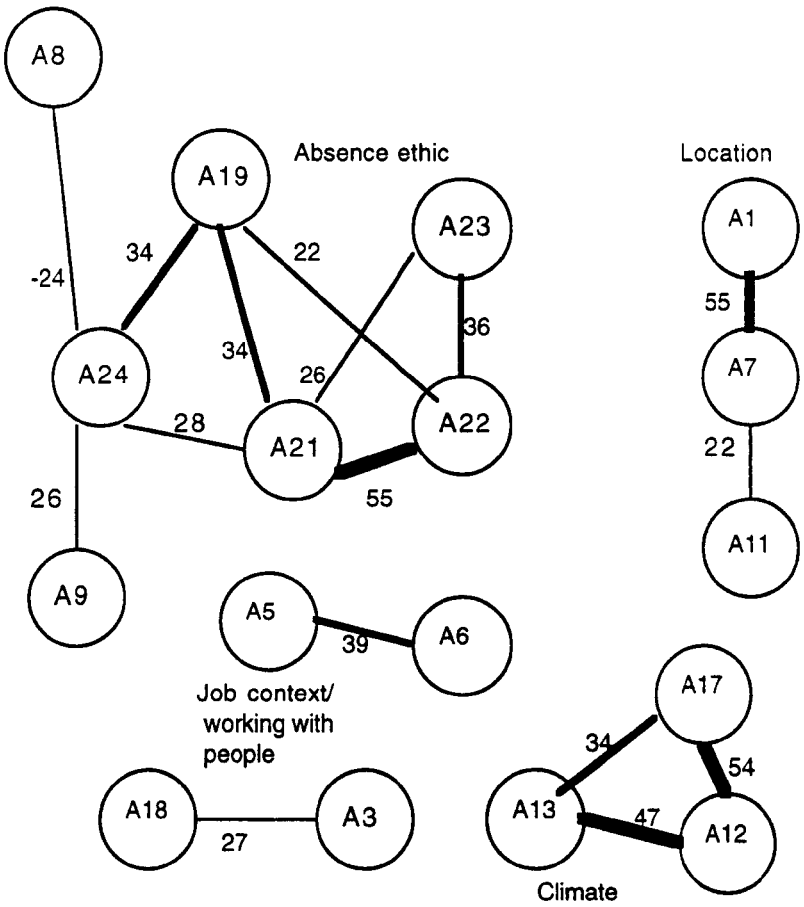
For both T1 and T2 analyses, the top two and bottom two job grades have been aggregated to create cell sizes sufficient for statistical analysis. The 17 respondents who were support and typist grades are combined with AA grade and subsumed under that title to make a total of 114. The 10 respondents who were SEO and grade 7 are combined with HEO to make 80 in that group which is referred to as HEO+ in all analyses. Thus, four grade groups are used throughout for analyses [apart from the initial tests of representativeness] : AA, AO, EO, and HEO+.

Age [in five groups], sex and part/full-time working are scored as nominal data.

T1 'A' scale variables

The A scale was factor-analysed by the principal components analysis. The correlation matrix is given in Appendix 4.1 and the main groups of items derived from it are shown in Figure 7 below.

Figure 7. The major groups of items in the A scale
[Note: only correlations greater than 0.20 are shown; N=1285]



A scree plot suggested that between five and seven factors be rotated. Therefore, a varimax rotations were performed and the orthogonal solution for seven factors is summarised in table 4. The eigenvalues and variance proportions, along with the full factor weights, are given in Appendix 4.2.

Table 4: Item-factor loadings for the seven-factor solution of the A scale

Item	Factor loadings 1	2	3	4	5	6	7
Climate							
A12 Very friendly department	.844						
A13 Easy-going atmosphere	.732						
A17 Colleagues helpful to me	.752						
Absence ethic							
A21 Proud of zero absence		.746					
A22 Attendance should be recognised		.801					
A23 Absence not affect performance pay		.691					
Physical environment /promotion?							
A1 Office is in a pleasant area			.770				
A7 Office accommodation is good			.762				
A11 Good chances of promotion			.479				
Client interaction							
A5 Job involves counselling				.647			
A6 Job involves dealing with public				.749			
A10 Pleasant surroundings important				.496			
Flexibility/commitment							
A8 Like my work to be organized					-.676		
A19 Commitment important to me		.402			.484		
A20 Family problems count as sickness					-.345		
A24 I enjoy flexibility					.626		
Confidence							
A9 I would like promotion soon					.350	.489	
A15 My job is easy to do						.734	
A16 Too much to do						-.512	
Interactive vs. solitary work							
A3 Job is mostly solitary			.348				.627
A14 No-one bothers if I take time off							.384
A18 If sick, work waits							.722

Note: N=1291; all loadings over .340 are included.

These results suggest that three items, A12 'friendly department', A13 'easy-going atmosphere' and A17 'colleagues are helpful', form an important factor, with the highest eigenvalue, which can be termed climate. There are only three items in this scale and no repeated measures and thus an internal consistency measure can only be indicative; Cronbach's alpha was α=.689 with N= 1290 approx.. It can therefore be suggested

that this scale has some internal consistency. In order to establish alternate form reliability, the three-item climate scale was correlated against the 'support' and 'warmth' measures from the organizational commitment scale of Litwin and Stringer (1968) using 47 employees in clerical and administrative roles in a Health Authority in Northern Ireland. The two measures were administered simultaneously in January 1993 using a short questionnaire which also included several other work attitude scales. Respondents were aware that two [but not which two] of the scales that they were asked to complete were part of a validation exercise. The resulting correlation between the two scales was $r= 0.527$, significant at $t= 4.16$ with 45 d.f., at $p<.0001$, 2-tailed. Thus the three items are used to measure organizational climate in terms of warmth and support. In order to use them in analyses, the scores for them are summed and hereinafter referred to as 'Climate'. This scale is used to test hypotheses five and six.

A second factor, involving various attitudes to absence, may be simply referred to as the 'Absence Ethic' [although the actual item wordings are directed towards attendance rather than absence]. This factor includes items A21, A22 and A23 which clearly attribute value to attendance. The correlation matrix and factor loadings also suggest the possibility of inclusion of A19, which correlates significantly with A21 and A22 and has a loading of .402 on the second factor. Continuance commitment relates to turnover and the same construct could apply to absenteeism as a low attachment to work (Nicholson, 1977) and therefore this item is retained in the Absence Ethic factor. The theoretical basis for an absence ethic stems from the concept of the psychological contract (Gibson, 1966) and the A-B continuum (Nicholson, 1977). It is not simply a negation of the Protestant work ethic (Furnham, 1990) but reflects attendance as an important factor in work, representing loyalty, commitment, involvement and pride. Therefore, the final Absence Ethic scale that is used to test hypotheses six and seven contains four statements:

* A19 High commitment to work is important to me
* A21 I would feel proud if I could have zero absence for a whole year

* A22 Good attendance should be acknowledged and recognised by the manager
* A23 Absence should affect performance-related-pay

This four-item scale was compared in use to a shorter version omitting A19. In essence, both scales reported the same significances, with similar correlations throughout. Therefore in the testing, the longer four-item scale is used since a four item scale can be assumed to have greater reliability than a three item scale (Cronbach, 1984).

A third factor includes items A1 and A7, which both concern the physical environment and A11, which relates to promotion; this factor is difficult to name. A fourth factor is based on items A5 and A6, both involving job activities interacting with the client group, along with A10 which relates to surroundings; this three-item factor could be named client interaction. Other factors may be A3, A14 and A18, relating to solitary work which colleagues cannot easily do; A9, A15 and A16, relating to promotion, easy work and quantitative overload which may all loosely be termed 'confidence' and A8, A19, A20 and A24 which could be considered to be a work commitment and flexibility factor. However, these five factors do not demonstrate particularly high item inter-correlations in the matrix (Appendix 4.1) nor remain in the same factors with five or six rotations, suggesting that they may not be particularly robust, and therefore are used only in hypothesis 6 [a] and the findings treated with caution.

Whilst A2, A4 and A8 all concern various aspects of job structure, they do not relate as a group at any level of analysis and therefore are not scaled. It is true that many of the jobs in this organization [as with other departments of the Civil Service] are highly proceduralised in terms of rules and regulations, offering limited flexibility to vary outcomes for individual client cases, with the consequence of some imposed structure, thus rendering structure as rather irrelevant to most employees. Additionally, A4 was phrased "I am clear what is expected..." whereas A2 and A8 begin "I like .....", therefore measuring differing orientations [i.e. perceptions vs. values].

Thus, Climate and Absence Ethic are used in the hypotheses as independent variables. The four identifiable factors with lower eigenvalues, i.e. A5/A6/A10 client interaction, A3/A14/A18 solitary work waits, A9/A15/A16 confidence and A8/A19/A20/A24 flexibility/commitment are used with caution only in the testing of hypothesis 6[a].

T1 'C' scale variables

A principle components analysis was conducted on the 19 items in the stress scale. The correlation matrix is given in Appendix 4.3. A scree plot of the eigenvalues suggested rotation of six factors, and the results of the varimax rotation are summarised in table 5. All factor loadings, eigenvalues and proportions of variance are included in Appendix 4.4.

In table 5 it can be seen that there are six distinct factors, with five items loading on two factors. C16 has high loadings on both 'recognition' and 'management and change' and is therefore retained in both factors, but for C5, C8, C17 and C19 the higher weight only is selected. Therefore the following six factors are used as dependent variables in the hypothesis testing for hypotheses two and nine:

* Recognition: C9, C10, C11, C16
* Overload: C1, C2, C14
* Domestic issues: C3, C7
* Ambiguity/clarity: C6, C8, C13
* Monotony/boredom: C4, C5, C12
* Management and change: C15, C17, C18, C19

In addition, the 19 stress measures in T1 were aggregated to obtain a "total stress" score, with $\alpha = .870$; this is examined in relation to the core variables in the final section of the next chapter. Respondents were also asked to indicate on a single six-point scale how frequently they felt there were under stress. This scale is referred to as "stress frequency" when used.

Table 5 Factor loadings for the six rotated item groups for the C scale.

Item	Factor loadings 1	2	3	4	5	6
Recognition						
C9 Not getting promotion	.778					
C10 Feeling undervalued	.865					
C11 Work not recognised	.812					
C16 Lack of management support	.518					.504
Overload						
C1 Too many things to do		.805				
C2 Too much responsibility		.803				
C14 Expect too much		.643				
Domestic issues						
C3 Responsibility at home			.805			
C7 Dual career conflict			.867			
Ambiguity/clarity						
C6 People I work with				.604		
C8 Priorities unclear		.305		.744		
C13 Job tasks unclear				.729		
Monotony/boredom						
C4 Poor office accommodation					.721	
C5 Boring job	.441				.450	
C12 Monotonous seating position					.725	
Management and change						
C15 Moving when settled						.597
C17 Asked wrong way				.315		.618
C18 Changed but not informed						.732
C19 Too much change		.415				.691

Note: N=1290; all loadings over .300 are included.

T2 Measures of trust, job satisfaction, attitudes to malingering and perceived health

Aggregate scores were computed for the four measures of organizational trust, faith and confidence in both peers and management; these were further combined to produce two trust measures, faith/confidence in management and faith/confidence in peers (as described in Cook and Wall, 1980). These measures are used to test hypotheses 4, 5 and 7.

The aggregate score for job satisfaction was also computed (as described in Quinn and Staines, 1979) and is used to test hypothesis 6. The total score range uses odd numbers only, from 5 to 25, making 11 scale points in all.

The three items concerning attitudes to malingering were intercorrelated in order to see whether an aggregate could be compiled. The results are shown in Table 6.

Table 6: Correlations between the attitudes to malingering items

Item number	mal 1	mal 2
mal 2	-.21**	
mal 3	-.21**	.45***

*N=215; ** indicates p<.01, *** indicates p<.001, both 2-tailed*

Although these correlation coefficients are all significant, mal 1 refers to the perceived incidence of malingering, whereas mal 2 and mal 3 refer to the manager's knowledge of and activity relating to malingering, and it is therefore arguable that mal 1 is conceptually different to the other two. It can be reasoned that perceptions of what the manager knows and what the manager does are conceptually different and therefore that mal 2 and mal 3 will have different correlates, for example with satisfaction or trust in management. Because of these issues, the three items are used separately to test hypotheses 5, 6 and 7.

All other independent items in T2, i.e. perceived health and susceptibility to illnesses, are treated as single items and are used to test hypothesis 3.

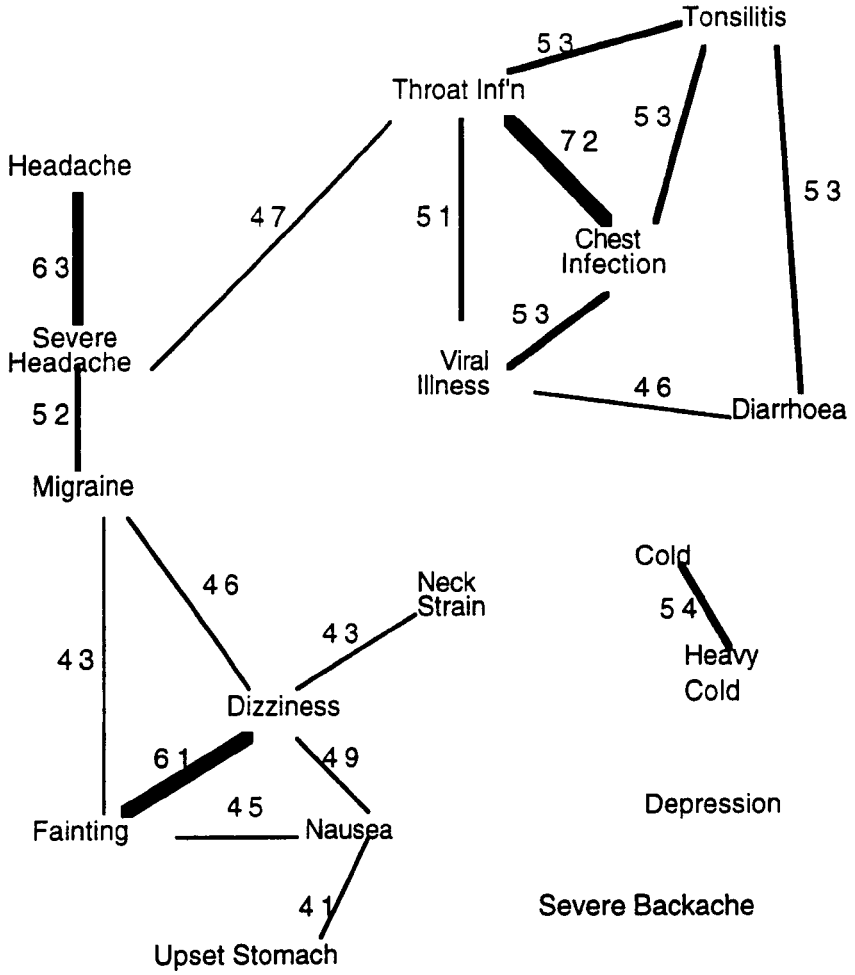
[2] The construction of dependent variables

T1 'B' scale- perceived legitimacy of minor Illnesses

A principle components analysis was performed for all 1290 respondents on the 'B' scale data, and the resulting correlation matrix is summarised in Figure 8.

Figure 8. Representation of groups of illnesses derived from correlation matrix for 'B' scale.

[Note: only correlations numerically greater than 0.40 are shown; N=1285]



Since many of the hypotheses relate to sex differences, further analyses were conducted separately for each sex. These showed that for men, there was a greater distinction and separation between those illnesses that are concerned with "aches" [headache, migraine,

backache, etc.] and those which are "infectious". The correlation matrices for all respondents and for men and women separately are given in Appendix 4.5.

Although the correlation matrices for men and women are slightly different, the main illness groupings were similar for both. Therefore a single legitimacy model is chosen and the rotation of the factors is conducted for the total sample rather than each sex separately.

The principle components analysis for the total sample produced eight factors. Inspection of the scree plot suggests that six to eight factors be rotated. It is not possible to specify exactly how many factors should be rotated because only 18 items were entered into the analysis and only eight factors were produced from the unrotated solution. In fact, the eighth factor accounts for 3.8% of the variance and 77% is accounted for by the eight factors aggregated, and it is therefore possible that all eight factors should be rotated. Considering these [six, seven and eight factor] rotations, it is clear that there are essentially four main factors, plus up to four other doublet or singlet factors. The factor loadings for the seven-factor rotation are given in table 7 and the factor loadings for seven and eight factors, the eigenvalues and proportions of variance are given in Appendix 4.6.

In the eight factor rotation, the first factor to emerge is an 'infections' factor, consisting of five items [B8, B9, B12, B17, B18]. This factor was apparent in the unrotated factor loadings and remained exactly the same after rotation. The second factor is a doublet, 'colds' [B1 and B2], but again was also apparent for both sexes in the unrotated matrix. This factor seems to be robust despite being a doublet. The third main factor may be described as general 'malaise', consisting of five items including dizziness, fainting, diarrhoea, neck strain and migraine [B13, B14, B15, B16, B17]. A fourth factor of three items, clear from the correlation matrix in addition to the factor loadings, is 'headaches' [B6, B7 and B14]. The fifth factor loads highly on depression

alone. Factor six consists only of severe backache, also a singlet factor. The seventh factor is upset stomach and nausea [B3 and B11] and the eighth factor is the doublet backache [B4] and neck strain [B13].

Table 7. Factor loadings from the seven-factor rotation of the orthogonal transformation of the 'B' scale perceived legitimacies

Item	Factor loadings 1	2	3	4	5	6	7
infections							
B8 throat infection	.768						
B9 chest infection	.785						
B12 viral infection	.649						
B17 diarrhoea	.522		.516				
B18 tonsillitis	.780						
colds							
B1 colds		.708					
B2 severe cold		.728					
B3 upset stomach		.702					
malaise							
B11 sickness/nausea			.601				
B15 feeling dizzy			.783				
B16 fainting			.768				
headaches							
B6 headache				.836			
B7 severe headache				.762			
B14 migraine			.472	.414			
B10 depression					.902		
B5 severe backache						.782	
back/neckache							
B4 mild backache							.795
B13 neck strain							.615

Note: N=1291; all loadings over .400 are included.

When only six factors are rotated, and in effect the seventh and eight factors are 'forced' into those that remain, neck strain [B13] is located in either factor five [with depression],

or factor three, malaise. Upset stomach and mild backache [B3 and B4] become part of factor two with colds. Nausea [B11] moves into the malaise factor.

Thus, it can be said that there are four principle factors: infections, colds, headaches and malaise, plus two singlet factors of depression and severe backache. However, it is possible that the malaise factor is a complex one, made up of a dizziness component and a nausea component.

These results identify an 'infections' factor as quite distinct from colds [although both are infectious] and also differentiate severe backache as a factor. This contrasts with the results of Evans and Edgerton (1992), but their study contained a less wide range of illnesses, restricting the number of factors likely to be generated. Their work also included two illnesses related to depression, which were omitted in the present study as inappropriate for a postal survey as potentially sensitive, ill-defined or misunderstood (Jenkins, 1985). However, depression emerges in this study as a separate factor, unrelated to all of the other illnesses. The fact that it has been found to be relatively independent of other illness measures in this and earlier investigations suggests that it may behave differently from other illness groups as a dependent variable than other illness groups (Evans and Edgerton, 1991).

Therefore, the dependent variables used from the 'B' scale are as follows:

infections:	[B8, B9, B12, B17, B18]
colds	[B1, B2]
headaches	[B6, B7 and B14]
severe backache	[B5]
depression	[B10]
nausea	[B3, B11]
back/neckache	[B4, B13]
dizzy/fainting	[B15, B16]
malaise [combined factor]	[B11, B15, B16, B17]

These dependent variables are used for both sexes. However, there is some differentiation between the sexes for the nausea factor; this issue is discussed in subsequent chapters.

The essence of this research is that legitimacies will differ for different minor illnesses. However, it is possible to assemble a general legitimacy scale by adding together the perceived legitimacies of all the 18 illnesses. An advantage of doing this is that a longer scale of intercorrelated items is likely to have higher reliability than shorter scales (Cronbach, 1984). The internal consistency [Cronbach's alpha] of this aggregated legitimacy scale is $\alpha = .90$. The scale is examined in relation to the core variables in the final section of the next chapter.

T2 dependent measures

The T2 dependent variables are the perceived likelihood of being absent and the perceived frequency of occurrence for each of the seven minor illnesses selected from the longer list in the T1 'B' scale. These are treated separately and are not aggregated. Additionally, other T2 variables such as perceived susceptibility to illness are used as dependent variables when specific effects are investigated.

As with the B scale, it is possible to aggregate the seven perceived susceptibilities to illness. Using Cronbach's alpha, the internal consistency of this aggregated scale was calculated as $\alpha = .65$. This general susceptibility scale is examined in relation to the core variables in the final section of the next chapter.

Actual absence data were obtained from 115 T2 respondents for a four and a half year period. These are used as dependent variables for analyses with all the variables that are involved in the hypothesis testing. The data were converted into two measures of absence spells, one for the period A, i.e. preceding the T1 survey, and one for period B, i.e. during and after the T1 survey. In addition, a third variable was computed, being

the sum of the period A and period B variables. It is not suggested that these respondents are representative, and therefore analyses with these frequency measures can be considered as supplementary to the main hypothesis testing.

[3] Tests of representativeness of sample

The following analyses test the representativeness of the respondents relative to the population of the Employment Service Northern Region.

The lowest grades in the study were support and typist, followed by administrative assistant [AA]. The four officer grades were, from lowest to highest, administrative [AO], executive [EO], higher executive [HEO] and senior executive [SEO] and the highest grade of respondent were the four area managers at grade 7. In analyses following those in this chapter, these groups are combined to form four: all below AA are subsumed into AA, AO, EO and all above HEO are subsumed into HEO+.

Table 8 shows the distribution of staff by grade, with support and typist grades combined, as are also SEO with grade 7 because of very small numbers in these groups [to be further combined for later analyses and testing of hypotheses]. The percentage of part-time staff who responded in T1 was 14.7% but their proportion as part of the total population of employees is unknown.

Table 8. T1 Respondents: percentages and numbers in each grade

	Grade						
N or %	supp/ typist	AA	AO	EO	HEO	SEO/ grade 7	Total
% respondents	1.2	7.6	54.1	30.9	5.1	1.1	100
% of total staff	1.2	6.8	55.7	29.0	5.9	1.4	100
% part-time	1.0	2.6	68.6	26.2	1.0	0.5	100
N of respondents	16	98	698	399	66	14	1291
total N of staff	30	177	1448	754	153	37	2599
N of p/t respondents	2	5	131	50	2	1	191

In order to examine whether the grade distributions vary differently for each sex, the percentages of males are shown for all stages of the research, i.e. for T1 and T2, in Table 9.

It can be seen that over 70% of the population is women. The distribution of grade by sex was compared for the T1 respondents, with χ^2=42.1, with 6 d.f., p<.0001, showing that there are significantly more men than women at higher grades and vice versa. These sex differences through grades are apparent for the population and the T2 sample. The extent to which these affect the results is discussed in the following chapters where analyses for sex differences and hypothesis testing are conducted.

Table 9: Percentage of males by grade for T1 and T2

	Grade					
Percent	AA	AO	EO	HEO	SEO/ 7	All
–						
% of population	23.7	22.6	32.6	60.1	81.1	28.7
% of T1	24.5	25.4	31.8	54.5	71.4	28.9
% of volunteers	29.4	44.8	40.4	63.6	78.0	43.7
% of actual T2	15.4	46.9	37.6	63.7	78.0	43.0

It can also be seen that the percentage of males volunteering for interview and actually interviewed in T2 is higher particularly for the AO grade [and to a lesser extent for the EO grade] relative to the population and that AA, HEO and SEO/grade 7 are largely similar.

The difference in Table 9 between the T1 respondents and the population is χ^2= 6.74, with 4 d.f.; p<.20; this result is not significant.

Table 10 shows the distributions of males and females for T2. Those who volunteered and those who were interviewed are shown, along with the population-based expected values.

None of the χ^2 statistics was significant, although the values for the male and female volunteers were approaching significance since the critical level for χ^2 at 5% for 3df is 7.82.

Table 10: T2 respondents: frequencies of men and women who volunteered to be and actually were interviewed

	male		female	
Grade	volunteers	actual	volunteers	actual
AA	5 *(10)*	2 *(6)*	17 *(12)*	11 *(7)*
AO	73 *(71)*	46 *(42)*	90 *(92)*	52 *(56)*
EO	55 *(59)*	32 *(36)*	81 *(76)*	53 *(48)*
HEO+	21 *(13)*	2 *(8)*	10 *(17)*	6 *(10)*
N	154 *(153)*	92 *(92)*	198 *(197)*	122 *(121)*
χ^2 (3df)	7.8	5.5	7.2	4.7

Note: expected values in brackets

These data would suggest that there is a trend toward more HEO+ men and less HEO+ women volunteering to be and actually being interviewed relative to other grade groups when each sex is considered separately. However, this is qualified by the fact that males are generally over-represented amongst the interviewees, who formed 43% of interviewees but only 29% of the total population. This is particularly true for the AO grade, where the comparable figures were 47% and 23%.

Table 11 shows numbers of respondents by grade and sex, and as percentages of the total population. Inspection of this table shows the disproportionately high representation of AO men and low representation of AO women in the T2 samples of

volunteer and actual interviewees. It also shows how the relatively low numbers at the lowest and highest grades in the population results in very low numbers of interviewees at these grades at T2.

Table 11: Percentages and N for each grade by sex, for the population, the T1 respondents, the volunteers for interview and the interviewees.

	Population		T1 Respondents		Volunteers		Interviewees	
Grade/sex	N	%	N	%	N	%	N	%
AA male	42	1.6	26	2.0	5	1.4	2	0.9
AA fem	166	6.5	88	6.8	17	4.8	11	5.1
AO male	328	12.8	177	13.7	73	20.7	46	21.5
AO fem	1120	43.8	521	40.1	90	25.6	52	24.3
EO male	246	9.6	127	9.8	55	15.6	32	14.9
EO fem	508	19.8	272	20.9	81	23.0	53	24.8
HEO+ male	122	4.8	46	3.5	21	6.0	12	5.6
HEO+ fem	68	2.7	34	2.6	10	2.8	6	2.8
Grand Totals	2559	100	1291	100	352	100	214	100

Table 12 shows the distribution of grade by age, for T1 and for the total population. The data available for the population were in ten-year age groups with boundaries at 25, 35 etc. years instead of the 26, 36 etc. in the respondents. The number of total staff has been adjusted pro rata, yielding $\chi^2 = 6.9$ with 4 d.f., $p<.20$; this result is not significant.

Table 12: T1 and adjusted population age distributions

	Age Group					
N (and %)	under 26	26-35	36-45	46-55	over 55	Total
N respondents(%)	302 (23)	541 (42)	272 (21)	143 (11)	40 (3)	1298 (100)
N population (%)	554 (21)	1044 (40)	539 (21)	329 (13)	104 (4)	2570 (100)

Note: numbers of total staff adjusted to age groups of sample

The correlation between age and grade was ρ=0.391 for N= 1294; this is significant at $p<.0001$. Using the approximation of the mid-point of the range for age, the mean age was found to be 33.32 years. The mean ages for each grade are: for AA $\bar{x}$ =30.37, N=113; for AO $\bar{x}$=31.39, N=701; for EO $\bar{x}$=36.93, N=399; for HEO $\bar{x}$=36.33, N=81. Thus, as might be expected, the greater the age, the higher the grade.

Thus, in summary, it can be seen that the respondents in T1 do not appear to differ significantly on major biographical variables from the total population of employees in the region, with the exception of more men particularly in the AO grade, volunteering for and being interviewed for the T2 measures. Since many analyses are conducted separately for men and women, this has no implications for the generalizability of data.

Chapter 6

Results and testing of hypotheses.

This chapter is in seven sections. The first section presents a table summarising the means, standard deviations and intercorrelations between the core variables in the study as a whole. It also considers the intercorrelations of the factors generated in the three main scales. The second section presents an analysis of the measures with spells of absence as the dependent variable, for the respondents whose absence data were available. The purpose of this is to establish how all the measures, particularly the central concept of legitimacy, relate to absence and, since it directly concerns actual absence measures, to test hypothesis 10.

Having established that several measures are related to actual absence behaviour, the next section details the qualitative and quantitative information obtained from the T1 and T2 investigations. Thus, the third section presents descriptive statistics and some preliminary analyses for various parts of the T1 questionnaire and the T2 measures in order to provide more information against which the testing of hypotheses may be later evaluated. Because so many of the hypotheses involve grade and/or sex differences, particular emphasis is placed on these for the descriptive data relating to the 'A', 'B' and 'C' attitudes scales in T1 and to scales used in T2.

The fourth section presents a summary of the interviews conducted at T2. These form valuable qualitative data, which are referred to later in the discussion and implications in chapters 8 and 9.

The fifth section involves the testing of the first nine hypotheses and these are considered separately in the same order as presented in chapter 3. At relevant stages, the way the picture is unfolding is considered so that the threads of the different hypotheses may be considered together.

The sixth section presents a short analysis of the 18-item aggregated perceived legitimacy scale and the 7-item aggregated perceived susceptibility scale in relation to the other core variables.

The seventh and final section presents a summary of the chapter.

In the analyses, the highest level of analysis appropriate to the data has been used in each case. In some cases, multiple regressions, ancovas or manovas might have been the most appropriate analytical tools if the data had been parametric. However, the data in this study are often skewed and sometimes even bimodal, are ordinal in measurement, have unequal variances and the rating scales create large numbers of tied values. Therefore, in many cases non-parametric tests [e.g. Mann-Whitney U test, Kruskal-Wallis one way analysis of variance by ranks] have been employed in order to avoid distortion of the findings, although this occasionally required two lots of tests where one regression or anova would have otherwise sufficed. Where parametric tests have been used, they are treated with caution. It is also clear during the testing that the various tests employed in place of regressions and anovas "tell the same story", but in more detail.

Footnote: although many of the hypotheses have specified direction and thus could support 1-tailed tests, all probabilities are given for 2-tailed testing for consistency and rigour. All T1 data are based upon approximately N=1295 [373 for men and 918 for women]. All T2 data are based on approximately N=220, [N= 95 for men and N=125 for women]. All absence data are based upon N=115 [N=49 for men and N=66 for women]

6: 1. Intercorrelations of core variables

The core variables in this study which are included in the correlation matrix are the following:

T1 variables, N=1295 approx.:

- two grade and age variables
- two A scale factors of climate and Absence Ethic
- nine perceived legitimacy factors
- six stress factors

T2 variables, N= 220 approx.:

- three Cantril health items
- one susceptibility scale [7 items aggregated]
- seven perceived frequency of illness items
- seven perceived likelihood of illness items
- one job satisfaction score
- two trust items [management and peers]
- three malingering items

Absence variables, N= 115

- three absence spells measures [A, B and A+B]

There are nineteen T1, twenty-four T2 and three absence variables in the matrix in total. Because of the size of a 46 x 46 matrix, it is included in full for inspection in Appendix 4.7 rather than in the text. In addition, subsets of the matrix are repeated in several tables in this chapter as correlations between sets of variables are considered.

6: 2. Analyses using actual absence.

Usable data were obtained for the period Sept. 1st 1988 from Jan. 31st 1993 for 115 [49 men and 66 women] respondents who signed a statement to provide access to their absence records. The T1 questionnaires had been completed during early Sept. 1990, with the T2 interviews following from Jan.- Oct. 1991. The records were converted to absence spells for two time periods from Sept 1st 1988 - Aug 31st 1990 [period A], and Sept 1st 1990 - 31st Jan 1993 [period B], i.e. before and after the attitude measurements of T1; the numbers of spells for each period separately and in total [periods A + B] were used as dependent variables. These three dependent variables were analysed in relation to all of the variables used in the hypothesis testing.

2. [a] Grade, sex and age effects

The small numbers [see Table 13 for N] do not justify a full analysis of grade and sex effects, but when the grades were combined to two [AO and EO], a two-way analysis of variance of spells by sex and grade yielded grade [but not sex] as a significant main effect for periods B and A + B with $F=7.8$, $p<.0061$ and $F=5.4$, $p<.0225$, both d.f.=1, respectively. For period A, the value of $F=2.2$, $p<.1425$ was obtained for grade. All of the data were in the direction of fewer spells amongst the higher grade. T-tests conducted for sex differences yielded $t= -1.60$, 113 d.f., $p<.1118$ for period A and $t= -.83$, 113 d.f., $p<.4054$ for period B, both 2-tailed. However for both grades women had more absence spells than their male counterparts. These analyses are given in full in Appendix 5.

Since the tests revealed no significant sex differences, further analyses are conducted for the whole group.

Analyses of variance were conducted to ascertain any grade or age effects in relation to absence spells. The results are summarised in Table 13.

Table 13. Analyses of variance for absence periods by grade and age.

Age Group	Period A $\bar{x}$	Period B $\bar{x}$	N	Grade	Period A $\bar{x}$	Period B $\bar{x}$	N
25 and under	5.8	5.7	26	AA	7.0	7.5	6
26 - 35	4.8	5.9	45	AO	5.1	6.2	57
36 - 45	4.5	5.1	27	EO	4.2	4.4	45
46 - 55	2.8	3.2	10	HEO+	1.7	2.0	4
56 and over	3.7	5.1	7				
Total			115				115
F	1.1	0.9			3.1	2.6	
p	.344	.457			.031*	.054	

It can be seen that there are grade differences which are significant for both A and B periods. The analysis of variance identified AA vs. HEO+ in both cases, plus AO vs. EO for period B as significant on the Fisher PLSD test. The downward grade gradient is clear from these data, but the results are obviously of limited value in relation to AA and HEO groups because of the low numbers. It is likely that the differences in significance between this analysis and that conducted on the two aggregated grade groups can be accounted for by the small numbers in the AA and HEO groups. The age means follow a U-shaped pattern and the grade means show clear inverse relationships. In both cases, inverse relationships would have been expected for spells from the many studies of absence frequency, although a U-shape might be expected had the data been absence volume (for example, Taylor, 1968 and 1974).

2. [b] Absence spells related to perceived susceptibility, likelihood of absence, frequency of absence and health status.

For the seven T2 illnesses, the perceived susceptibility to each, the likelihood of absence if one had the illness and the perceived frequency of the illness should all logically bear some relation to actual absence. These measures were correlated with absence spells, with the results as shown in Table 14. The correlations given are Spearman's rho, the

most appropriate statistic since [as tables 22 and 23 show] the variances are not the same for the three measures of susceptibility, likelihood and frequency.

Table 14. Correlations between absence spells and perceived susceptibilities, frequency of illness and likelihood of absence.

	Illness						
Spells	Diarr	Head	Throat	Viral	Back	Stomach	Colds
Susceptibility to an illness (susceptibility)							
A	-.066	-.176†	-.177†	-.215*	.214*	-.013	-.283**
B	-.144	-.028	-.200*	-.233*	-.037	-.065	-.236*
A + B	-.137	-.116	-.214*	-.239*	.081	-.049	-.295**
Likelihood of absence resulting from an illness (likelihood)							
A	-.184†	-.148	-.289**	-.266**	-.186†	-.192*	-.324***
B	-.323***	-.217*	-.244*	-.274**	-.293**	-.351***	-.435***
A + B	-.287**	-.203*	-.312**	-.293**	-.257**	-.311**	-.428***
Reported frequency of illness (frequency)							
A	.093	.140	.197*	.267**	-.094	.112	.178†
B	.158†	.052	.267**	.248**	.140	.166†	.196*
A + B	.126	.107	.258**	.280**	.035	.150	.225*

*† indicates p<.10; * indicates p<.05; ** indicates p<.01; *** indicates p<.001; all N=115, all 2-tailed*
Note: susceptibility is scored such that the lower the score, the greater the susceptibility; likelihood is scored such that the lower the score, the greater probability of absence; frequency of illness is scored so that the lowest score indicates the lowest frequency of absence.

It can be seen that only 3 out of 63 correlations calculated were not in the predicted direction, 43 were significant at least at p<.10 with 35 of those at least at p<.05. These data, although based on only N=115, suggest very clearly that the three measures of perceived susceptibility to illness, perceived frequency of absence and perceived likelihood of absence with a given illness are important factors in relation to actual absence. Thus, the first part of hypothesis 10, which proposed that actual absence would be related to perceived likelihood of absence, is supported.

The findings show that absence spells are related to all three measures, in the direction of the more absences, the higher the perceived susceptibility, the greater the perceived likelihood of absence and the greater the perceived frequency of absence. When those correlations at $p<.10$ (2-tailed) are taken into account [since they are all in the predicted direction], then it can be seen almost all correlations [20 out of 21] are significant for perceived likelihood of absence. Viral illness, throat infection and colds are significant for all the measures, suggesting that absence behaviour is self-assessed more consistently for these three illnesses than for other illnesses; the effect cannot be attributed to different [lower] variances of these illnesses [see tables 22 and 23]. For headaches, backaches, stomach upset and diarrhoea, there appears to be weak relationships between the actual number of absence spells and both perceived frequency of absence and perceived susceptibility to absence.

The strength of these findings suggests a clear link between absence spells and the perceived likelihood that one will be absent if one has an illness. There are also strong links between perceived susceptibility to illness and absence spells for throat and viral infections, which may be perceived by some as relatively low discretion illnesses, and colds which may be high discretion. Perceived frequency of illness, a subjective estimate of absence spells, was clearly significantly related for diarrhoea, throat infection and viral illness, the three illnesses in T2 which were perceived as having the highest legitimacies in T1. The fact that some illnesses were not significantly related for all three measures particularly supports hypothesis 2 which suggested that different minor illnesses would show different patterns of perceived legitimacies of absence.

Correlations for perceived health status and absence spells were calculated. The results are shown in Table 15. In general, the lower the perceived health status, the higher the number of absences. The data were obtained between 6 and 18 months after the end of period A, which might explain the significance of the correlation between period B and current health status and the low correlation between period A and current health status.

The high correlations with both periods and past health status suggests that self-assessment of past health may not be time-dependent. The correlation between the numbers of spells in periods A and B was calculated as r=.718, N=115, p<.0001, which suggests high stability of absence spells.

Table 15: Correlations between absence spells and perceived health status

	Absence Period		
Cantril scale	A	B	A + B
Health now	-.089	-.177†	-.144
Health 3 months ago	-.223*	-.374***	-.313***
Health 6 months ago	-.207*	-.363***	-.306**
Go to work	-.066	-.026	-.062
Not go to work	.041	.071	.050

*† indicates p<.10; * indicates p<.05; ** indicates p<.01; *** indicates p<.001; all N=115, all 2-tailed*

In summary, these findings suggest strong links between absence spells and the measures of perceived likelihood of absence, frequency of absence, susceptibility to illness and health status. It is also evident that these links are stronger for some illnesses than others for each measure. These findings help to validate the measures and enable the whole study [and thus the concept of legitimacy] to be anchored against actual absence.

2. [c] Absence spells and perceived legitimacy.

The B scale measuring perceived legitimacy originally consisted of eighteen minor illnesses; a factor analysis generated eight main factors and one combined factor ['malaise']. All these perceived legitimacy factors were correlated with the three absence periods dependent variables and Table 16 shows results obtained from these analyses.

For colds, there was a clearly significant positive relationship between legitimacy and absence for both periods. The effect is also apparent for headaches for period B and severe back for period A.

Table 16: Correlations between absence spells and perceived legitimacy

Legitimacy factor	Absence Period A	B	A + B
Colds	-.234**	-.194*	-.238*
Headaches	-.114	-.159†	-.154
Infections	.005	.013	-.037
Back/neck	-.013	-.073	.005
Nausea	-.072	-.107	-.093
Dizzy/faint	.054	-.051	-.005
Severe back	-.158†	-.141	-.160†
Depression	.030	-.005	.015
'malaise'	-.005	-.096	-.057

Note: lower score indicates greater legitimacy, spells as integers.
*† indicates p<.10; * indicates p<.05; ** indicates p<.01; *** indicates p<.001*
N= 115

It may be that colds [and headaches] are more likely to be perceived to be toward the B end of the A-B continuum (Nicholson, 1977) and are more frequently occurring, thus requiring greater legitimization by those who are absent due to these illnesses. Severe backache is perceived to be more legitimate than colds and headaches in the B scale, yet has a lower perceived frequency.

2. [d] Absence spells and work attitudes

Correlations were calculated for absence spells with work attitudes, with results shown in Table 17.

Table 17: Correlations between absence spells and work attitudes and stress measures.

Work attitude factor	Absence Period A	B	A + B
Absence Ethic	.239*	.238*	.243*
Climate	.186†	.145	.202*
Trust m	-.223*	-.221*	-.249*
Trust p	.032	-.070	-.070
Job satisfaction	-.199*	-.316**	-.270**
mal 1	.016	-.090	-.024
mal 2	-.136	-.151	-.169†
mal 3	-.016	-.008	-.011
stress frequency	-.182†	-.163†	-.183†
stress recognition	-.238*	-.140	-.211*
stress overload	.046	-.037	.012
stress domestic	-.096	-.079	-.094
stress monotony	-.255**	-.205*	-.250**
stress management	-.081	.010	-.045
stress ambiguity	-.088	-.151	-.132

Notes: for Absence Ethic, lower score indicates more value placed on attendance, absence spells scored as integers; for stress, lower score indicates greater stress.
*† indicates p<.10; * indicates p<.05; ** indicates p<.01; *** indicates p<.001; all two-tailed*

There are significant relationships for the Absence Ethic and job satisfaction, although for job satisfaction the relationship with subsequent absence is much stronger; these findings support hypotheses 10 and 6[b]. In addition, hypothesis 6[a] proposed that a favourable climate would be associated with reduced absence; this is supported by these data.

The proposition that the relationship between job satisfaction and absence should be stronger for women than men (Hackett, 1989) was tested by calculating correlations separately for each sex. The results obtained for women were ρ=-.18 for period A [n.s.] and ρ=-.21 for period B [p<.0914]; however, for men the correlations were ρ=-.26 [p<.0849] and ρ=-.45 [p<.0069] respectively. To test whether the correlations for men and women were significantly different in each period, Fisher's Z-transformations of the correlation coefficients were compared, yielding z= .45, p<.3264 for period A

and z=1.37, p<.0850 for period B. Therefore, for period B. these findings contradict those of Hackett.

Stress frequency is related to absence for both periods, as is stress related to monotony and boredom. However, the specific stressor of lack of recognition is related much more strongly to period A than period B, i.e. to prior rather than to subsequent absence whereas this finding is reversed for stress due to ambiguity. The data also show that trust in management is related to both prior and subsequent absence. Although there is a trend at p<.10 for mal 2, it is surprising that attitudes to malingering show only this relationship to the number of absence spells, which implies that either no effect or an indirect one on absence.

The penalty/incentive questions were also analysed in relation to absence spells, using one-way analyses of variance. For incentives, the test yielded F=.10, p<.90 for period A and F=.62, p<54 for period B. For penalties, the test yielded F= 3.12, p<.0475 and F= 2.23, p<.11 for periods A and B respectively. All are with 2, 109 d.f.. The one significant result here showed the mean number of spells for those endorsing penalties as $\bar{x} = 4.2$ and those not endorsing as $\bar{x} = 6.3$, thus implying some potential self-serving mechanism in endorsement of penalties.

Question A6, relating to whether the job involved dealing with the public, was analysed to see if this related to absence. Only 18 respondents gave scale ratings of 3, 4, 5 or 6, so they were treated as one group and compared to the other two responses. An analysis of variance was not significant for either absence period, nor for both periods combined, although those responding that they strongly agreed with the item [i.e. had a lot of contact with the public] had more absence spells for each period. In order to utilise the data from A6 more effectively by using the actual ratings, correlation coefficients were calculated, with r=-.11 n.s. for period A, r=-.20, p<.05, for period B, and r=-.17, n.s.,

for both periods, all N=113. Thus, those who consider that they more frequently deal with the public subsequently exhibit significantly more absence spells.

In conclusion, these data suggest that Absence Ethic, job satisfaction, trust in management, attitudes to penalties and some stressors are related to prior or subsequent absence or both.

2. [e] Hypothesis 10: That perceived likelihood, perceived legitimacy of absence, perceived stress, perceived susceptibilities to illness will be positively related to absence frequency; that Absence Ethic, job satisfaction, trust and perceived health will be negatively related to absence frequency.

From the analyses in the preceding three sections, it can be seen that this hypothesis is generally supported.

Particularly strong and consistent relationships with absence during both periods of measurement in the predicted directions were found for the perceived likelihood of absence [all seven illnesses], the Absence Ethic and job satisfaction. For perceived susceptibility to illness, the hypothesis was supported for all illnesses except upset stomach and diarrhoea.

The findings for perceived health are interesting: it was clearly related to future absence, i.e. both past and current health were related to subsequent absence in the period B. Additionally, past health was related to the frequency of absence in the preceding period A but current health was not, suggesting that perception of health is only associated with contemporaneous or subsequent absence and that past absence does not necessarily influence current perceptions of health.

For perceived legitimacy, the relationship with absence frequency was very clear for colds and headaches, but not for other illnesses, suggesting that it may be restricted to

high discretion illnesses. Finally, the hypothesis was supported for the stress frequency measure and for stress in relation to recognition and ambiguity.

2. [f] Summary of findings in relation to absence

It is clear that there are several measures from the questionnaires that relate to absence frequency. There were strong grade and age effects, but no significant sex differences. Absence spells related to perceived susceptibility to illness, health status, likelihood of absence when ill and [for some illnesses] perceived frequency of illness. Absence spells were also related to Absence Ethic, trust in management, job satisfaction, stress and perceived legitimacy for colds, headaches and severe backache.

From the above, it is possible to confirm that absence is closely linked to many of the measures proposed in the hypotheses and in particular hypothesis 10 is supported by these findings. Some causality may be inferred where there is a significant relationship between the measures and subsequent [period B] absence, although such causal links may operate in both directions.

6: 3. General descriptive results

3 [a] Incentives/penalties questions

These questions concern the perceived role of incentives and penalties in determining attendance and absence. They ask whether incentives and penalties should be used to control absence and about the use of some specified incentives and penalties. The results are summarised in Table 18.

Table 18: Cross-tabulation of endorsements of penalties by incentives

	Incentive			
Penalty	yes	no	d/k	totals
yes	531 *(42)*	292 *(23)*	8 *(1)*	831 *(65)*
no	169 *(13)*	177 *(14)*	11 *(1)*	357 *(28)*
d/k	59 *(5)*	18 *(1)*	7 *(1)*	84 *(7)*
totals	759 *(60)*	487 *(38)*	26 *(2)*	1272 *(100)*

Note: Percentages of the grand total in brackets

The table shows 292 + 169= 461 (36.2%) respondents endorsing either penalties or incentives but not both. Many respondents made comments concerning the perceived malingering of others and that management responses should relate only to what is properly perceived to be fair and unfair. Only 22% were not in favour of either penalties or incentives; this suggests that absence and attendance should be subject to some sort of special motivational response by management. It may be that absence behaviour requires different motivational assumptions to other forms of work behaviour.

There are a number of strongly held management views surrounding the whole incentive/penalty issue, e.g. is it fair to give extra rewards for what one is contractually bound to do etc.? These views were reflected in many respondents' comments. Of those who endorsed penalties, many said that unavoidable absence should not be treated in the same way as unjustifiable absence or malingering and that it is the manager's job to fairly differentiate between malingering and genuine absence. This was reiterated in interviews and is a compelling point; the consequences of the manager not being able to make this distinction are that employees would perceive partiality and unfairness, potentially lowering morale and commitment and maybe changing absence behaviour itself.

Although these results superficially reflect a general feeling that some absence should be penalised and that good attendance should be rewarded, only 42% of respondents see both penalties and incentives as effective, and then only if operated fairly. There is also the problem that many respondents may be in favour of penalties or incentives but not as applied to themselves, i.e. perhaps seeing their effects as largely applying to other grades. Thus, for 58.3% either penalties or incentives or both are perceived to have no effect or a negative effect..

Incentives and penalties were compared across age groups and grades, showing an inverse linear relationship between both grade and age and the endorsement of incentives and a linear relationship between grade, age and the endorsement of penalties; these are detailed in Appendices 6.2 and 6.3. A χ^2 was performed to compare responses for men and women, with χ^2=0.47, 2 d.f, p<.7916 for penalties and χ^2=2.16, 2 d.f., p<.3396 for incentives, neither significant.

In summary, these data show the relative perceived importance of the role of incentives and penalties to employees, and particularly indicate strong grade and age patterns.

Respondents drew attention to the issue of malingering in relation to penalties for poor attendance.

3 [b] Work Attitude Measures- the 'A' scale

This scale consists of 24 items, measuring climate, attitudes to promotion, attitudes to absence and statements about the job itself. The means and standard deviations for men and women for all the items in this scale are shown in Table 19.

It can be seen that the standard deviations are broadly similar for men and women, but that there are wide variations across items, ranging from 0.7 to 1.7.

Table 19: 'A' scale item means and standard deviations for men and women

A scale item	men $\bar{x}$	men s.d	women $\bar{x}$	women s.d	m/f diff p<.05
A1 Office is in a pleasant area	3.4	1.5	3.2	1.4	
A2 I like to know exactly what to do	1.9	1.0	1.8	1.0	*
A3 Job is mostly solitary	3.9	1.7	3.9	1.7	
A4 I am clear what standards are	2.0	1.0	1.9	1.0	*
A5 Job involves counselling	3.4	1.7	3.2	1.7	*
A6 Job involves dealing with public	2.3	1.7	2.0	1.6	*
A7 Office accommodation is good	3.2	1.5	3.2	1.5	
A8 I like my work to be organized for me	4.6	1.2	4.5	1.3	
A9 I would like promotion soon	2.0	1.4	2.5	1.5	*
A10 Pleasant surroundings important	2.1	1.0	2.0	0.9	*
A11 Good chances of promotion	4.6	1.4	4.3	1.4	*
A12 Very friendly department	2.1	0.9	2.0	0.8	
A13 Easy-going atmosphere	2.5	1.1	2.5	1.1	
A14 No-one bothers if I take time off	3.6	1.3	4.0	1.3	*
A15 My job is easy to do	3.2	1.4	3.1	1.3	
A16 Too much to do	3.0	1.3	2.8	1.3	*
A17 Colleagues helpful to me	2.3	0.8	2.1	0.8	*
A18 If sick, work waits	3.8	1.5	4.1	1.5	*
A19 Commitment important to me	2.0	1.0	1.8	0.9	*
A20 Family problems count as sickness	3.9	1.7	4.0	1.6	
A21 Proud of zero absence	2.1	1.3	1.9	1.2	*
A22 Good attendance should be recognised	2.1	1.3	2.0	1.2	
A23 Absence not affect performance pay	3.4	1.7	3.4	1.7	
A24 I enjoy flexibility	1.6	0.7	1.6	0.8	

Notes [a] N=376 for men, N= 915 for women.; [b] scaling is 1= strongly agree to 6= strongly disagree

The differences between men and women were calculated using the Mann-Whitney rank sums. The Mann-Whitney test was selected as the most appropriate because the data are non-random and are not at interval level of measurement, but additionally a t-test for paired data was conducted for comparison. This produced the same set of significant differences, suggesting that the differential sensitivity of the tests is reduced due to the large sample size. Data from the Mann-Whitney test and the comparison with the t-test are shown in Appendix 6.4. Altogether, 13 of the 24 A-scale variables yielded significant sex differences in responses, suggesting that men and women may have differing work values, motives and attitudes.

Women agreed significantly more with items A5 and A6, that their jobs contained more counselling and dealing with the public, but the frequency distributions show that the majority of both sexes are involved in these activities. Item A6 also has significant grade differences. A χ^2 was performed to test this, yielding χ^2=293.3 with 12 d.f., p<.0001. In particular, the HEO grade show substantially less, and the AO grade more, dealing with the public. The data are shown in Appendix 6.5.

Women agreed significantly more with A19 'commitment important' and less with A14 and A18 which were concerned with absence. The significant sex difference found for A11 'good chances of promotion here' might suggest greater trust in management and for A2 and A4, 'like to know exactly what to do' and 'clear about standards', suggests that structure is important to women.

The Absence Ethic was tested for sex differences using a t-test, with t=2.55, 1275 d.f., p<.0109, 2-tailed. The mean for women was $\bar{x}$=9.0 and for men $\bar{x}$=9.6; the direction of the difference is for women to value attendance more. Grade and age differences in Absence Ethic were also tested for each sex using analyses of variance. The results are shown in Table 20, where it can be seen that whilst the HEO+ [high status] women had a high positive Absence Ethic, this was not true for men. The overall correlation

between age and grade was ρ=.391, N=1294, p<.0001, which would suggest that the age and grade should show similar patterns for Absence Ethic. The data show clear decreases in Absence Ethic scores, i.e. increasing value placed upon attendance, for higher grades and age groups for women but no obvious grade or age or gradation for men.

The remaining A scale factors identified in the previous chapter were also analysed for sex differences using the t-test. For climate, the test yielded t=1.83, n.s.; for factor A9/15/16 confidence t=-1.77, n.s.; for A5/6/10 client interaction t=3.97, p<.0001; for A3/14/18 solitary work waits t=-3.71, p<.0002; for A8/19/20/24 flexibility t= .63, n.s., all 2-tailed. These results are consistent with the sex differences found in the analysis of individual items.

Table 20: Analyses of variance of Absence Ethic by grade and age separately for each sex.

	women			men		
Grade	$\bar{x}$	s.d.	N	$\bar{x}$	s.d.	N
AA	9.0	4.0	84	8.9	3.3	26
AO	9.3	3.5	515	10.1	3.9	173
EO	8.7	3.4	270	9.0	3.8	125
HEO+	7.5	3.0	34	10.0	3.4	44
	F=3.76, p<.0106			*F=2.35. p<.0719*		
Age group						
<25	9.2	3.5	197	9.3	3.8	96
26-35	9.3	3.6	381	9.7	3.7	155
36-45	9.0	3.5	198	9.9	4.2	69
46-55	8.2	3.3	107	9.5	3.6	34
>55	7.4	3.3	25	9.5	3.4	15
	F=3.83 p<.0043			*F=.27, p<.8963*		

Note : lower scores indicate positive attitudes , valuing attendance

Significant differences together would suggest that women perceive climate as more important, trust management more, have jobs which require more interaction with the public, have a higher Absence Ethic and value task/job structure more than men. From the Absence Ethic data, it can also be suggested that women managers' response to employees' absence may differ from that of male managers.

A cross-tabulation of A9 'would like promotion soon' with grade (shown in Appendix 6.6) showed much higher ratings of wish for promotion amongst the AO grade than the others, which may reflect the fact that promotion chances are higher from AO to EO than for EO to HEO; the AO:EO ratio is about 2:1 whereas the ratio for EO:HEO is about 5:1. For A9, 23% gave 'disagree' responses, implying that their behaviour at work is not determined by a need to progress and that other motives are more relevant. The cross-tabulation of A9 with A11 'good chances of promotion' shows a wide spread of answers with a non-significant correlation of r=.07 and therefore any interaction between wish to be promoted and the perceived chance of promotion is not apparent here. This implies that the wish to be promoted is independent of perceived chances of advancement.

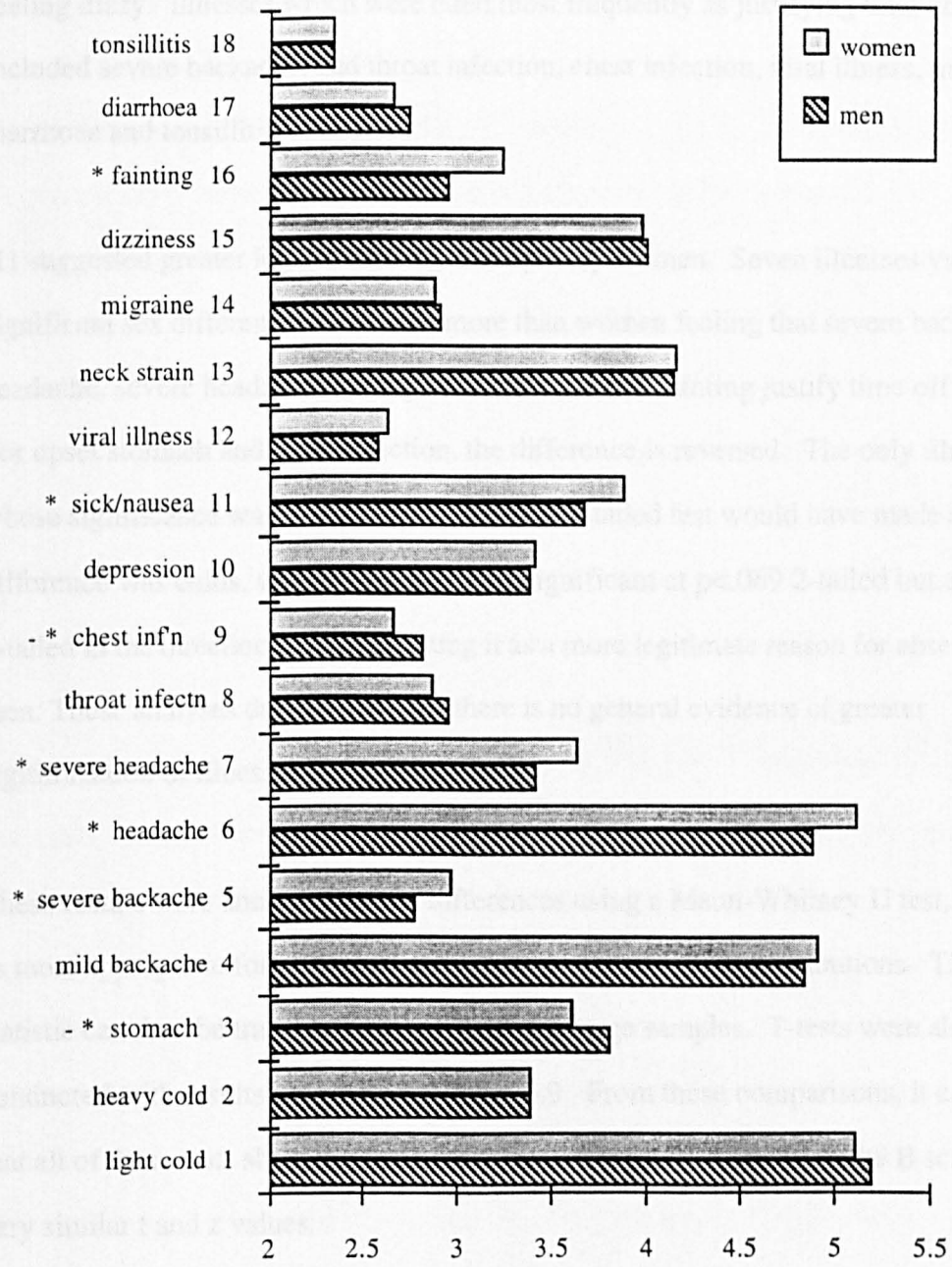
In summary, the A scale demonstrates clear sex differences in many items, including some of those relating to the Absence Ethic, climate, trust and task structure. There are sufficient sex differences to suggest that men and women may be treated as different groups in terms of absence attitudes and behaviours.

3 [c] Legitimacy of minor illness- the 'B' scale

Figure 9 displays the distribution of the means for men and women; the means, standard deviations and frequency distributions are given in appendices 6.7 and 6.8.

Figure 9. Means for men and women for B scale.

*[Notes : lower scale values show higher legitimacy of illness; * indicates significance at p<.05]*



The data show large variation for some illnesses, with four [B12 viral infection, B16 fainting, B17 diarrhoea, and B18 tonsillitis] having bimodal distributions, and two [B14 migraine and B15 feeling dizzy] having distributions well-spread across the range. These suggest that there are very varied attitudes to what is and what is not justifiable for

time off work. Illnesses which respondents thought least justified time off work included light head cold, mild backache, headache and to a lesser extent, neck strain and feeling dizzy. Illnesses which were cited most frequently as justifying time off work included severe backache, bad throat infection, chest infection, viral illness, migraine, diarrhoea and tonsillitis.

H1 suggested greater legitimization of illnesses by women. Seven illnesses yield significant sex differences, with men more than women feeling that severe backache, headache, severe headache, feeling sick/nauseous and fainting justify time off work. For upset stomach and chest infection, the difference is reversed. The only illness whose significance was in the range where a one-tailed test would have made an obvious difference was colds, with $z=1.82$ which is significant at $p<.069$ 2-tailed but at $p<.035$ 1-tailed in the direction of women rating it as a more legitimate reason for absence than men. These analyses demonstrate that there is no general evidence of greater legitimization of illnesses by women.

These results were analysed for sex differences using a Mann-Whitney U test, selected as most appropriate for ordinal measurement and non-normal distributions. The U statistic can then be translated into a z value for large samples. T-tests were also conducted with results shown in Appendix 6.9. From these comparisons, it can be seen that all of these tests show the same significances for the variables on the B scale, with very similar t and z values.

The B scale illnesses also showed significant differences between part-time and full-time employees for B8, B9, B13, B14, B15, B16, B17, and B18. Although two-tailed test were used, all these results were in the same direction, part-time employees legitimizing absence more than full-time employees. The data are given in Appendix 6.10.

In summary. these analyses demonstrate wide variations of legitimization within and between illnesses. There are significant sex differences for seven illnesses but these cannot be said to give any support to hypothesis 1.

3 [d] The stress measures - the 'C' scale

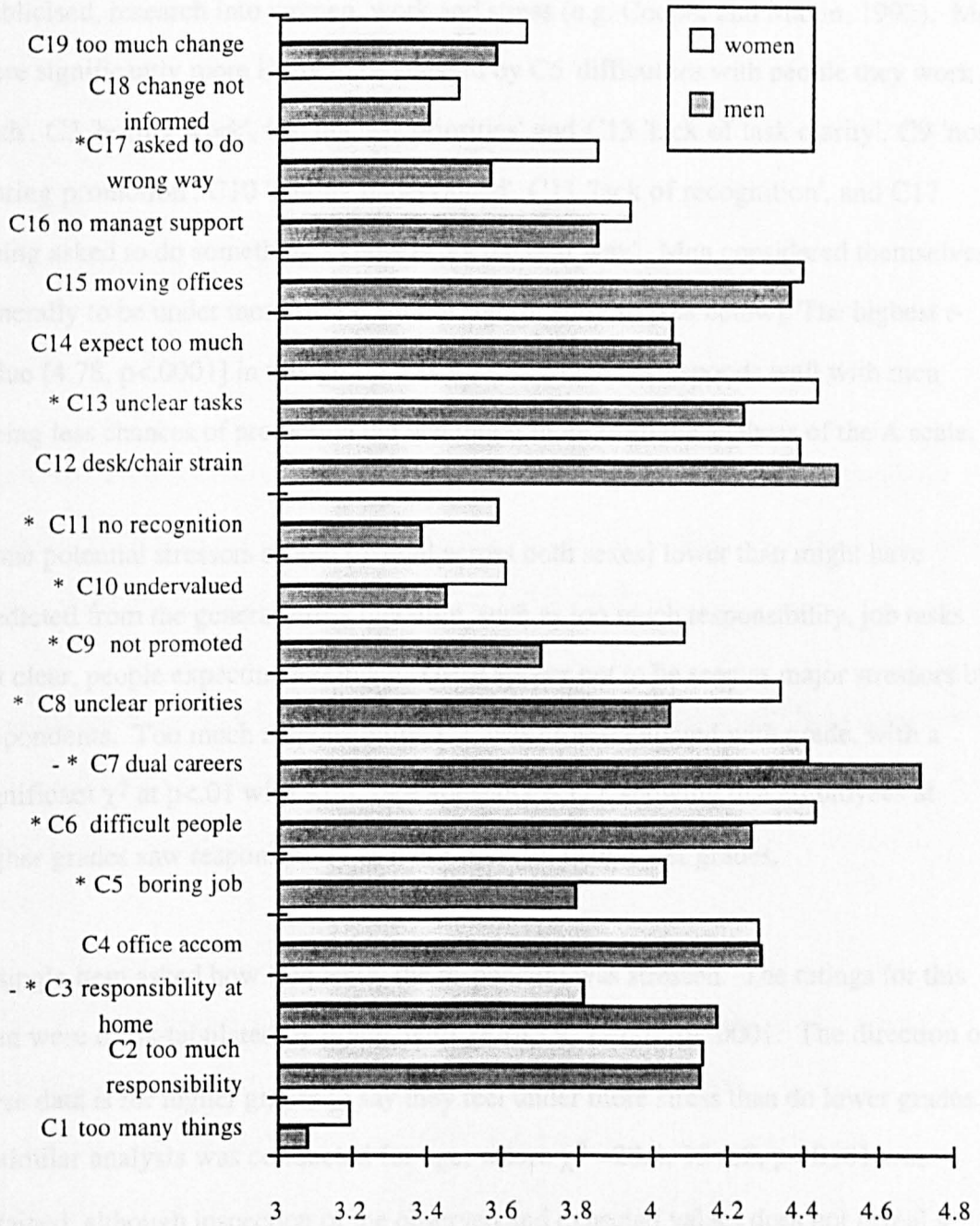
A general stress frequency item with a six-point scale yielded a mean of $\bar{x}$=3.4 [s.d.= 1.34], almost at the mid-point of 3.5. The stress C scale means are given in Figure 10 and show the most frequent stressors to be C1, C10, C11, C17, C18 and C19.

C1 concerns quantitative overload, which had already been tapped in a more general way in A16; the correlation between A16 and C1 was r= 0.49, significant at p< .0001, as would be expected for two similar items. This result shows that quantitative overload is a source of stress for most respondents in this study.

C10 and C11, lack of recognition and feeling undervalued, are both identified as stressors, therefore revealing their importance for well-being as well as for motivation. C17 refers to being asked to do something "which I know is not the best way" equivalent to person-role conflict, identified as a stressor in other studies (e.g. Karasek and Theorell 1990) and reflects implementation of new activities and procedures which might not always be viewed favourably by employees. C18 and C19 both relate to change and show how much worry this can cause. It is particularly relevant because these responses were obtained at a time when organizational changes were underway. It is likely that the period of this research was a most sensitive period for these employees, the more so for those who feared that integration and openness of offices might increase problems of dealing with more recalcitrant members of the public [as cited by the Unions as a primary reason for industrial action in protest against integration of offices].

Figure 10. Means for men and women for C scale on stress.

*Note: lower score indicates greater stress; * indicates significance at p<.05*



Ten of the nineteen stress items showed significant sex differences. These are illustrated in Figure 10, with full data in appendix 6.11.

For women, C3 'too much responsibility at home' and C7 'dual career conflict' were cited significantly more as stressors . These results are consistent with other, well publicised, research into women, work and stress (e.g. Cooper and Makin, 1992). Men were significantly more likely to be stressed by C6 'difficulties with people they work with', C5 'boring work', C8 'unclear priorities' and C13 'lack of task clarity', C9 'not getting promotion', C10 'feeling undervalued', C11 'lack of recognition', and C17 'being asked to do something I know is not the best way'. Men considered themselves generally to be under more stress, but not significantly so [see below]. The highest t-value [4.78, $p<.0001$] in this group was for C9, which corresponds well with men seeing less chances of promotion but wanting it more from the analysis of the A scale.

Some potential stressors scored [overall across both sexes] lower than might have predicted from the general stress literature, such as too much responsibility, job tasks not clear, people expecting too much. These appear not to be seen as major stressors by respondents. Too much responsibility, C2, was cross-tabulated with grade, with a significant χ^2 at $p<.01$ with 9 d.f. (see appendix 6.12), showing that employees at higher grades saw responsibility as more stressful than lower grades.

A single item asked how frequently the respondent was stressed. The ratings for this item were cross-tabulated by grade, with $\chi^2 = 45.9$, 12 d.f., $p<.0001$. The direction of these data is for higher grades to say they feel under more stress than do lower grades. A similar analysis was conducted for age, where $\chi^2 = 28.6$, 15 d.f., $p<.0181$ was obtained, although inspection of the observed and expected values does not reveal a consistent pattern. The data are given in appendix 6.12. This item was also compared for men and women, with the non-significant result $t = -1.33$ with 1284 d.f., $p<.1820$, 2-tailed, perhaps surprising in view of the fact that men cite so many more items as stressors than do women. Grade, sex and the nineteen separate stressors were regressed against the stress frequency item. Data are given in Appendix 6.13, and variables with significant beta-weights are shown in Table 21.

Table 21: Significant regressions of grade, sex and stress factors on frequency of stress.

stress factor	coefficient	t-value	probability
overload	.237	17.32	.0001
recognition	.022	2.42	.0157
management	.039	3.20	.0010
domestic	.077	4.37	.0001
grade	.112	2.50	.0124

F=90.24 with 8, 1198 d.f.; p<.0001; N = 1207; R= .613; adj R^2= .372.

Quantitative overload has very high t-values, making this easily the most significant influence on overall stress. Interestingly, sex is not significant in the regression equation, despite there being ten items with significant sex differences.

In summary, it can be seen that whilst quantitative overload is a particularly large component of stress for both sexes, men perceive themselves to more affected by a majority of work-based stressors while women perceive themselves to be more affected by domestic stressors.

3 [e] T2 Perceived health, perceived likelihood of illness, perceived susceptibility to illness, perceived frequency of illness

The Cantril ladder (Cantril, 1965 and 1977) was used to measure perceived health status, perceived susceptibility to illness and the scale points where the respondent would definitely go to work, or would definitely stay at home; means and standard deviations for these are given in Table 22.

These results suggest considerable variation in perceived susceptibility both across and within illnesses, but that health status does not appear to vary over time or by sex. There is substantial agreement concerning the critical points for the attendance/non-

attendance decision, and there is a range from 3.0 to 4.6 on the Cantril ladder between health being poor enough to be absent or well enough to attend. This implies some ambiguity relating to perceived health and the decision to attend; it can be suggested that if the judgement of health falls into that 'critical' range, some further judgements are made before any attend/absence decision is made.

Table 22. Means for perceived health and perceived susceptibility questions

	overall		men	women
	$\bar{x}$	s.d.	$\bar{x}$	$\bar{x}$
Health now	7.7	1.6	7.6	7.7
Health 3 months ago	7.7	1.8	7.7	7.7
Health 6 months ago	7.8	1.7	7.8	7.6
not go to work	3.0	1.1	3.0	3.0
go to work	4.6	1.3	4.4	4.6
susceptibility to				
diarrhoea	8.1	2.0	8.1	8.1
headache*	6.4	2.8	6.9*	6.1*
throat inf.	7.1	2.4	7.2	7.1
viral ill	7.9	2.2	8.0	7.8
backache	7.6	2.7	7.8	7.3
upset stomach	7.6	2.2	7.3	7.7
colds	6.2	2.3	5.9	6.4

** indicates only significant difference, t=2.12, p<.035, 2-tailed; N=220 for susceptibility, higher scores mean less likely to get the illness*

The means and standard deviations for the questions concerning frequency of illness and probability [likelihood] that illness leads to absence are shown in Table 23. Only three comparisons between the sexes were significant, cold and headache for frequency and throat infection for likelihood of absence. It can be seen that there are greater ranges of responses across illnesses by women for both frequency and likelihood. It is also particularly noteworthy that the two significant results for frequency of illness are in opposite directions, implying differing experiences of incidence of illness.

These data show men to be saying that they are more susceptible to throat infection and are more likely to be absent when they suffer from this. Men are also more likely to suffer from colds, less likely to suffer from headaches but in neither case does this affect their perceived likelihood of absence related to the illness.

Table 23. Self-reported frequency of illness during last two years and likelihood that each illness results in absence: means and standard deviations for men and women.

	frequency of illness in last 2 yrs				likelihood that absent			
	men		women		men		women	
illness	$\bar{x}$	s.d.	$\bar{x}$	s.d.	$\bar{x}$	s.d.	$\bar{x}$	s.d.
cold	2.97*	1.0	2.60*	0.9	4.56	0.6	4.45	0.7
upset stomach	2.22	0.9	2.04	0.9	4.12	0.9	3.93	1.0
backache	2.06	1.3	2.23	1.3	4.29	1.0	4.45	0.8
viral illness	1.70	0.8	1.73	0.9	3.12	1.2	3.07	1.2
throat infection	2.17	0.9	2.02	1.0	4.07*	1.0	3.71*	1.1
headache	2.90*	1.4	3.26*	1.5	4.67	0.7	4.59	0.8
diarrhoea	2.00	1.0	2.00	0.9	3.22	1.3	2.93	1.3

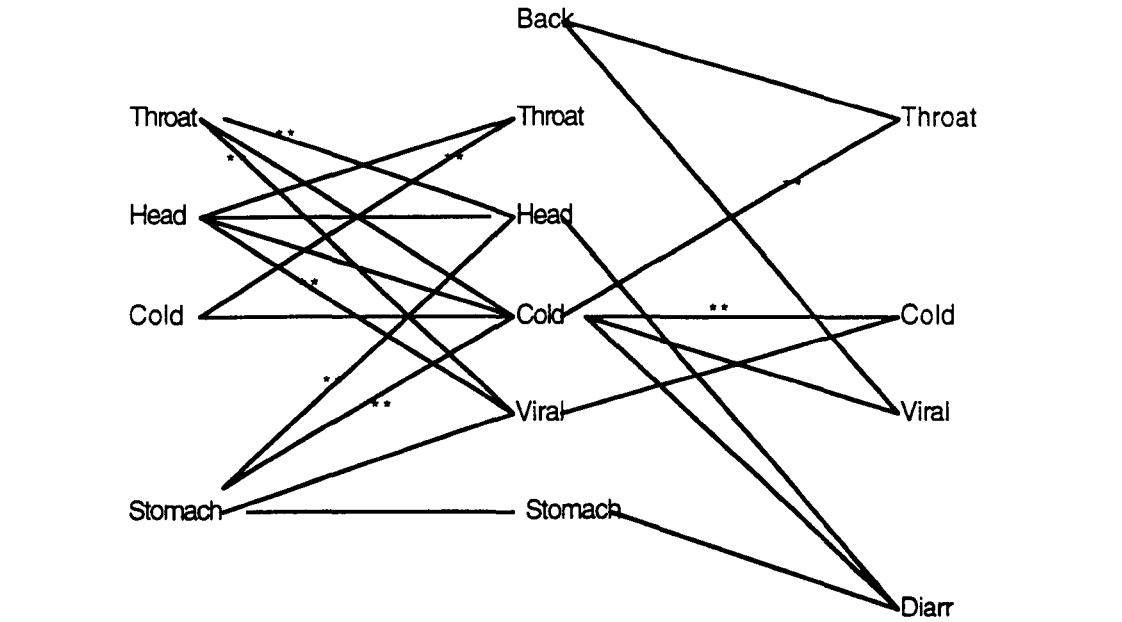
*[a] * indicates significant results for men/women at p<.05 2-tailed*
[b] frequency of illness is scored so that the lowest score indicates the lowest frequency whereas likelihood that absent is scored such that the lower the score, the greater probability of absence.

In order to ascertain whether perceived susceptibility of an illness related only to its own likelihood or generalised to others, perceived susceptibilities to each illness were correlated with the perceived likelihoods of being absent. The significant correlations for men and women separately are included in Appendices 6.14 and 6.15 and are summarised diagrammatically in Table 24.

The proportion of 2-tailed significant correlations is 13/49 for men, 9/49 for women, and 18/49 for both combined, all of which exceed the 2 or 3 /49 that might be expected by chance; indeed, there are a further 6, 4 and 5 correlations respectively with borderline [p <.10] significance. Results for male and female responses aggregated yield no

significant correlates for susceptibility to backache or for likelihood of absence due to diarrhoea.

Table 24: Summary of significant correlations between perceived susceptibility and likelihood of being absent for all T2 respondents



*N= 94 for men and 120 for women : only correlations of p<.05 are included., ** indicates p<.01; all significances are 2-tailed , although all the significant correlations are positive.*

These differences raise again the issue of whether the two sexes are two distinct groups in illness aetiology and effects. The fact that all the significant [and near-significant at p<.10] correlations were positive means that increased susceptibility implies increased likelihood of absence, i.e. people who are more prone to an illness see it as more of a barrier to attendance. This is clearly a self-serving bias. It is also apparent that susceptibility to any one illness is often associated with likelihood of being absent with another.

Perceived frequency of illness was correlated with perceived likelihood for each illness. Only one illness, cold, had a significant correlation; this was negative in direction, meaning that the more frequently a person perceived themselves as suffering colds, the more likely they were to say they would be absent when they had one. Correlations between perceived frequency of illness and susceptibility were also calculated; these ranged from ρ=-.453 to ρ=-.819, all $p<.0001$, 2- tailed. These were to be expected since it could be argued that they were measuring related facets of the same phenomenon, i.e. how likely a person feels they are to contract a particular illness. These analyses are shown in Appendix 6.15.

Respondents were also asked to identify as many illnesses or other potential factors as they wished which specifically 'played a part' in their last absence; the frequencies of responses for each reason are shown in Table 25:

Table 25: Factors cited as 'playing a part' in last absence

[a] minor illnesses: viral illness 54, cold 33, throat infection 28, upset stomach 23, headache 15, diarrhoea 15, backache 9. Total for minor illness = 177*

[b] other reasons: self seriously ill 21, domestic problems 20, feeling depressed 9, personal business 5, work problems 3, accident 2, unable to get up 2. Total = 62*

**Note that 13 respondents ticked more than one box; N=210 who indicated an absence*

The frequencies of minor illnesses cited above do not correspond with the pattern of perceived legitimacies. Colds had low means on the B scale but were the second highest reported cause of the last absence. Table 22 showed that viral illness and diarrhoea were rated lowest in susceptibility, consistent with Table 23 with the two lowest perceived

frequencies in the last two years for both sexes. The high incidence of viral illness as 'playing a part' in the last absence accords with Nicholson and Payne's (1987) suggestion that people's attributions of illnesses are cognitively different to their estimates of susceptibility.

The length of the last absence spell was measured on a five point scale, where the third point referred to 3 to 5 days absence. The mean scale point was $\bar{x}$=2.5, s.d.= 1.3 overall, with no significant sex difference [$\bar{x}$=2.4 , s.d.= 1.5 for men and $\bar{x}$=2.5, s.d.= 1.3 for women]. When translated into days off, these show a median spell of 2.0 days and a mode of 2 days off for the last absence.

In summary, these analyses demonstrate variations in susceptibility between and within illnesses, with headache showing a significant sex difference; measures of perceived health status showed no significant sex differences. The data for perceived frequency of illness and likelihood of absence suggest that the sexes have different experiences of incidence of illness. Susceptibility to illness and likelihood of absence appear interrelated but the direction of causation is not known. 74% of the reasons given for the last absence were attributed to minor illness.

3 [f] T2 job satisfaction and organizational trust

Job satisfaction was measured using the facet-free five-point scale of Quinn and Staines (1979). The mean for the sample was $\bar{x}$=3.08, s.d.= 1.1, N=220.

A t-test comparing job satisfaction scores for all T2 men and women yielded t= -1.95, with 218 d.f., p<.053, 2-tailed, showing greater job satisfaction amongst women. For the only two grade groups large enough, a t-test was performed to compare men and women, yielding t= -1.06 with 96 d.f., n.s. for AO, and t=-.66 with 83 d.f., n.s. for EO, both 2-tailed. An analysis of variance to compare the four grade groups yielded

F=3.18 with 2, 211 d.f. p<.0249; the AO group showed lower scores than the other three groups. The data are given in appendix 6.16.

The mean for this study is lower than that of the original Quinn and Staines (1977) test data, whose mean was $\bar{x} = 3.66$; a t-test comparing the means yielded t= 6.39, 1733 d.f., p<.0001. This may reflect differences in time, sample characteristics or calibration across cultures or it may mean that job satisfaction is genuinely lower than perhaps it once was.

The Cook and Wall (1980) measure of organizational trust was used, containing 12 items in total measuring four scales of trust, i.e. faith and confidence in both management [trust m] and peers [trust p]. The items were scored 1 to 7, giving a range of 3 to 21 for each scale. These have been further aggregated into two scales of (i) faith and confidence in management and (ii) faith and confidence in peers (Cook and Wall, 1980) each with ranges of 14 to 42. Table 26 shows means and standard deviations calculated for this measure.

Comparing men with women yielded t= -0.83 with 216 d.f., n.s. (2-tailed) for faith and confidence in peers, and t=-3.64 with 214 d.f., p<.0003 (2-tailed) for faith and confidence in management, with women showing greater trust. There are apparent significant grade differences in the faith and confidence in management, but none for the measure relating to peers. An analysis of variance for faith and confidence in peers across grades yielded F=1.52, n.s., and for faith and confidence in management, F=3.55, p<.0153.

A two-way analysis of variance was conducted upon the two faith and confidence variables, yielding F=2.49, p<.60 for grade and F=5.43, p<.021 for sex for the faith and confidence in management. This suggests that sex is independent of grade in determining trust. In all four grade groups the means for women were higher than those for men. For the analysis of

variance for faith and confidence in peers, neither of the F values were significant, at F=0.95 p<.42, and F=2.35 p<.13, for grades and sex respectively. More detailed results are given in Appendix 6.17.

Table 26: Organizational trust measures for respondent groups

	Faith and confidence in management		Faith and confidence in peers		
Group	$\bar{x}$	s.d.	$\bar{x}$	s.d.	N
all	24.1	7.0	32.9	5.1	218
males	22.2	6.6	32.6	5.4	94
females	25.6	7.0	33.2	4.8	124
AA/typist	28.0	9.2	34.5	5.0	13
AO	22.6	7.0	32.2	5.4	98
EO	24.8	6.5	33.1	4.7	84
HEO+	25.8	6.5	34.1	4.9	18
UK test data: sample 1* (1977)	27.4	6.1	33.1	5.0	390
UK test data: sample 2* (1978)	28.5	6.2	34.5	4.7	260

* *Blue-collar British Employees (Cook and Wall, 1980)*

A t-test was conducted to compare means between these data and the Cook and Wall sample data 1, yielding t=-6.81, p<.0001, 2-tailed for trust in management and t=-.503, p<.62, 2-tailed for trust in peers. The direction of the significant result is for this sample to have less job satisfaction than the [blue collar] sample data collected a decade previously. It is not possible to make grade and sex comparisons with the given sample data since Cook and Wall (1980) do not supply separate means.

The analyses can be summarised in saying that women demonstrate greater job satisfaction than men and show greater trust in management irrespective of grade. There are no significant grade or sex differences in trust in peers.

3 [g] T2 Attitudes to malingering

This consisted of three items, using the same 1-7 scale as those for organizational trust . Results are shown in Table 27.

Table 27 Sex differences in attitudes to malingering

scale item	men $\bar{x}$	men s.d.	women $\bar{x}$	women s.d	t value	prob
mal 1 (lot of absence)	4.4	1.8	4.2	1.7	0.76	n.s.
mal 2 (manager knows)	4.0	1.6	4.6	1.6	-2.52	.0130
mal 3 (manager acts)	4.8	1.5	4.6	1.5	0.85	n.s.
N	93		125			

Men and women differ significantly on 'mal 2', the higher score for women indicating that they were more likely to believe that the manager would know if employees were malingering. The first of the three items is conceptually different to the other two, since it involves a perception of peer behaviour, whereas mal 2 and mal 3 concern the manager's response to malingering. For those for whom malingering is a salient concept, it could be supposed that faith in management would be likely to correlate inversely with both mal 2 and mal 3; it is noteworthy therefore that there was no significant sex difference for mal 3, i.e. management action [or lack of it] is perceived by both sexes but women give more credit to management awareness of malingering.

3 [h] T2 Correlations between trust, attitudes to malingering and job satisfaction

These variables were inter-correlated in order to test out the ideas that trust in management is associated with the perceived willingness of the manager to confront malingering and that satisfaction might be higher where such trust existed. In addition it might also be the case that trust in peers would be reduced where peers were perceived to malinger. The results are given in Table 28.

It can be seen that all of the correlations except one are significant. In particular, the perceived extent of malingering, mal 1 correlates negatively with trust in peers and [at p<.10] in management, but not with job satisfaction. Trust in management is also associated with both mal 2 and mal 3, both of which involve the manager in some way. The correlation between trust in management and job satisfaction is extremely high, suggesting a close linkage between the two issues. Although many of these correlations are high, the direction of causality in any of the relationships cannot be ascertained.

Table 28: Correlations between attitudes to malingering, trust and job satisfaction

	trust/p	job sat	mal 1	mal 2	mal 3
trust/m	.32***	.53***	-.14†	.38***	.28***
trust/p		.18**	-.21**	.24***	.29***
job sat			-.04	.22**	.20**
mal 1				-.21**	-.21**
mal 2					.45***

*N= 215; † indicates p<.10; * indicates p<.05; ** indicates p<.01; *** indicates p<.001, all 2-tailed.*

Note: trust/m refers to trust in management, trust/p to trust in peers, job sat to job satisfaction, mal 1, mal 2 and mal 3 to whether there is a lot of malingering, whether the manager knows about it and whether the manager acts to discourage it, respectively.

The three malingering variables show mal 1 negatively correlated with both mal 2 and mal 3, suggesting that the greater the perception that malingering happens, the lower the perception that either the manager knows or takes action about it. These findings imply little perceived management control of malingering.

These correlations raise the possibility that attitudes to absence, and malingering in particular, may form part of a group of interrelated work attitudes including job satisfaction and trust. It may be that the more salient absence and malingering are to the

individual, the larger the potential influence of these upon the other work attitudes and behaviour.

6: 4. Interview results

All T2 respondents were interviewed either singly or in small groups, for time periods of half an hour up to 2 and a half hours. Additionally, all area managers and many office managers were interviewed. Over 70 offices were visited. Data on susceptibility to illnesses, perceived health status, organizational trust, attitudes to malingering, job satisfaction, frequency of illness and likelihood of absence had been obtained using scales as part of the interview process. Therefore these interviews were semi-structured round the concept of legitimacy and attitudes to absence. In particular, three main issues were addressed: firstly, factors that might influence attendance or absence, both for the interviewee and their colleagues; secondly what reasons they considered to be legitimate as reasons for absence, and thirdly their attitudes to management's responses to perceived malingering behaviour, if it occurred.

The evidence below is qualitative. Several issues were raised repeatedly by employees. These are grouped into six themes: perception of malingering, smaller offices, job satisfaction, trust and openness, role of the manager and the employment context. The final part of this section addresses the main issues to emerge from the interview analysis.

Perception of malingering

The first theme was the general perception by employees of others' malingering; over 50% of the sample said that they knew people who they believed were malingering in their own office and most found it distasteful. They did not view their own absence(s) as malingering but as entirely legitimate. Many of these interviewees were even prepared to name [and did] those whom they perceived as malingering. Few were prepared to condone this type of behaviour, feeling that it was morally wrong and 'cheating'. A phrase used frequently used was *"we all know who they are"* as a reference to those whom they perceived as taking time off for illegitimate reasons. On several occasions, interviewees referred to young, single men [and some women] who

they believed drank to excess in the evenings and suffering symptoms of hangover the next day, either resulting in absence or attendance but with poor performance. An example of this is one interviewee who said about a colleague:

> *"Look at him over there. He goes out in the evening with his friends on the booze and then he's off the next day with a hangover. He's always doing it"*

80% of those who perceived malingering further complained about the lack of management response; in some cases, they believed that the manager was unaware of who was malingering. Typical of the latter was the following:

> *"The manager doesn't know what is going on. Some of them are getting away with murder and he never even seems to notice that they're off"*

However, some managers seemed to be aware of the malingering that took place and tried to act upon it, with 'interviews' and 'discussions' with those whom they perceived to be guilty in this respect.

Smaller offices

A second issue was the sense of belonging in the smaller offices. Many of these offices had, as perceived by the interviewer, a very 'relaxed' and informal atmosphere; this was particularly true in the small towns and villages. Interviewees clearly valued this closeness and working together and many expressed some security that genuine illness would be covered for by colleagues and a willingness to cover for their absent colleagues. In other words, they were aware of the *consequences* of their absence to colleagues when they had appointments. There was obviously high levels of personal trust, between peers and the manager in many cases. This was coupled with expressions of distrust of the regional headquarters who were felt to be remote, even by people who had previously worked there. Not surprisingly, sceptical comments were made about measures introduced from headquarters, such as the implementation of return-to-work interviews. One manager felt that this was an imposition:

"I really don't like these interviews being forced on us. Any good manager should already know their staff well enough to know which of them are off, and why, and sometimes it's really embarrassing to go through the motions of these interviews".

The majority of those in smaller offices felt that the absence there was lower than head office, because they worked as a team and people relied upon one another. In a small Job Centre, the manager maintained that:

"Everyone here knows everyone else. There is one person here who has been extremely ill and is waiting for major surgery. Yet they struggle in when they really shouldn't, because they don't want to let their colleagues down. I will do all I can to help and cover for them, and so will all the others"

Most people in local offices felt that promotion chances were less for them than for those working in the regional headquarters, because they were less 'visible'. In some cases, presumably those who rated promotion as important, this was of concern but in other cases the lack of visibility to the centre was perceived as less interference.

Job satisfaction and work attitudes

A third issue was the clearly expressed importance placed upon job satisfaction, by most interviewees. The majority perceived that job satisfaction was lower than a few years ago. They felt that attitudes had changed in the organization over the years, such that managers cared for their subordinates less; this attitude was prevalent amongst longer-serving employees and many suggested that it was associated with absenteeism. Over 90% of interviewees believed that many changes had been forced upon them without consultation. Many of these changes were Government initiatives or changes in the law affecting unemployment benefit and allowances, all of which were perceived to increase the workload or to make the working environment less attractive. So workloads were

perceived to have increased in both qualitative and quantitative terms. Some of the issues revolved around increased numbers of clients due to local unemployment. One employee in a Job Centre in a mining village said:

> *"A factory here is closing next week with 500 job losses. We will be really busy in the next few weeks. The worst is, I live near here, I know them all. Most of them that work there are women, and mostly their husbands haven't got a job. And there are hardly any vacancies. They will all be chasing after a few jobs. I know it's my job, but I don't much like this side of it."*

Job satisfaction was cited more frequently than stress as an issue of importance to the interviewees. It was also identified as an advantage of working in a smaller office, although it may be that this could be more nearly described as organizational climate and that many work attitudes were generically grouped under 'job satisfaction' by interviewees.

There were many instances of pride in full attendance, mostly from older female employees who had been with the organization for some time. So strong was this pride that they often challenged to interviewer to check their zero absence in their personal records and inform them if the records were wrong [when the data were put on to computer]. However, these interviewees did not always perceive minor illnesses as being illegitimate as reasons for absence; they were tolerant of other people's *genuine* absences. One interviewee said in relation to this:

> *"I never seem to get colds or 'flu. I think I must be very lucky. The whole family can be sneezing their heads off, fully laden with cold, and I don't catch it. I have never had a day's sickness in fifteen years."*

This type of response implies that in order to have a perception of legitimacy, experience of absence is not necessary; it also implies [especially with the non-verbal support to the above and similar statements] that pride in attendance is really important to some

employees. When zero absence was discussed, the interviewees did not link it to any other measure of work performance, treating the two as completely separate phenomena.

Trust and openness

A fourth finding was that of the general high level of trust and openness expressed in the interviews. The willingness to divulge personal absence details and to comment upon the absence behaviour of self and others was considerable. Examples included employees who admitted that a minor illness was more likely to result in absence from work in the office where the manager was disliked. In one particular case, a previous job in another office was more enjoyable because the manager was "much nicer to work for" and this employee indicated that they would endeavour to attend even if very ill in that previous post, whereas now it would only take the very least illness to result in absence. Such examples suggest that not only are employees trusting and open but that managerial style is a potentially important influence on the legitimacy-absence link.

Role of the manager

To the outside observer, in a position to compare attitudes and behaviour of employees and their managers in over 70 offices, there was great variation in management style, both generally and in relation to absenteeism. Some managers resented their subordinates being interviewed, whereas other welcomed it wholeheartedly. Many managers were anxious to explain what initiatives they thought might be introduced in relation to absence. Some of these initiatives were punishment orientated and suggested little desire to understand why absence occurred; others were recognition and persuasion-orientated and demonstrated a desire to understand variation in absence behaviour. Some managers completely denied that there was an absence problem. Indeed, one fairly senior manager said:

> *"I don't know why you are bothering to look at legitimacy. It is quite straightforward: there is no absence legitimacy problem. If people break the rules, they are disciplined. If they are too ill to attend, then they are absent.*

If they are not ill, then they are not absent if the manager is doing the job properly."

Yet another responded:

"I am so glad that you've got here at last. I have been waiting to discuss with you some interesting ideas that I have to help improve the situation. Part of the problem is communication, involvement and teamworking..... "

Clearly any absence-related initiatives by the organization would be met with mixed responses!

Interestingly, it was staff who often felt more strongly than the managers about illegitimate absence. The perceived unethical or immoral nature of malingering and the notion that some employees could "get away with cheating the system" has already been noted. However, there was also the concern about the role of the manager in affecting attendance. If it was perceived that the manager was too tough, unfair, 'useless', uncaring, unaware, gave no 'recognition', unsupportive, indecisive, then this caused discontent.

In the case of perceived malingering by others, the failure of the manager to recognise malingering resulted in the manager being judged as 'useless' or unaware. The recognition by the manager of malingering but failure to act upon it was judged to be indecisive, partial and unfair. These judgements seemed to result in two opposite effects: in some cases respondents said that the discontent increased the legitimacy of absence, whereas in others it reinforced an attendance ethic, almost to keep the work going despite the poor management.

'Tough' and unsupportive management resulted in some cases in increased absence- because it lowered either the commitment to that manager or the desire to attend when

feeling unwell. In some cases, people felt they were almost encouraged to malinger, or those who did not malinger might take longer absences by "not returning until I am fully fit".

Managers interviewed showed varying attitudes to absence monitoring, ranging from those who saw it as yet another 'exercise' from the centre, to those who felt that the organization was at last willing to do something about the problem. Some clearly did not see absence as a problem. They were often those who believed that their subordinates were loyal and honest and whose absences were wholly legitimate. These managers were also able to address absence as an issue for themselves rather than the regional head office to deal with. Others did not see it as a problem [or, at least, not their problem to manage] but their subordinates did; this raised employee perceptions of managerial weakness and ignorance and a consequent lack of trust in the manager's willingness or ability to deal with it.

Context issues

There were many examples given of legitimate or illegitimate reasons for absence. However, these were frequently context-specific and 'hygiene' orientated. Often, a single context issue was perceived to take precedence over other potential reasons for absence for the time period that the context issue was relevant. For example one group, whose office was located in the middle of a very busy roundabout, complained of 'sick building syndrome' in terms of their being unable to open windows, traffic pollution and a poorly vented air system. In several offices, alcohol-related causes were perceived as illegitimate, being 'self-inflicted', and largely restricted to young, single employees, as mentioned earlier.

Many of those who dealt directly with the public complained about their increased incidence of colds and throat infections; they saw these as job-related and absence from these as legitimate. This was especially true for those working in UBOs.

Those working in UBOs felt that they were under pressure because of the nature of their dealing with the public and were fearful of losing the large counters separating them from the public in the forthcoming integrated offices. They generally liked their working environment less and felt their jobs to be less interesting. They also thought that they had some of the worst aspects of work in the Employment Service, in dealing with recalcitrant or difficult benefit claimants. One employee in a UBO described it thus:

> *"One woman came in with her three children to argue about her benefit. She said she couldn't manage on what we were giving her and tried to claim some more. When she didn't get any more, she shouted 'well, you can look after the f.....g kids then' and left the kids in the office and stormed out. We had to get the Police and Social Services to come and take them away....."*

Another employee recounted in her third week in a UBO [having previously worked in a Job Centre] :

> *" A man came in who had no money. I suspect that he couldn't feed his kids and was probably a 'druggie'. When I told him that they had stopped his money, he grabbed hold of me and threw me against the wall. He might have had a knife- I can't remember now- and he said 'what are you going to f.....g do about it?' I said- if you put me down, and try and calm down a bit, I'll try and help you."*

She continued:

> *"..... all the fellas in the office rushed over, but I said 'its OK'. He didn't want to hurt me, just frighten me. Then the Police came and took him away, which wasn't really the answer- all he wanted was an emergency payment. I wasn't frightened at the time because of the shock. It was afterwards I felt the stress."*

The stressful nature of UBO jobs is clear from these examples. However, even the physical environment could sometimes be a problem:

> *"The smell in here gets really bad when the weather is damp or it has been raining. At the end of the day, it sometimes makes me feel sick. Could you smell it when you came in?"*

Most employees in UBOs made a link between the higher level of stress in their offices [relative to Job Centres] and absenteeism.

Those working in Job Centres perceived their jobs and work as superior to those in UBOs. They said that they dealt with the more positive aspects of working with the public. One employee described an occasion which made her feel really good:

> *"I had to visit the house of a shipyard worker because we had found some work for him in a dry dock, starting the next morning. It was the beginning of December. I called and his wife answered the door. When I said there was work for him the next day, she started crying. Her husband's eyes were full of tears. They said they had not known how they were going to buy the grandbairns' Christmas presents. I felt so humble. It made my job seem so worthwhile and made up for all the other negative experiences at work"*

This illustrates the contrasting work of the UBOs and Job Centres. Employees in the latter were clearly worried about the ongoing process of integration with the UBOs. There was quite a lot of resistance to change in terms of this issue, with longer-term employees remembering the last major change [a decade earlier] which they said had removed integrated working with the creation of the Job Centres.

Summary of main issues

There are three main threads in this qualitative evidence. First, there were some clearly salient work attitudes of job satisfaction, belongingness, trust and openness. Second, there were often strongly expressed attitudes to absence, in terms of malingering,

legitimacy, reasons for absence and absence monitoring. Third, attitudes to work and absence varied not only between individuals but also between locations and in relation to the manager's style. This implies a context effect, a person-environment interaction. These findings support the quantitative data findings identified thus far, particularly those in relation to the high correlations found between work and absence attitudes. They demonstrate that perceived absence of self and others is a salient issue for many employees.

6: 5. Testing of hypotheses 1 - 9

Hypothesis 1. That all minor illness should be more easily legitimised by women than men and that sex differences in legitimization should be most pronounced at lower job grades.

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The B scale dependent variables derived from the factor analysis were cross-tabulated and analysed by grade and sex. For each sex, the data were analysed using a Kruskal-Wallis one-way analysis of variance to evaluate whether there were grade effects within the sexes. In addition, to further establish whether there were sex differences within each grade, Mann-Whitney U tests were performed to test male/female differences. These analyses were conducted because the data are ordinal ratings which are non-normal (e.g. the bimodal distributions found for several of the illnesses in the B scale) and there are only four grade groups. Therefore [in the absence of a non-parametric two-way analysis of variance] two different tests were conducted, across grades by sex and between the sexes by grade, to ensure that all effects could be differentiated and any interaction effects detected. The results of these analyses are given in detail in Appendices 7.1, 7.2 and 7.3. It is clear from these that there are independent grade and sex effects in the legitimization of various illness groups.

Significantly greater legitimization by men of headaches and backache is apparent through both of the tests, as also identified in the factor analyses of the previous chapter. The analyses by sex and grade are summarised in Tables 29 and 30 and suggest that the picture is complex and varied for different illnesses.

Table 29 shows in summary those illnesses where there are significant sex differences and also where there were significant grade differences within each sex. There appears to be a general notion, for both sexes, of a grade gradient for most illnesses in terms of

less legitimization the higher the grade, though this is not significant in all cases. Depression has [uniquely for these illnesses] almost no discernible grade gradient at all.

Table 29: Summary of significant sex and grade analyses of B scale, based on [a] Mann-Whitney U test and [b] Kruskal-Wallis one-way analysis of variance by ranks.

	Men	Women
[a] for single illnesses, legitimise more	severe backache* headache*** severe headache** fainting*** sickness**	chest infection** upset stomach**
[b] for illness groups, grade 'gradient' in:	colds** headaches*** nausea** severe backache*** back and neck* 'malaise'*†	colds**† headaches*† nausea*** severe backache* 'malaise'**†
N	376	915

*Notes : * p<.05; ** p<.01; *** p<.001; † grade gradient excepting AA*

The illness group 'nausea' comprises upset stomach and feeling sick. When analysed separately, these two illnesses show opposing legitimization trends for men and women, yet they correlate highly with each other for each sex and the factor analyses placed them together as a factor. They also both show similar significant 'grade gradients' in that legitimization decreases as grade increases in seniority. Inspection of the rank sums shows that men legitimise 'feeling sick' more at all grade levels; the result is significant for all men and for all grades separately and this finding is not consistent with H1. For women, 'upset stomach' is legitimised significantly more at all grades [consistent with H1] and the result is significant for all women and is particularly apparent for the EO grade.

The greater legitimization by women of chest infection is consistent with H1, but there was no suggestion of any such trend for viral illness. Another infectious illness, tonsillitis, showed significance for AO grade for greater legitimization by men [see Table 30 below]. The infectious illness group showed no grade gradient or sex differences [except when aggregated, when a barely significant grade gradient is apparent]. It may be that perceptions of infectious illnesses are different to those of non-infectious illnesses because they are low-discretion [i.e. A-type].

Table 30: Sex differences for various minor illnesses and illness groups: analyses to show where these are significant for each grade.

Illnesses	grade group			
[i] illness factors				
headaches	AA	AO		HEO+
back/neckache	AA			
dizziness/fainting	AA			HEO+
severe backache	AA	AO	EO	
'malaise'	AA			HEO+
[ii] all minor illnesses analysed separately				
upset stomach			-EO	
mild back	AA**			
severe back	AA**	AO**	EO**	
headache	AA	AO**		HEO+**
severe head	AA**	AO**		
feel sick		AO**		
fainting		AO		HEO+**
diarrhoea			-EO	
tonsillitis		AO**		

*All listed are significant at p<.05 except those marked ** which are significant at p<.01*

All results are in the direction of greater legitimization by men, except those grades marked with a minus sign.

Illnesses omitted from this Table in part [ii] showed no significant sex differences when analysed by grade; however, for chest inf. the result for all grades combined was significant, as shown in Table 25.

Table 30 summarises the sex differences for each grade, across separate B scale illnesses and also illness groups This analysis was conducted in order to establish whether some grade groups showed less sex differences than others and the Table shows that this is not the case. Several more results [not shown, see appendix 7.2] were of borderline significance.

All the sex differences except two were in the reverse direction to the hypothesis. The two exceptions were women showing higher legitimization than men for upset stomach and diarrhoea and both occurred significantly with the EO group. For upset stomach, the data for the other three grades were also in the same direction, as demonstrated in Table 29 by women legitimising it more than men. For diarrhoea, there was no evidence to suggest a trend for any other grade group. Inspection of the rank sums for the EO group [in appendix 7.2] suggest that men are legitimizing these two illnesses less than they do other illnesses, whereas for women the legitimacies are more broadly similar. However, these are the only real exceptions to the general pattern of greater legitimization by men.

The question that may be posed from these data is whether the three cases of greater legitimization by women [upset stomach and diarrhoea for the EO group and chest infection overall] are aberrant or whether they are indicative of complex attitudes rather than the simple conclusion that men legitimise minor illness more than women. This question is addressed in the next chapter.

This hypothesis refers to grade. However, since grade and age are often linked in organizations, a Kruskal-Wallis one way analysis of variance by ranks was conducted on the five age groups for the B scale perceived legitimacy factors. The results are summarised in Table 31.

It can be seen that there are highly significant age differences for several illness factors, with only infections, feeling dizzy and depression not showing significant differences. Inspection of the rank sums in the Table reveals a curvilinear trend: a general greater legitimization amongst the younger age groups followed by an age gradient of decreasing legitimization until the oldest age group, where legitimization increases again. This finding is consistent with age/absence trends in some studies (Nicholson et. al., 1977).

Table 31: Differences in B scale perceived legitimacies by age. Rank sums from Kruskal-Wallis one way analyses of variance and H statistics

	Age Groups					
Illness factors	16-25	26-35	36-45	46-55	56+	H (χ^2)
Colds	593	571	703	769	743	52.6 ***
Headaches	593	595	706	757	613	36.0 ***
Infections	644	618	643	688	573	5.6
Back/neck	618	611	669	717	591	13.2 *
Nausea	547	617	707	734	705	41.2 ***
Dizzy	635	621	667	673	635	4.7
Severe back	592	602	729	736	658	38.4 ***
Depression	677	622	622	671	703	7.4
Malaise	578	611	681	699	663	18.1 **
N	299	536	270	141	39	

** indicates p<.05, ** indicates p<.01, *** indicates p<.001, all 2-tailed*
higher mean rank indicates lower legitimacy.
H is distributed as a χ^2 with 4 d.f.

In order to test these age differences separately for each sex, it was necessary to combine the two oldest age groups. Analyses of variance were performed to test differences in legitimacy of each illness by age for each sex and revealed significant age differences for nine [of the eighteen] illnesses for women, all showing decreased legitimization with age. For men, there were only four illnesses showing significant age differences, generally in the same direction but showing slight increases in legitimization for the oldest age group.

In order to separate age from grade effects, multiple regressions were performed for age and grade on the perceived legitimacies for each sex. The findings show many significant grade [but no age] effects for men and many significant age [plus a few grade] effects for women. Indeed, only four illnesses showed no age or grade differences for either sex- B10 Depression, B12 viral illness, B13 neck strain and B15 feeling dizzy. These data are all given in Appendix 7.4.

In summary, these results do not support the simple hypothesis that women generally legitimise all illnesses more than men. Sex differences have been found in many cases, but those illnesses related to headaches and backache are more easily legitimised by men than women. Clear grade and age differentials have been found for many illnesses in terms of less legitimization at higher grades and ages. The relationship between sex, grade and age as determinants of perceived legitimacy is not straightforward which suggests that other factors are exerting considerable influence on perceived legitimacy. Table 30 showed that some illnesses produce significant sex differences at both the highest and lowest grades, indicating no reduction in sex differential with grade.

Hypothesis 2 That there are differences in perceived legitimacy for different minor illness types, with effects moderated by sex, status and patterns of stress. 'Stress-linked' illnesses should be legitimised more by those who are under stress.

Sex differences have already been shown to exist , notably in relation to increased legitimacy for headaches, backache, fainting and sickness for men and for upset stomach and chest infection for women. These differences have also been shown to be moderated substantially but not uniformly by grade. Therefore for all four grades, separating the sexes, correlations were computed for all the illnesses, legitimacies and stress frequency level. The results are given in Appendix 8 and are summarised in Table 32.

These results show clearly that men and women are generating different results. All the significant correlations were positive; only 17 of the 144 calculated were negative.

Table 32: Summary of significant correlations of perceived legitimacies of minor illnesses and stress frequency levels for grade and sex separately.

	AA fem	AO fem	EO fem	HEO+ fem
	B1*	B2*	B2*	B11**
	B6*	B4*	B3**	B16*
	B10**	B5*	B5**	
		B6	B6*	
		B7*	B7*	
		B8*	B8*	
		B10*	B9*	
		B13**	B10*	
		B14	B13*	
		B17	B15*	
			B16	
N=	83	498	262	39
	AA male	AO male	EO male	HEO+ male
	B2	B4	B1	-
	B3	B6	B13*	-
	B6*	B8	B17**	-
	B11*	B9*	B18	
	B12*	B11*		
		B13*		
		B15*		
		B18		
N=	26	170	127	48

[a] Only those correlations that are significant are included.
*[b] Significance is at p<0.10, those where p<.05 are marked * p<.01 are marked **, all 2-tailed*
[c] All significant correlations are positive..

Random distribution of results would have produced 14 correlations significant at p<.10, including some that were negative (Blinkhorn and Johnson, 1991). It is particularly noteworthy that: the perceived legitimacy of B10 depression is significantly

related only to perceived stress for women: B14 migraine is significantly related to stress only once at $p<.10$; B4, B5 and B7, backache, severe backache and severe headache respectively are each only significant for two groups, though all these are often cited as symptoms of stress at work. However, more predictably, B6 headache is significant for five groups, while B13 neck strain occurs four times for AO and EO for both sexes. The perceived legitimacies of several illnesses which are not in themselves normally associated with stress [although they may be associated with being 'run down' and reduced psychoimmunity] are related to stress frequency for two or more of the groups in the Table: i.e. B1 and B2 cold and heavy cold, B3 upset stomach, B8 and B9 throat and chest infections, B11 sickness/nausea, B15 feeling dizzy, B16 fainting, B17 diarrhoea and B18 tonsillitis.

The implications of these results are that stress increases the legitimization of minor illnesses as reasons for absence. The effects of stress-linked ailments are more pronounced in women for some illnesses and in men for other illnesses, and there appear to be more illnesses where stress increases legitimacy for women than for men. There are also grade differences in the stress-legitimacy relationship, although there is no obvious pattern of illnesses in the results. Sex differences are consistent with earlier results in this chapter, and these results imply that men and women behave sufficiently differently to be considered as separate populations in stress-illness linkage.

Hypothesis 3 That attitudes to own health and susceptibility to illness affect perceived legitimacy generally such that increased susceptibility is associated with greater legitimization and that perceived susceptibility to specific illnesses will influence the perceived legitimacy of those illnesses.

The independent variables for this hypothesis are attitudes to health and susceptibility from the T2 interviews and the legitimacy dependent variables were the T2 perceived likelihoods that one would be absent if one had an illness. Thus there were seven

dependent variables, one each for cold, upset stomach, viral illness, throat infection, headache and diarrhoea. Each of the dependent variables was regressed in turn upon the perceived susceptibilities plus perceived current health status. The regression analyses are shown in Appendix 9.1 and are summarised in Table 33.

Table 33: Summary of regressions of perceived likelihoods of absence (y) on perceived illness susceptibilities and current health status (x)

y	F	prob
cold	1.97	0.05
viral ill	1.88	0.06
headache	1.32	n.s.
throat inf.	1.06	n.s.
upset stomach	0.94	n.s.
backache	0.78	n.s.
diarrhoea	0.62	n.s.

N = approx. 200 for each regression

The results are significant for the likelihood of being absent only for cold and are borderline for viral illness; perceived susceptibility to throat infection has a high t-value in both cases.

The 'B' scale factors were tested against perceived health and susceptibility using multiple regressions and the results are included in Appendix 9.2. There are two significant regressions for men, summarised in Table 34, and no significant regressions for women.

Table 34: Summary of the significant regressions of perceived health status and perceived susceptibilities in T2 (y) on B scale perceived legitimacy factors in T1 (x) for men.

Illness Factor	R	R^2	F-value	prob	Illness with significant t
head/backache	0.46	0.21	2.62	p<.013	backache
nausea/sick	0.42	0.17	2.06	p<.050	throat infection

To summarise these analyses, there is a link between perceived health, susceptibility and perceived legitimacy in the case of three illness groups for men, and perceived likelihood of being absent only for colds. This amounts to four significant regressions out of twenty-one conducted and whilst this is somewhat more than would have been expected by chance, these at best can be described as patchy and not providing much support for the hypothesis. Nevertheless, the sex differences found are consistent with earlier results in this chapter, in terms of absence attitudes.

The fourth hypothesis applies analyses to the concept of organizational trust in a similar fashion to those from hypothesis three.

Hypothesis 4. That trust in management will affect perceived legitimacy, such that if trust is low, legitimacy of any minor illness is higher. Faith and confidence in peers should affect perceived legitimacy only if there is replacement by peers when the person is absent.

As with hypothesis 3, the dependent variables for this hypothesis are the T2 perceived likelihoods that each of the seven illnesses will result in absence. The independent variables are trust [faith/confidence] in management and in peers and each was correlated with the seven illnesses' likelihoods of resulting in absence; the results are given in Appendix 10.1. There were no significant correlations for women on this test and for men the only significant result was colds with positive correlations for both trust in

management and in peers, with $p<.02$ and $p<.01$ respectively. Viral illness, throat infection and diarrhoea all showed correlations at $p<.10$ for trust in management, meaning that high trust is weakly associated with low perceived likelihood of absence. Regression analyses also showed that the only significant result was for colds with trust in both management and peers, but only for men. The summaries of the regressions are given in Appendix 10.2.

The measures of trust in management and peers were also correlated against 'B' scale factors. The scoring on the 'B' scale is the reverse of that of likelihood; positive correlations mean a direct association with low trust and increased legitimacy of absence. Only two correlations were significant, both for women and were: colds positively correlated with trust in management [i.e. greater trust means lower legitimacy] and infections negatively correlated with trust in peers [i.e. greater trust means higher legitimacy]. Depression showed moderate but insignificant negative correlations with trust in peers for both men and women. Data are given in Appendix 10.1.

The correlation between A18 from T1, [the work waiting until the employee returns from absence], and trust in peers from T2 was calculated to be $\rho=.08$ for $N=204$, n. s.. Regressions with B scale legitimacies as y (dependent) variables regressed against the two trust measures and A18 produced no significant results; data are given in appendix 10.3. These results imply that A18 does not moderate the trust in peers-legitimacy relationship in any discernible way.

To summarise, a relationship between trust and legitimacy appears in only few of these tests [4 significant out of 68 calculated], implying that the link is weak and possibly restricted to colds, which had the lowest perceived legitimacy of all the eighteen illnesses listed in the 'B' scale. Cold was also the only illness significant in the regressions of likelihood upon perceived susceptibilities; this implies that it may have a more important

role in the relationships between trust in management, trust in peers and susceptibility to perceived legitimacy and likelihood of being absent than any other minor illnesses.

Hypothesis 5. That perceived fairness in treatment by management [e.g. dislike of malingering, action on malingering] will directly affect work attitudes and trust in management and thus perceived unfairness is associated with greater perceived legitimacy

The relationship between job satisfaction and attitudes to malingering has already been explored in section 3[h] of this chapter, when it was found that job satisfaction was related both to trust in management and peers and to the manager knowing about, and acting upon, malingering. In addition, trust in management was shown to be related to perceived fairness in terms of attitudes to malingering.

In terms of the climate component of work attitudes, the hypothesis may be expressed as a 'good' climate should restrict malingering and mean the manager knowing and acting upon it, and therefore negative correlations would be expected between climate and mal 1, mal 2, and mal 3. The three attitudes to malingering items were correlated with two attitude factors from T1, Climate and Absence Ethic; these were conducted for men and women and the results are shown in Table 35.

These results show that those who think that attendance is important/engenders pride also believe that there is a lot of malingering in their department, supporting the hypothesis. Indeed, the results are surprisingly high since the measures were taken twelve months apart, which may imply some stability in attitudes to absence. However, the direction of causation cannot be inferred, even though one measure precedes the other in time of measurement. These results also suggest that both Absence Ethic and Climate are associated with perceived fairness differently for women and men, in that mal 2 is significantly related to absence ethic for men and to climate for women.

Table 35: Correlations between T1 work attitudes and T2 attitudes to malingering for both sexes separately

	male		female	
Variable	Abs Ethic	Climate	Abs Ethic	Climate
mal 1	-.247*	.064	-.212*	.044
mal 2	-.187†	-.002	.077	-.254**
mal 3	-.044	-.136	-.038	-.124
N	76	76	107	107

Notes: [a] a high score on absence ethic indicates negative attitudes to attendance
[b] a high score on climate indicates low warmth/support.
[c] high scores on malingering items indicate high perceived malingering and the manager knowing and acting upon it.
*[d] * indicates p<.05, ** indicates p<.01, both 2-tailed.*

The measures of attitudes to malingering were correlated with perceived likelihood of illness. Only three correlations of 42 tested were significant, for viral illness with mal 1 for women, and for both viral illness and cold with mal 2 for men. This would suggest that the overall relationship is weak. However, when the analysis was conducted with perceived legitimacies from the 'B' scale in T1, a different pattern of results emerged: for women, most illness group legitimacies correlated with mal 1 and two illness groups with mal 2. For men, several illness groups legitimacies correlated with mal 3 but none with mal 1 or mal 2. These results are shown in Appendix 11.

These results suggest some differentiation in respect of attitudes to malingering between expressed likelihood of being absent if one has an illness and perceiving that absence is legitimate in others. This may be associated with attributional differences in terms of Johns' (1992) deviance model where the absence of others, but not self, may be seen as some mix of malingering and disloyalty. The perception of legitimacy may thus relate to the behaviour of others whereas the perception of the likelihood of absence may relate to one's own behaviour.

Thus the hypothesis is confirmed in that organizational trust, work attitudes and attitudes to malingering are significantly associated with each other to varying extents but there is variation in these relationships for males and females. It can also be said that the evidence supports a link between perceived legitimacy and attitudes to malingering and perceived fairness but that this relationship also differs for men and women.

Hypothesis 6. That work attitudes will affect perceived legitimacy: [a] Favourable climate increases the perceived legitimacy of minor illnesses and is negatively related to suspicion of malingering but may reduce actual absence because of group loyalty. Positive attitudes to attendance and other work attitudes are negatively related to perceived legitimacy.

Firstly, to establish whether a favourable climate is associated with lower perceptions of malingering, the three malingering items were correlated with Climate with ρ=.06, n.s., for mal 1, ρ=-.16, p<.0321 for mal 2 and ρ=-.12, p<.0929 for mal 3 [all N=210] respectively. Thus, Climate is not related to the perception that colleagues malinger but is related to the perception that the manager knows about [and possibly acts upon] malingering.

Climate and Absence Ethic were both correlated with perceived legitimacies from the 'B' scale, all T1 data. There were no significant correlations for any illness groups between climate and perceived legitimacy for men or women. However, there were several significant correlations between Absence Ethic and perceived legitimacy. The significant correlations are shown in Table 36, with the full results shown in Appendix 12.1.

Climate was correlated with trust in peers ρ=-.30, significant at p<.0001, and with trust in management ρ=-.23, significant at p<.0009, both for N=207. It was also correlated with the Absence Ethic with ρ=.138, significant at p<.0001 for N=1261.

Table 36: Summary of significant correlations [of ρ >.10] of Absence Ethic with perceived legitimacies for illness factors for each sex.

Men	Women
colds**	colds***
nausea *	
back/neck**	back/neck***
infections**	infections***
headaches*	headaches***
severe back*	severe back***
depression**	
dizzy/faint*	
'malaise'**	
N = 346	N = 820

*Note: * indicates p<.05 and ** indicates p<.01, all 2-tailed. All significant correlations are in the direction of the greater the value of attendance , the less legitimization*

The other factors from the A scale, i.e. A5/6/10 client interaction, A3/14/18 solitary work waits, A9/15/16 confidence and A8/19/20/24 flexibility/commitment were all correlated with all of the B scale illness factors, with none of the coefficients remotely approaching significance. When analysed separately for each sex, no results were significant for women but three were marginally significant for men. That there were only seven significant correlations out of 72 for both sexes and two for the sexes combined suggests there is no relationship between these attitude factors and perceived legitimacy, or that the factors themselves are not particularly robust since they contain only one or two items each. The results are shown in Appendix 12.2.

The Absence Ethic was correlated with the other factors in the A scale and climate, the stress factors, attitudes to malingering, trust, job satisfaction and the Cantril health questions, and the significant coefficients are given in table 37.

Table 37: Significant correlations [of ρ >.1] of Absence Ethic with other T1 and T2 independent variables

Variable	coefficient	N	p<
A Flexibility/commitment	.184	1285	.0001
Climate	.126	1290	.0001
Cantril health	-.244	199	.0006
Cantril health 3 months	-.209	212	.0002
Cantril health 6 months	-.253	212	.0002
trust in management	-.264	207	.0001
job satisfaction	-.165	211	.0167
mal 1	-.217	184	.0034

notes: for A scale items and Absence Ethic, the lower score means greater agreement or endorsement of value of attendance; for job satisfaction, trust and mal 1, higher score indicate greater agreement; for Cantril measures, higher score means better health.

To summarise, a 'favourable' climate is associated with trust in managers and in peers for both sexes and also with mal 2 for women. The Absence Ethic is negatively related to perceived legitimacy of many illness for both sexes with some differences between the sexes; it is also related to several of the independent variables used in both T1 and T2 stages of this study. Neither climate nor any of the other A scale work attitudes appear to be related to perceived legitimacy in terms of the B scale illness factors. From the A scale, the only attitude factor that appears to relate to perceived legitimacy in a significant or comprehensive way is the Absence Ethic.

These results suggest clearly that the attitude construct termed the Absence Ethic is associated with perceived legitimacy and other work attitudes and perceived health. Other work attitudes such as climate are not directly associated with perceived legitimacy, but appear to have indirect associations with it via the Absence Ethic.

Hypothesis 6. Work attitudes: [b] Job satisfaction is proportional to perceived legitimacy but actual absence is inversely related to job satisfaction.

Job satisfaction has already been shown to be significantly related to several work attitude variables, and was cited as important in many of the interviews. It has also been shown to be significantly correlated with actual absence spells. However, the only 'B' scale factors significantly correlated with job satisfaction were perceived legitimacy of colds for women, and perceived legitimacy of depression for men. In both cases the correlation was positive, meaning that at higher levels of job satisfaction there was less perceived legitimacy. There were no significant correlations with perceived likelihood for women, but for men throat infection and diarrhoea were significant and several with borderline significance [cold, backache, viral illness]. These were all in the direction of higher job satisfaction meaning less likelihood of absence from an illness. 1-tailed tests in the direction of the hypothesis would have yielded several more significant findings for men. The results are given in full in Appendix 12.3 .

The correlation for all T2 respondents between job satisfaction and the T1 Absence Ethic was calculated as ρ=-.153 for N= 211, significant at $p<.0266$, 2-tailed, indicating that higher job satisfaction is related to more positive attitudes to attendance.

Thus, the relationship of job satisfaction to perceived legitimacy or to perceived likelihood of being absent with an illness is limited to certain illnesses. However job satisfaction is associated with positive attitudes towards attendance.

Hypothesis 6. Work attitudes: [c] Attitudes to promotion are directly related to attitudes to attendance but not to actual absence; where promotion has a high utility, good attendance will be positively endorsed.

Attitudes to promotion, T1 variables A9 'I would like to be promoted' and A11 'there are good chances of promotion' were correlated separately for each sex with the 'B' scale factors. Only two correlations were significant from 40 calculated, which is to be expected by chance. Attitudes to promotion were also correlated with perceived likelihoods from T2, with only two significant results: these are A9 with both colds and throat infection, with separate analyses by sex showing no major differences. Results are shown in Appendix 12.4. These data imply that there is no relationship between attitudes to promotion and perceived legitimacy.

A9 and A11 were also correlated with the actual absence periods, with none of these correlations significant.

The Absence Ethic was correlated with A9 [would like promotion], and A11 [chances of promotion] for both sexes. For A9, the correlation was $\rho=.145$ for women, N= 915, significant at $p<.0001$ and $\rho=.230$ for men, N=376, significant at $p<.0001$. For A11 for neither of the correlations, .055 and .034 respectively, is significant. Therefore, the wish to be promoted is related to attitudes to absence but perceived chance of promotion is not.

Job satisfaction from T2 was correlated with A9 and A11 with $\rho=.027$ and $\rho=-.127$ respectively, for N=212. Neither is significant. When analysed separately by sex the correlation between job satisfaction and A11 was higher for women than it was for men. Although still not significant, it may be indicative of reduced satisfaction when promotion chances are lower.

Thus, from the above data, it would seem unlikely that perceived legitimacy is related to either the wish to be promoted or the perceived chances of promotion, but that the Absence Ethic is associated with the wish to be promoted. Actual absence is not related to either of the promotion items. This suggests that the wish to be promoted is either a covariate of the Absence Ethic or exhibits an indirect effect upon perceived legitimacy.

At this point, it can be said that the general picture building up is one where there are distinct sex and grade differences in the perceived legitimacy of various minor illnesses. These are affected directly by stress and attitudes to absence but only indirectly by other work attitudes such as climate, trust, perceived health and susceptibility. There are some illness exceptions to this picture, such as cold, where there is some direct effect of work attitudes, and Depression, which seems to behave differently to the others in many respects.

Hypothesis 7. [a] Attitudes to the use of penalties and incentives will be related to perceptions of malingering and organizational trust [faith and confidence in management] and will affect absence directly.

One-way analyses of variance were conducted for each of the trust and malingering variables, for all respondents together, to ascertain whether there were different levels of response between those who did or did not endorse penalties or incentives. The overall results showed significant differences between those who endorsed both penalties and incentives for mal 1 [unjustifiable absence in my department], in the direction of greater perception of malingering by those endorsing either penalties or incentives. There was also a non-significant difference obtained for trust in management, in the direction of higher trust among those who endorsed incentives; this may be indicative of a trend. When the incentive data were analysed separately for each sex, the significant differences remained the same for women, but men showed additional significant differences for mal 2, mal 3 and trust in management. The results are shown in Appendix 13.1.

Therefore, it can be said that endorsement of the use of penalties and incentives is associated with the belief that malingering is prevalent. There is also the possibility that use of penalties and incentives is associated with trust in management, but this is not proven from these data.

Hypothesis 7. [b] Those who endorse incentives or penalties will be less likely to perceive minor illnesses with low perceived susceptibility as legitimate reasons for absence.

Correlations were calculated, separately for each sex, between perceived susceptibility for each of the seven illnesses in T2 and perceived legitimacy factors from T1 for those respondents who endorsed penalties or incentives and similarly for those who did not. These analyses produced eight tables, each with 56 correlation coefficients in each [7 susceptibilities by 8 illness factors]. It can be assumed that 22.4/448 [i.e. 3 per table] would be significant at $p<.05$ by chance alone. The distribution of the 41 correlations significant at $p<.05$ in each table are given in Table 38, along with 35 further correlations which were significant at $.05<p<.10$.

Table 38: Number of significant correlations between perceived susceptibility [T2] and perceived legitimacy factors [T1] by endorsement and sex

	Not endorsing				Endorsing				
	Incentives		Penalties		Incentives		Penalties		Totals
Men	*[15]*	9	*[11]*	6	*[10]*	5	*[8]*	7	*[44]* 27
Women	*[2]*	1	*[5]*	2	*[16]*	6	*[9]*	5	*[31]* 14
totals	*[17]*	10	*[16]*	8	*[26]*	11	*[17]*	12	*[76]* 41

Notes [a] all significant correlations except three were positive, meaning that the greater the perceived susceptibility, the more legitimate an illness is perceived as a reason for absence.
[b] numbers in brackets /italics are correlations significant at p<.10

Ten of the 75 correlations which are p<.10 are common to both those endorsing and not endorsing the incentives or penalties, i.e. endorsement does not moderate those particular susceptibility/legitimacy relationships. In addition, four of the significant correlations were negative, all of them for women. The full data are given in Appendix 13.2. There are nearly double the number of significant correlations [76/448 at p<.10, of which 44/224 are for men and 31/224 for women] here than would be permitted by chance [22/224 at p<.10] and this suggests that endorsement moderates the perceived susceptibility-legitimacy link for men and also weakly for women.

Of the T2 seven illness susceptibilities, the one which most featured in these correlations was throat infection [21 times], and for the T1 eight illness legitimacy factors the most featured was head/backache [18 times]. 'Malaise', the combined illness factor, accounts for 15/56 further significant correlations - 12 for men and 3 for women.

Although there is some evidence here to demonstrate a moderating effect for the endorsement of incentive and penalties upon the susceptibility-legitimacy link, it is probably limited by the weakness of the susceptibility/legitimacy relationship as already shown in the testing of hypothesis 3. Therefore, it can be concluded that there is limited support for hypothesis 7b from these data, and that this in relation to men but not to women.

Endorsement of incentives and penalties may have more direct effects upon perceived legitimacy or susceptibility rather than moderate the link between them. Accordingly, one-way analyses of variance were used to test whether there were differences in perceived legitimacy levels for each T1 illness group from the 'B' scale, between those who did or did not endorse incentives or penalties. Significant F-values were obtained in relation to penalties for all illness factors for women and for six of the ten factors for men. However, no results were significant in relation to incentives for women or men. This finding was confirmed by entering incentives and penalties into multiple

regressions as dummy variables and regressing these and sex on the perceived legitimacy factors. All the regressions yielded significant F values, with penalty having a significant t-value on each occasion; these are shown in Appendix 13.3.

T2 illness susceptibilities were also compared with one-way analyses of variance and yielded significant differences for penalties for viral illness at $p<.05$ and throat infection at $p<.10$ [both potentially low-discretion illnesses on Nicholson's (1977) A-B continuum] for both men and women. For incentives, no results were significant for women and only one was significant for men, i.e. headaches. Even for non-significant results, the direction of these data was for endorsement of incentives or penalties to be associated with lower perceived legitimacy as a reason for absence and lower susceptible to each illness.

In summary, these results clearly show that endorsement of penalties is related to lower perceived legitimacy and lower perceived susceptibility to illness, but endorsement of incentives is not. These findings are particularly evident in relation to penalties for throat infection and viral illness. It would seem that clear self-serving biases are operating such that respondents are linking their self- perception of illness legitimacy, particularly those for which they have less discretion, to penalties but not to incentives; these findings support those of Johns (1992).

Endorsement of penalties and incentives were also analysed using one-way analyses of variance to ascertain whether those who did endorse them would claim to be less likely to take time off work if they had each of the T2 seven illnesses [i.e. perceived likelihoods]. The results are shown in Appendix 13.4 but can be summarised as offering little support for this, in that only three analyses achieved significance, colds and viral illness for penalties plus viral illness for incentives, all for women only. All three were in the direction of endorsers being less likely to take time off if they had the illness; most of the other [non-significant] results of this analysis were also in the same

direction. thus suggesting general support for the assertion but not offering enough to confirm it.

So it can be said that endorsement of incentives and particularly penalties is weakly related to the general susceptibility-legitimacy link such that endorsement means that low legitimacy is associated with low perceived susceptibility and the strength of the relationship varies with illness and sex. It is also the case that those who endorse incentives and penalties express different perceived legitimacy and illness susceptibility levels to those who do not endorse these measures. Any link between endorsement and perceived likelihood of attending appears to be restricted to women.

Hypothesis 7. [c] High absence ethic [value placed on high attendance] relates positively to endorsement of both incentives and penalties.

A Kruskal-Wallis one-way analysis of variance was used to assess whether people endorsing penalties or incentives had higher Absence Ethic scores.

The statistic 'H' is distributed as χ^2 and these were highly significant for all four tests; the rank sums for men and women for incentives and penalties are shown in Table 39.

Table 39: Mean ranks and H-values for Absence Ethic, comparing the three responses concerning the endorsement of penalties and incentives for males and females separately.

	Mean ranks			
	Incentives		Penalties	
Endorsement	m	f	m	f
yes	148	373	155	366
d/k	215	649	191	506
no	238	571	248	615
N	368	905	362	882
H-value	62.1***	133.2***	55.9***	169.6***
d.f.	2	2	2	2

*Note: lower score on Absence Ethic, i.e. lower mean rank, indicates greater agreement with value of attendance; ** refers to p<.001.*

These findings suggest that those who endorse either penalties or incentives have very significant positive views concerning pride in, and the value of, attendance.

To conclude the testing of hypothesis 7, it can be said that the data support the general notion that the endorsement of incentives and/or penalties relates to the perceived legitimacy of minor illness and to perceived susceptibility. Endorsement also appears to have a weak influence as a moderator of the link between legitimacy and susceptibility for men. There is some differentiation between penalties and incentives in terms of their relationship with perceived legitimacy. The relationship between the tendency to endorse incentives or penalties and the Absence Ethic, the belief that there is a lot of malingering and trust in management, suggests that they may all be parts of a wider set of attitudes to absence. These data fail to show a strong link between endorsement and likelihood of attending. It is suggested that the relative strength of the endorsement-legitimacy link compared to that of endorsement-likelihood may reflect a self-serving bias .

Hypothesis 8. That perceived legitimacy affects likelihood of taking time off for each illness group.

The perceived likelihoods of absence from each of the seven illnesses in T2 were correlated against the eight perceived legitimacy illness factors from the T1 'B' scale [colds; nausea; back/neckache; infections; head/backache; dizzy; severe back; depression] plus the 'combined' factor of 'malaise', producing a 9 x 7 correlation matrix. It was expected that significant correlations may be attenuated due to the time interval between T1 and T2, since changes in attitude and preference would be more likely to cause divergence rather than convergence. Surprisingly perhaps, 36 correlation coefficients were significant at least $p<.05$, and several were significant at $p<.001$. Only two illness factors, depression and dizzy/faint, were unrelated to any of the perceived likelihoods. The correlation matrix for all respondents is shown in Table 40.

The correlations were also calculated separately for men and women, and yielded similar results for the sexes. These correlation matrices are shown in Appendix 14.

Table 40: Correlation coefficients between T1 'B' scale factors and T2 perceived likelihoods of being absent with each of seven illnesses, both sexes combined.

	Likelihood of.....						
Legitimacy Factors	Colds	Stomach	Backache	Viral Ill	Throat Inf.	Headache	Diarrhoea
colds	.397***	.234**	.097	.139*	.164*	.101	.156*
nausea	.190**	.288***	.121	.185**	.210**	.160*	.300***
back/neck	.150*	.158*	.044	.058	.092	.049	.040
infections	.078	.198*	.042	.299***	.332***	.015	.304***
headaches	.217**	.152*	.093	.156*	.140*	.238***	.137*
dizzy	.008	.030	.000	.122	.095	-.030	.104
severe back	.238***	.184**	.166*	.240***	.073	.116	.144*
depression	-.009	-.033	.020	.022	.079	-.059	.062
"malaise"	.054	.176*	.005	.189**	.137*	.018	.245***

*Note: * indicates p<.05; ** indicates p<.01; *** indicates p<.001; 2-tailed, N=210*

These results suggest clearly that the more an illness group is perceived as a legitimate reason for absence, the more likely the person is to expect to take time off if they have those or *some other* illnesses. This appears to be a stronger link for some illness factors, such as colds, nausea and viral illness than for others such as headache. Since depression was not one of the seven T2 illnesses, some of the tests concerning its susceptibility have not been possible in this study. However, all results obtained show that depression follows a different pattern and is unrelated to the other illnesses.

Thus it can be said that perceived legitimacy increases likelihood of taking time off for each illness group, both specifically and generally, with the exception of depression; however, the effect is greater for some illnesses than for others. It is possible, as with other hypotheses, that this may be reversed:- increased perceptions of legitimacy might

be attributed retrospectively following an observation of [self or other's] increased frequency of illness and absence. This likelihood-legitimacy link, in both directions since cause and effect may be transposed, may also be added to the model of legitimacy.

Hypothesis 9. Stress affects perceived legitimacy and may do so differentially, in that some stressors may affect the perceived legitimacy of some illnesses. The effects of stress directly upon absence are mediated by this stress-legitimacy link.

The six stress factors derived from the 'C' scale factor analysis in T1 were correlated with the 'B' scale factors. This was done separately for men and women. 49 of 124 correlations calculated are significant at $p<.05$, and a further 11 correlations at $.10<p<.05$, all positive, suggesting that type I errors are unlikely. The results are shown in Appendix 15 and are summarised in Table 41.

Table 41: Summary of significant correlations [of $p<.05$] between 'C' scale stress factors and 'B' scale perceived legitimacy factors, separately for men and women

Sex	Stressor	Perceived Legitimacy
Women	Lack of recognition	colds, nausea, severe backache, depression
	Role overload	all illness groups except headaches and malaise
	Domestic issues	all illness groups
	Monotony	all illness groups
	Management	nausea, depression
	Role ambiguity	nausea, back/neck, depression
Men	Lack of recognition	infections, headache
	Role overload	back/neck, nausea, headaches, infections, severe back, malaise
	Domestic issues	none
	Monotony	all illness groups except depression
	Role ambiguity	all illness groups except depression and nausea
	Management	back/neck, nausea, infections, headaches, severe back, malaise

Note: all correlations significant at $p<.05$ or better are included, 2-tailed, although all results are in the direction that increased stress is related to increased legitimacy. N=370 for men and N= 915 for women

It can be seen from the table that some stressors affect perceived legitimacy for several illnesses, but others appear to have more specific effects, and that there are sex differences. It is interesting that monotony appears to feature as a stressor in relation to most illness perceived legitimacy groups.

The prevalence of headache and backache- often accepted as stress-linked- would seem to reinforce the notion that these are seen to be more legitimate by those who perceive themselves as affected by stressors. However, reverse causality may operate here as in other areas of this study, in that certain illnesses may be seen to be the results of stress or they may be perceived to cause it, or both, in a cycle of stress-illness-stress-illness. These measures were all taken at the same time, but there is a temporal nature to cause and effect which cannot be tapped here.

Thus, some stressors affect the perceived legitimacy of various illnesses, or vice versa. For women, the effect is most general [in that it affects the most illnesses] for stress related to domestic responsibilities and monotony, and for men the relevant stressors are role overload, management and role ambiguity.

6: 6 The aggregated scales for perceived legitimacy and perceived susceptibility to illness

Two aggregated scales were referred to in chapter 5, section 2. The first is the aggregation of the 18 items in the perceived legitimacy scale. The second scale is the aggregation of the 7 items for perceived susceptibility to illness. In both cases, the ratings were simply added together with no weightings and Cronbach's alpha calculated as α=.90 and α=.65 respectively. The scales were correlated with the other core variables and the are shown in table 42.

Table 42: Spearman correlations of two aggregated scales of perceived legitimacy and perceived susceptibility to illness with core variables

Item	Legitimacy scale		Susceptibility scale	
	ρ	prob	ρ	prob
T1 factors		*[N=1290]*		*[N=220]*
climate	.034	n.s.	-.102	n.s.
Absence ethic	-.186	.0001	-.249	.0003
stress overload	.128	.0001	.194	.0048
stress monotony	.164	.0001	.083	n.s.
stress recognition	.076	.0093	.244	.0004
stress domestic	.090	.0021	.208	.0025
stress management	. 109	.0002	. 196	.0043
stress ambiguity	.110	.0002	.160	.0199
T2 measures		*[N=220]*		*[N=220]*
trust m	. 058	n.s.	.274	.0001
trust p	-.122	.0902	.230	.0009
job satisfaction	.014	n.s.	.127	.0643
mal 1	.210	.0060	-.040	n.s.
mal 2	-.063	n.s.	.201	.0055
mal 3	-.158	.0385	.079	n.s.
Cantril health	.154	.0363	.374	.0001
Cantril 3 months	.156	.0288	.368	.0001
Cantril 6 months	.139	.0506	.386	.0001
7 susceptibilities	.225	.0016		
Absence measures		*[N=115]*		*]N=115]*
absence spells A	-.071	n.s.	-.228	.0172
absence spells B	-.111	n.s.	-.272	.0046
absence spells A+B	-.108	n.s.	-.285	.0029

In relation to perceived legitimacy, the aggregated scores mainly produce findings which reflect those of the *majority* of the illness factors when tested separately. The exceptions to this are Cantril health, which is significant for the aggregated score but not for most of the separate illness factors and trust in peers which reaches borderline significance when correlated with the aggregated perceived legitimacies. Interestingly, when the two aggregated scores are correlated with each other, ρ is significant, which was not the case for the perceived legitimacies and susceptibilities correlated separately. In a general sense, this latter finding lends very tentative support to hypothesis 3. However, the aggregating process loses the more subtle illness differences, such as the usually different findings in relation to depression and low or high discretion illnesses, for example in relation to absence spells.

In relation to perceived susceptibilities, a similar pattern of the aggregate reflecting the majority of the separate perceived susceptibilities to illness is found, with evidence of some higher correlations [such as with absence spells].

In relation to perceived frequencies of illness and perceived likelihoods of absence, the findings for the illnesses separately [when correlated with perceived legitimacies and perceived susceptibilities to illness] were quite clear. Perceived legitimacies were generally related to perceived likelihoods but not to perceived frequencies. The findings in relation to the aggregated perceived legitimacy scale reflect this quite clearly. Similarly, for the seven perceived susceptibilities, these were related to all the perceived frequencies and most perceived likelihoods of absence. Therefore it is not surprising that the aggregated perceived susceptibility scale was significantly related to all the perceived frequency scales and to six out of seven perceived likelihood of absence scales. The data for these are given in appendix 16.

Summarising, the aggregated scales enhance some relationships, but lose the illness differences that were found and which may be important in illness perception and absence

behaviour. However, the general relationship between the aggregated perceived legitimacy and perceived susceptibility to illness scales is of interest but requires further research before this could be added to an absence model.

6: 7. Summary of results

[a] Analysis of absence data

The sex differences which were so pervasive through the T1 and T2 data were less evident here. The analyses show a grade gradient and a typical age-related profile. The direct relationship between legitimacy and absence is very strong for colds; there is also evidence of a relationship for headaches and possibly for severe backache [$p<.10$]. Several work attitude variables are related to absence; there is a clear relationship with the Absence Ethic, job satisfaction, attitudes to penalties, frequency of stress plus some specific stressors and possibly trust in management. Absence is also related to perceived susceptibility to illness, likelihood of being absent and perceived health status for 3 and 6 months ago. The perceived frequency of absence for some illnesses [viral illness, throat infection and diarrhoea] is related to actual frequency.

These data establish links between legitimacy and actual absence. Absence Ethic is related to both, whereas perceived susceptibility to illness, likelihood of absence and health status appear to have stronger relationships to absence than to perceived legitimacy.

[b] General results

The most wide-ranging finding is that significant sex differences run through a large number of the measures: 13 out of 24 A scale measures, 7 out 18 for the B scale illnesses, 10 out of 19 for the C scale stressors. These reinforce the suggestion by Hackett (1989) that the need to consider the two sexes as separate populations for absence behaviour and attitudes. A second main point is that there were significant grade effects on several measures and also some significant differences between part-time and full-time workers. Other remaining points are summarised below.

Many employees endorse incentives and/or penalties with 42% of respondents endorsing both.

Perceived health, likelihood of absence and perceived susceptibility are interrelated, but the nature of the relationship varies by illness type and sex.

Job satisfaction, organizational trust and attitudes to malingering are also interrelated and likewise exhibit sex and grade differences. Where absence and malingering are more salient, their influence upon the other work attitudes and behaviour may be greater.

[c] Hypothesis tests

Hypothesis 1 proposed that women would generally legitimise illnesses more than men, and was shown to be the case for only two illnesses. Indeed, men legitimised more illnesses than did women. There were also grade effects, with increased legitimacy associated with lower grades. The hypothesis that sex differences in legitimization would diminish at higher grades was not supported. There were large sex differences for some illnesses at all grades.

Hypothesis 2 proposed that legitimacy would vary across illnesses, moderated by sex, grade and stress. In general there were variations, some quite considerable, across different illnesses, which varied by grade and sex. There was a quite consistent relationship between stress level and illnesses for women. Thus, a model of legitimacy would need to include stress as a variable.

Hypotheses 3 and 4 proposed that perceived health and susceptibility, and organizational trust, would positively correlate with perceived legitimacy. The results were patchy and only significant for the 'colds' illness group in both cases. However, the findings were significant when actual absence was used as the dependent variables instead of perceived legitimacy. These findings suggest that there is no direct role for perceived health and

susceptibility in influencing perceived legitimacy but they may have indirect effects on legitimacy.

Hypothesis 5 proposed that attitudes to malingering, work attitudes, organizational trust and perceived legitimacy would be inter-related. High inter-correlations were found and also two of the attitudes to malingering items were significantly related to perceived legitimacy for women, with the third significant for men. Attitudes to malingering were also related to the Absence Ethic. Thus, the unfolding model of legitimacy has attitudes to absence as a central element with other work attitudes exerting both direct and indirect effects.

Hypothesis 6 concerned the measures of climate, job satisfaction, Absence Ethic and attitudes to promotion. It was found that the Absence Ethic was clearly related to perceived legitimacy, as was desire for promotion. Job satisfaction was related to perceived legitimacy and also to perceived likelihood of illness, but only for some illnesses and with some differentiation between the sexes. There was also a positive significant relationship between job satisfaction and Absence Ethic. However, climate was related to organizational trust and some attitudes to malingering but not to perceived legitimacy. Thus, a model of legitimacy should include job satisfaction and Absence Ethic, with climate exerting an indirect effect.

Hypothesis 7 concerned the incentive/penalty issue and its relationship to perceived legitimacy, absence ethic, attitudes to malingering and organizational trust. Endorsement of penalties was found to be related inversely to perceived legitimacy and perceived susceptibility to illness but endorsement of incentives was unrelated. Endorsement of penalties or incentives was found to moderate the legitimacy/susceptibility relationship weakly but significantly for men. Organizational trust and the mal 1 'there is a lot of malingering' were both related to endorsement of penalties and incentives. Absence

Ethic was highly significantly related to the endorsement of both penalties and incentives.

Hypothesis 8 involved the relationship between perceived legitimacy and perceived likelihood of attendance. There was found to be a strong significant relationship for all illnesses except depression. Perceived health and susceptibility, while not directly related to perceived legitimacy [hypothesis 3], may be related indirectly through perceived likelihood.

Hypothesis 9 concerned whether the different stressors from the C scale related differentially to perceived legitimacy. The main stressors in this context for women were domestic in nature, whereas for men, several stressors were found, relating to various illness groups in each case. One illness behaved differently to the others in these tests: depression. These findings suggest that there is a direct link between stress and legitimacy but that its nature is different for the sexes.

Hypothesis 10 proposed that perceived legitimacy, frequency and likelihood of absence, susceptibility to illness, perceived health status, the Absence Ethic, job satisfaction, stress and trust will be associated with frequency of absence. The findings were consistent with the hypothesis although some of the relationships were limited to certain illnesses.

Thus, it can be said that hypotheses 2 and 5 - 10 are all partially or substantially supported within the context and limitations of the investigation. However, the greater legitimization by men for several illnesses is contrary to hypothesis 1, and hypotheses 3 and 4 [trust, perceived health and susceptibility] are unsupported by these findings. Most hypotheses show some evidence of differentiation by sex. The implications of these results and the construction of a model of legitimacy based upon them are discussed in the next chapter.

Chapter 7

Discussion

Five main themes emerge from the findings of this study. The first is that legitimacy and actual absence are linked in a number of ways, both directly and indirectly through other variables [e.g. job satisfaction, Absence Ethic]. The second is the consistency and strength of the sex differences which pervade the results. The third theme is that minor illness groups behave in significantly different ways in relation to the concept of legitimacy and related factors. The fourth theme is that perceptions of the legitimacy of illness and absence itself are influenced by or associated with many work attitudes and values, both directly and indirectly. The fifth theme concerns attitudes to absence and malingering, which also relate to job satisfaction, endorsement of penalties and incentives, and perceived legitimacy.

Each of these themes will be examined, followed by discussion of the hypotheses in turn. These are followed by a discussion of methodological issues.

1. The links between legitimacy, other variables studied and absence

Many of the variables used in this study were found to be related to absence frequency, a finding which is important because it links subjective measures of attribution and attitudes to an objective absence measure.

Absence spells were predictably lower for higher grades (IDS, 1988; Taylor, 1974; Chadwick-Jones et .al., 1982), although the interview data would imply that there are some additional unrecorded absences at these grades. However, some of the findings in relation to absence differ from what might be expected from findings in other studies. The non-significance of sex differences for actual absence is not unique to this study (Farrell and Stamm, 1988), but is generally out of line with others (IDS, 1988; Taylor, 1974; Chadwick-Jones et. al., 1982; Hackett, 1989). It may mean that sex differences have been overemphasised in the past [for example in studies which may not have controlled for different job levels] or that this population is somehow different. Age did not follow a predictable inverse pattern with absence frequency or legitimacy (Taylor 1974; Chadwick-Jones et. al., 1982) but instead absence spells rose for the highest age group. There is nothing in the population to suggest a particular explanation for these results.

The study used more than one measure of legitimacy. Perceived legitimacy showed significant links with absence spells [both time periods] for illnesses which might be perceived as high-discretion, although the amount of absence data available may have militated against the strength of these findings. However, the significance of the correlations between the measure of perceived likelihood of being absent with an illness and absence for all illness groups strongly supports hypothesis 10 and the notion of absence-legitimacy links.

An important issue is whether respondents in this study related legitimacy to themselves or to others. It can be argued that the T1 measurement of perceived legitimacy can be

attributed selectively to others, in other words that it is possible to attribute an illness as a more legitimate reason for the absence of others than for oneself and this attribution, which may relate to both perceived internal and external causes, could be self-serving. An example might be perceiving someone as legitimately being ill due to sickness caused by too much alcohol consumption. In contrast, the questions concerning the perceived likelihood of absence referred to the respondent directly, possibly representing an internal self-serving attribution with a self-protective function (Brown and Rogers, 1991). Thus the legitimacy-absence link [based on likelihood] is strong for all illnesses measured, but based on perceived legitimacy only for the highest discretion illnesses, such as colds. The theory of reasoned action could be particularly relevant to high-discretion illnesses, i.e. those with higher levels of perceived behavioural control (Martocchio and Harrison, 1993; Harrison and Bell, 1995) will presumably feel that they can attend work if they choose to do so. Subjective norms, in terms of the strength of social expectations may also exert influence on perceived legitimacy.

Perceived frequency of illness was related to absence for those illnesses which could be assumed to involve little discretion [i.e. A-type on the A-B continuum]. So those employees who perceive that they get an infection frequently are absent frequently; the exceptions are the perceived frequencies of colds and backache. It is a self-serving bias to justify absence by attributing it to very frequent illness (Miller and Ross, 1975) but in this case the self-serving bias is not a consistent one. However, people consistently underestimate their frequency of high-discretion illnesses (Johns, 1992) and this would dampen the correlations between perceived frequency of illness and absence for those illnesses, as was the case here.

Perceived susceptibility and health status were related to frequency of absence spells much more strongly than to the measures of legitimacy. These findings might again be explained by a self-serving bias (Miller and Ross, 1975; Johns, 1994), which would

imply that the causal relationship would be two-way , in that lower health status might result in increased legitimization and vice versa.

The relationship between work attitudes and absence in this study were strong for job satisfaction, stress and trust in management. For job satisfaction, the higher correlations for men are the reverse of Hackett's (1989) finding that the relationship is stronger where there are more women in the sample, although women showed significantly higher levels of job satisfaction than men. The significant relationships between job satisfaction and both preceding and subsequent absence imply some reverse causality (Clegg, 1983). Whether job satisfaction and absence influence each other, or whether they covary cannot be ascertained here because job satisfaction is only measured at one point in time. The proposition that the absence-job satisfaction relationship is true only when the absence culture is 'calculative' (Nicholson and Payne, 1987) is difficult to endorse from these findings. Although the trust in management scores here are lower than those found for Cook and Wall's (1980) blue-collar samples, this was not the case for trust in peers. This organization could not really be defined as low trust, particularly for the women employees, and the psychological contract is not just 'money for effort', at least for those working in smaller offices in the region. If we accept that the organization is generally one of moderate [rather than low] trust, and that the salience of absence may vary between offices, then it is likely that there are several types of absence culture operating, not simply a calculative one.

Although there is debate over the strength of the stress-absence link (Briner and Reynolds, 1993), the relationship is clear in this study. The strong relation of some stressors to prior and subsequent absence would lend support to the arguments for both direct and reverse causality (Manning and Osland 1989). In addition several stressors were related to perceived legitimacy. As Briner and Reynolds suggest, it would appear that the influence of stress on absence is complex and is both direct and indirect in effect.

The Absence Ethic, concerning beliefs in the importance of attendance, was strongly related both to absence and perceived legitimacy. Such beliefs may form part of what has been termed the absence culture (Nicholson and Johns, 1985) and their salience is clearly an important determinant of absence behaviour. From the findings in relation to the Absence Ethic and attitudes to malingering and those of Harrison and Bell (1995), it would seem likely that the concept of absence culture might embrace, in addition to salience of absence and trust, shared attitudes and beliefs in relation to absence, moral obligation [i.e. the Absence Ethic] and subjective norms, to form a complex [interrelated] set of constructs to comprise absence culture. To some extent, it may be that those who value attendance make their attributions of actual absence behaviour in a self-serving way.

2. Sex differences

The sex differences, spanning most of the hypotheses, are much more numerous and strong than expected from other studies (e.g. Diener, 1984; Adelmann, 1987; Spector, 1988; Warr, 1990; Furnham, 1992; Sevastos et. al., 1992).

They can be summarised comparatively as follows:

Men: generally higher legitimization; lower Absence Ethic; believe in manager action on malingering; more stressed overall; work-based stressors higher and linked to legitimacy; lower job satisfaction; less trust in management; lower belief that manager knows about malingering; different attitudes to promotion; illness groups of headache and backache emphasised; more susceptible to headache and backache; head/back illnesses more often predicted by other illnesses; stronger incentive/penalty-legitimacy link; believe that if sick, their work waits until return.

Women: generally lower legitimization; believe that malingering exists and manager knows about it; Climate and job context factors important; value task clarity; less

stressed overall; domestic stressors higher than for men and linked to legitimacy; higher Absence Ethic in terms of commitment and low absence; more job satisfaction and trust in management; more dealing with clients/counselling and require substitute if absent; infections and nausea/sickness relatively more emphasised in legitimacy.

In general, these findings support the suggestion by Hackett (1988) that women and men should be treated as separate populations, contradicting the view of Brooke and Price (1989) who found little in the way of sex differences. However, since the literature is still in debate about the fundamental origins of the differences, it can provide no clear or simple account of what happens in relation to absence or attendance in the workplace.

Sex is clearly related to legitimacy and many of the variables which are correlated with it, particularly the Absence Ethic, trust in management and job satisfaction, all of which exhibit sex differences. This implies different male and female absence cultures, which may sometimes have similar levels, but different types, of absence. In this study, these different absence cultures showed comparable numbers of absence spells for both sexes. However, absence cultures may vary sufficiently between and within organizations so that absence spell frequencies may differ in other studies.

In the study, the work of women involved significantly more dealing with the public than that of men and this aspect of job content was also related to the number of absence spells. Such work might be described as relational or 'soft' (Pease, 1993; Marshall, 1995). Is it therefore simply job content issues which determine some of the sex differences? This is unlikely given [a] that absence did not exhibit significant sex differences, [b] that women are significantly lower graded than men, [c] that the majority of both sexes work with the public to some extent and [d] grade differences in working with the public were much stronger than sex differences. Therefore, it is suggested that job content is relatively minor as a cause of sex differences.

Despite the problems in diagnosing the origins of sex differences in absence behaviour, there are various explanations that may have some relevance. For example, higher perceived incidence of absence by women may lead others, to make more negative attributions about it's legitimacy (Hewstone, 1989; Miller and Ross, 1975; Brown and Rogers, 1991); this may be particularly true for 'male' managers (Sachs et. al.; Burke, 1994). Social learning of absence behaviours may be built upon cultural differences developed through traditionally derived work and domestic roles and through the evolution of male and female behaviours in organizations (Bandura, 1977; Weiss and Shaw, 1979; Wood and Bandura, 1989; Aaltio-Marjosola, 1994). Symptom sensitivity could also be at least partly culturally derived, although resistance to illness [and longevity] can be argued to have some inherited component (Corney, 1990; Bird and Fremont, 1991; Gijsberg et al, 1991). The generally lower job grades for women and the perceived secondary nature of most women's jobs, the sociological issues concerning the role of women in the family and expectations of women that these roles will continue, are also likely to contribute to the explanation of these differences (Martin, 1994; Marshall, 1995). All in all, it seems that a highly complex model would be needed to explain culturally derived sex differences in absence behaviour.

One example which typifies the sex difference in attribution is the role of domestic issues as stressors [and consequent illnesses]. If the management jobs in the organization are more 'male' than the lower level 'female' jobs, then it might have been expected that there would be less role conflict between work and domestic issues for women at higher grades (Moore and Gobi, 1995) and less still for men at higher grades (Izraeli, 1993); thus, domestic stress should be more strongly associated with legitimacy for lower job grades; the findings in this study support the first proposition but not the second. Domestic stressors were the only ones in this study which women cited significantly more than men. This finding, along with the differences found in recognition, management and ambiguity are consistent with the stress models for each sex of

Davidson and Cooper (1992). Domestic issues could be perceived as potentially more legitimate reasons for absence than [say] the headaches and absences associated with a 'hangover'.

What do these differences mean in practice? It may be that women managers are likely to respond to absence behaviour of their subordinates differently to their male counterparts, perhaps by tolerating certain reasons for absence more [or less] than others. Women as ordinary members of the workforce, showing higher levels of job satisfaction, commitment and trust in management, may feel differently about the use of some reasons for absence. For example, in some circumstances, such as in the interviews in this study, they may be more open about the real reasons for their absence. Although the truth behind the openness is difficult to assess, particularly when interviewees may come to believe their own selective perceptions (Snyder, 1984), in these interviews it was clear that many people were prepared to speak candidly about their own and others' absence behaviour.

3. Minor illness differences

The findings suggest that there are several minor illness groups which determine absence attitudes and behaviour. The patterns of relationships between illness groups and the other variables tested also suggest moderating influences upon the different perceived legitimacies. Those illness groups which are clearly differentiated are colds, infections, headache/backache, severe backache and depression. In addition, there were a number of findings which separated illnesses on what may be their level of discretion (Nicholson, 1977).

Some of the groups contained illnesses which were conceptually linked [e.g. infections] and some groups included illnesses whose legitimacies were similar. The groups [colds. infections, nausea/sickness, dizziness, headache/backache, severe backache and depression] do not correspond closely with illness groups reported elsewhere. Evans

and Edgerton's (1992) findings grouped colds, malaise, headache and cough. This may be because their data were obtained from symptoms rather than illnesses.

There is a fundamental issue of whether illness groups found reflect the illnesses/symptoms used in the analyses. There is no parallel in the Evans and Edgerton (1992) study for the findings here for infections, severe backache and depression, although they had identified two types of depressive symptoms in an earlier study in 1991. Since there are no other studies which attempt to conceptualise perceived groups of minor illnesses, the actual number of groups and their constituent illnesses/symptoms may differ from those found, because two investigations are insufficient to establish all the clusters and groups. There may considerable variability in the way that people perceive minor illness clusters [for example cross-cultural differences] and it may also be that perception of illness involves several elements, such as symptoms, aetiology and probably also consultation and treatment. The Evans and Edgerton study obtained their factors from symptoms whereas this study used perceived legitimacies and it is possible that illnesses might fall into certain groups when people consider them as reasons for absence but into different groups for other purposes.

The illness group of headache and backache was very strongly pronounced for men and also showed different patterns of perceived susceptibility to, and likelihood of, absence. This relative male preoccupation found for headache-type illnesses and also their perceived higher levels of work-based stress may mean that work stress plays a greater part in the attribution process for high-discretion illnesses for men than women.

Illnesses that might be perceived as being low discretion, i.e. located at the A end of the A-B continuum (Nicholson, 1977), such as viral illness and throat infection, show no grade or age differences in perceived legitimacy and behave differently in terms of susceptibility, their relation to penalties and incentives and as predictors of likelihood and legitimacy of other illnesses. Those at the B end of the continuum, such as colds

and headaches, relate more to job satisfaction and have stronger links with stress, the Absence Ethic and attitudes to malingering. There is also greater correspondence between perceived and actual frequency for those illnesses which could be considered to have less discretion. However, legitimacy and perceived likelihood of attendance are highly related for most illnesses, particularly colds, headache and backache. So it would seem that people are poor estimators of their absences with colds and headaches, but there is some justification of these illnesses as legitimate in their own right amongst those who are predisposed to absence from them. This is consistent with Nicholson and Payne (1987) and Johns (1993 and 1994a) studies. It can be suggested that the level of discretion, although not measured directly in this study, seems to differentiate the behaviour of certain illness groups and is therefore a component of the illness-legitimacy-absence relationship. The finding that there are general increases in perceived legitimacy with increasing interaction with the public, especially for high-discretion illnesses and those which might be 'caught' from members of the public such as tonsillitis, chest and throat infections reinforces the situational dependency of perceived legitimacy and discretion (Nicholson, 1977).

The literature suggests that depression acts in a different way to other illness factors (Jenkins, 1985). In this study, it has no clear or consistent link with perceived legitimacy. Not only was it a completely separate factor in the factor analyses, but behaved differently in many of the tests linking perceived legitimacy to the independent variables. There was no relationship with age, grade, sex, perceived likelihood of other illnesses, attitudes to malingering, most work attitudes and trust. For men, its legitimacy was related to the Absence Ethic, job satisfaction, perceived susceptibility of upset stomach, and endorsement of penalties and incentives, and for women, to susceptibility to headaches and endorsement of incentives. Depression was linked to some stressors: for women to overall stress at all but HEO+ grades, 'management' and domestic stressors and for men to role ambiguity. The reasons for depression acting independently may be several: social desirability and mental instability implications may

mean that people have differing perceptions of the meaning of the word, ranging from its clinical severity to a mild expression of "the blues". This definitional issue has implications for the location of depression on the A-B discretion continuum, which may be more varied than other illnesses where there may be greater consensus. Indeed, this is reflected in the high standard deviation on perceived legitimacy found for depression in this study. In other words, there may be unusual features about the acceptability of the existence and severity of this illness and whether a 'psychological' illness merits time off work. The effect of perceived physical or psychological origins of illness on perceived legitimacy requires further investigation.

Some of the susceptibility-likelihood links generalise to other illnesses; this was particularly true for throat infection. It may be that a 'spillover effect' is operating for some illnesses. This might apply especially to illnesses in conceptual groups, but could be more general if perceived susceptibility to illness contains an underlying general factor, such as symptom sensitivity (Corney, 1990; Gijsberg et al, 1991).

Summarising, it would seem that there are illness clusters of colds, headache/backache, severe backache, nausea/sickness, dizziness, depression and infections. In addition, the level of discretion also seems to differentiate illnesses in relation to many work attitude and absence variables (Nicholson, 1977). An exception to this is depression which behaves differently and is independent of other variables. Further, from the evidence in the previous section on sex differences, these illness differences are moderated by sex, particularly for headache and backache type illnesses.

4. Variables associated with perception of legitimacy and absence

The fourth theme is that perceptions of the legitimacy of illness and absence are associated with many work attitudes and values, both directly and indirectly.

There are highly significant age differences for all illness legitimacy factors except infections, feeling dizzy and depression. The pattern is curvilinear, with greater legitimization by younger age groups followed by decreasing legitimization until the oldest age group where it increases again, consistent with age/absence trends in other studies (Nicholson et. al., 1977). So some illness groups are age-dependent and others are not. Perceived legitimacy may be stable in terms of the illness groups themselves, but individual measures of it appear to vary with life stages. If individual perceived legitimacies change, then measures which covary with legitimacy may also change.

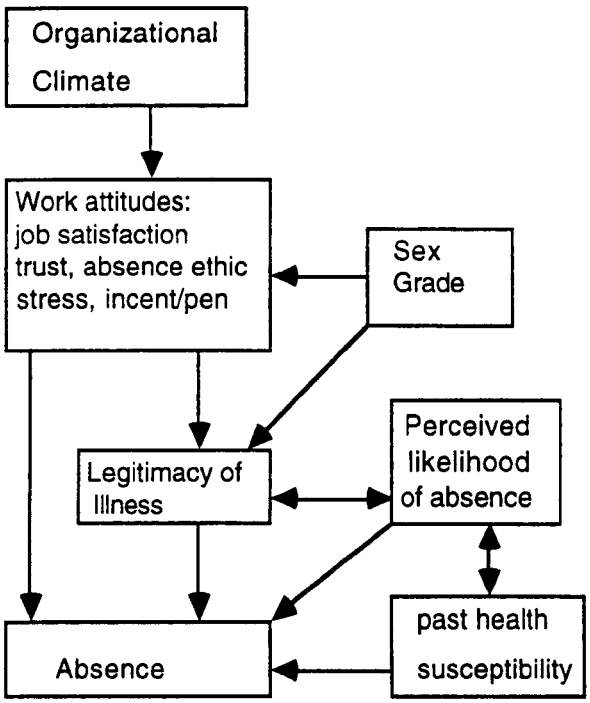
The significant relationships between perceived legitimacy and work attitudes can be summarised in general terms, as follows:

* Organizational climate is related to work attitudes and absence but not to legitimacy.
* Work attitudes and stress are related to both legitimacy and absence.
* Legitimacy, actual absence and perceived likelihood of absence are interrelated.
* Past health and susceptibility to illness are both related to actual absence and perceived likelihood of absence but not to perceived legitimacy.
* There are sex, age and grade differences in work attitudes, stress and legitimacy, and grade differences in actual absence.

These are represented in diagrammatic form in Figure 11. In this figure, some assumptions have been made about the direction of causality. All the attitude measures preceded absence B period and followed period A, thus allowing some possibility of assessing reverse causality. The findings in this study support the proposition that the attitudes- illness legitimacy- absence relationship is not uni-directional. Variables may be both consequences and causes of absenteeism, with lagged effects in many cases. The situation is complicated by some of the variables being attributional about self and some involving attributions about others. It can be argued that the use of the structured equations could not determine causality in this study, because it may be the absence of others which is related to judgements of legitimacy and attributions, for example in the

case of those with 100% attendance records. Thus, the arrows directions shown are speculative.

Figure 11. The relationships found between variables tested and perceived legitimacy and actual absence.



Attribution theory may offer some explanation for causes of these relationships. There may be substantial differences in attributions of behaviour by actors and observers such that actors attribute their absence to situational rather than dispositional factors and their attendance to internal rather than external reasons (Hewstone, 1989). Self-serving biases in perceived legitimacies and likelihoods would presumably reflect these attributions. This is suggested in the findings by the positive relationships between actual and perceived absence frequency for the T2 illnesses being restricted to illnesses which could be considered to be low discretion. The overestimation of dispositional factors and underestimation of situational factors in controlling absence behaviour is the fundamental attribution error; this suggests that if factors such as susceptibility to illness and past health are perceived to be out of the individual's immediate control, they may be

underestimated in effect and less likely to be used by the actor to explain the actor's absence. But the actor's susceptibility to illness may be perceived by the observer as having an internal locus of control, and therefore becomes more likely to explain the actor's absence by the observer.

It may be not in an individual's self-interest to estimate their own [or their group's own] likelihood or actual frequency of absence as higher than that of those of an out-group (Johns, 1994a, 1993). This argument may extend to sex differences if members of the same sex are perceived as the in-group. It may be that women [as actors] make less use of enhancing self-serving biases in relation to attendance and less use of protective self-serving biases in relation to their absences compared to the use of such self-serving biases by men. This might explain the more pronounced factor structure of headache/backache illnesses held by men.

There are also questions to be considered about the direct and indirect effects with some variables. For example, logic suggests that if the organizational climate was poor absence may be considered to be more justifiable, which was found to be the case, but the findings do not point to any direct role for relationships with peers in relation to absence or attitudes to it. It can be argued from these data that responses from employees in relation to the absence of peers/others are more likely to be related to how the management responds to and handles the absence rather than to the absence itself; this is consistent with the analysis by Farrell and Stamm (1988). The issue is therefore one of trust and equity (Cook and Wall, 1980).

5. The Absence Ethic

The findings support the existence of attitudes to absence and malingering which relate to job satisfaction, endorsement of penalties and incentives, and perceived legitimacy. This set of attitudes has already been labelled the 'Absence Ethic' earlier in the thesis.

The findings suggest that the Absence Ethic is more complex than the initial cluster derived from the A scale in this study. Elements revealed here include:

[a] the perception that malingering exists.
[b] the perception that the manager knows about malingering.
[c] the perception that the manager acts in response to malingering/equity of treatment.
[d] pride in attendance.
[e] judgements about the salience of reasons for absence.
[f] motivators to attend [e.g. incentives and penalties].
[g] perceived impact of attendance/absence on work role.
[h] importance/salience of attendance
[i] commitment

The above list incorporates the salience of absence as [e] and [h] (Nicholson and Johns, 1985) and some elements of distributive and interactional justice (Adams, 1963; Bies and Moag, 1986; Greenberg, 1990) in [c]. The three perceptual elements [a], [b] and [c], along with the motivators in [f] are clearly environmentally-dependent, although the perceptions may be distorted in a self-serving way or in relation to some other attribution (Hewstone, 1989; Johns, 1993, 1994a and 1994b). However, given the pervasiveness of absence (Steers and Rhodes, 1984) and thus the likelihood that there are likely to be perceptions of malingering and attributions about absence in almost every organization, then these elements may demonstrate stability across organizations and over time. The other elements in the list may be less environmentally influenced.

The Absence Ethic has been shown to be related to actual absence and to many work attitudes. However, it is conceptually different from the Protestant Work Ethic (Furnham, 1990), in that it is not necessarily associated with the amount of effort and work done; however, the two may be associated in that some of the original religious [Lutheran, Calvinist etc.] and philosophical underpinnings of striving, not being wasteful of time etc. might also underpin the Absence Ethic. It is suggested that further research is necessary in order to investigate the nature of the concept of the Absence Ethic and that it should be possible to generate a set of scales to measure it.

6. The Hypotheses

Hypothesis 1.

This proposed sex and grade differences in perceived legitimacy of minor illnesses and it was shown there was greater legitimization of illness by men than women and that these differences were not more pronounced at lower job grades.

The decreased legitimization for higher grades and the age patterns imply that perceived legitimacy changes and develops over time, due to seniority or generational effects. There is evidence of similar age-related changes in the Protestant Work Ethic (Furnham, 1990). It is clear that the role of job tenure and chronological maturation in determining changes in perceived legitimacy for both sexes requires further investigation.

The evidence concerning the greater consultation by women with their general practitioners (Corney, 1990; Bird and Fremont, 1991; Gijsberg et al, 1991) supports H1, i.e. greater legitimization of illness by women. These findings suggest some different perceptual processes or attributions by men, at least in the context of absence. The large number of significant sex differences reinforces the notion that there are some very fundamental difference in attitudes, values and perceptions between the sexes (Billing and Alvesson, 1989; Rosener, 1990). It could be argued that women's higher commitment and pride in zero absence are related to their lower legitimization of so many illnesses. Similarly, men's beliefs that if they are off sick, their work waits and their self-rated lower levels of involvement in counselling and dealing with the public [both of which mean that their absence results in someone else having to do their work] imply that they might legitimise illness more.

Accounting for the sex differences is not easy. The literature on absence and minor illness suggests that women show a greater readiness to perceive physical sensations as

symptoms of illness and demonstrate a stronger link between absence and job satisfaction than do men (Gijsberg et al 1991; Hackett, 1989). Therefore, while the 'medical' evidence would have supported greater legitimization by women, job attitudes and perceptions suggest the reverse.

Sex differences in life roles have been an explanation of absence attributed to domestic or personal matters (Nicholson and Payne, 1985). There are many potential influences upon life roles; for this research such influences might include the history of declining heavy industry and 'lifetime' employment, local attitudes and self-perceptions in relation to the role of women, high levels of unemployment making women the primary wage earner in many cases, particularly for lower grades. It is therefore difficult to disentangle sex differences in life roles as they may affect work attitudes and particularly absence behaviour and attributions.

There have been inconsistent results in terms of morbidity and absence levels, although some of these have related to grade/class differences (McCormick and Rosenbaum, 1990; IDS, 1988; General Household Survey 1993, 1995). None of the sex differences found here are explained by grade differentials.

Hypothesis 2

This proposed that legitimacy would vary across illness, moderated by sex, grade and stress. Variations in legitimacy across illness groups and the moderating effects of sex have already been addressed and therefore this section will consider the findings in relation to grade and stress.

Of the various minor illnesses considered in the study, diarrhoea and viral illness had lowest susceptibility, occurred least frequently, were most likely to result in absence and had high perceived legitimacies. From this, it can be suggested that they can be considered as relatively low-discretion on the A-B continuum (Nicholson, 1977). From

the findings, such A-type illnesses show fewer grade and sex differences. It is therefore suggested that perceived legitimacy and several other associated variables are not moderated by grade for A-type illnesses.

Large grade differences in perceived legitimacy [such as grade 'gradients'] were found in most illness groups, which cannot be accounted for by the higher numbers of women in lower grades. There were also similar differences for age, with the general exception of those aged over 56. Whether these changes in legitimacy happen with advancing age, or promotion or both, is not clear. However, the increased legitimization by the oldest age group parallels the pattern for total days lost in many studies (Taylor, 1984; North et. al., 1993).

From the interview evidence, it is suggested that actual absence at higher job grades is likely to be reduced by lower levels of recording, such absence being viewed by the job incumbents as constructive [as defined by Nicholson and Johns 1985]; this reluctance to enter one's own absence into the recording system is clearly self-serving, presumably justified by the perception of absence as constructive and equitable when regular long working hours are considered. That higher grades endorsed the use of penalties but not incentives supports this self-serving reluctance to record absence at higher grades.

Higher grade jobs have less involvement with the public, are less likely to be in open plan offices; this was clear from both the A scale measures and from observation during the interviews. However, in the regional office environment, there existed open plan offices for relatively senior grades but no involvement with the public. Thus, any effects for these two variables are likely to be moderated by the regional office/local office issue, which is not testable in this study other than for T2 respondents.

Do these findings support the consideration of different grades or age groups as different populations in terms of absence behaviour? Having attempted to disentangle age and

grade effects on perceived legitimacy and discovering that sex is a moderator of these effects, then the position is clearly complex. However age and/or grade effects are almost pervasive, showing variation in legitimacy for all but four of the eighteen B scale illnesses.

In this study, stress is predictably linked to both actual absence and its perceived legitimacy, and the findings suggest that there is also likely to be reverse causality. Stress appears to act as a moderator, with women showing more significant links between stressors and legitimacy but men perceiving themselves to be more stressed overall. The clear links between perceived legitimacy and work-home interface stressors for women are as predicted from the stress literature (Davidson and Cooper, 1984 and 1992). The levels of stress described could be an underestimate of the problem, since some respondents are either clearly completely unaffected by stress or unwilling to admit it even in an anonymous questionnaire. Recognition was the most significant stress factor in relation to actual absence and has also been shown to have relevance to the Absence Ethic in terms of malingering and the use of incentives. This would imply that the concept of recognition may be very central to the study of absence and how it is perceived by the workforce.

Hypotheses 3 and 4.

In this study the hypothesised relationships between perceived health, susceptibility and organizational trust and perceived legitimacy were limited to colds and [for men] backache; these are B-type minor illnesses on Nicholson's (1977) A-B continuum. This suggests that there are self-serving biases associated with perceptions of B-type illnesses.

However, the relationships were much more evident for actual absence. In particular, the findings suggest that perception of health is predictive of *subsequent* absences and that perceived susceptibility to illness is related to *current or past* absences. This implies

that perception of health determines absence which then in turn determines the perception of susceptibility to various illnesses. It was also found that absence and perceived legitimacy are most clearly linked for B-type illnesses. This suggests that the legitimization of illness is relevant to both absence and susceptibility only for B-type illnesses. It is also possible, though untested in this study, that perceived susceptibility to illness and perceived health status relate more to consultations with general practitioners than to perceived legitimacy.

There was nothing to support a relationship between organizational trust and perceived legitimacy, except for colds, but there was certainly a trend [$p<.10$, 1-tailed] for trust in management to be related to actual absence. It may be that trust in management, related as it is to attitudes to malingering, is of greater concern as part of an Absence Ethic than as a predictor of perceived legitimacy as originally hypothesised. Legitimacy may involve more external comparisons and may therefore have less salience in this respect.

There remains the question: when only one illness, in this case colds, shows significance for both hypotheses 3 and 4 [but no other illness does], can this be relied upon? It is either an artefact of the significance testing and must be discounted or it may be that it is only highest-discretion B-type illnesses that exhibit such relationships. The matter cannot be resolved here but invites further research. If it is just an experimental artefact, then the logic inherent in both these hypotheses is unsupported and would therefore place these variables in an indirect relationship with legitimacy rather than a direct one. The notion of an indirect link is supported by the fact that trust was correlated significantly with job satisfaction, which is strongly related to perceived legitimacy and to actual absence.

Therefore perceived health, perceived susceptibility to illness and organizational trust are all clearly related to absence frequency, but only to the perceived legitimacy of high-discretion illnesses.

Hypotheses 5 and 6

Since these both concern work attitudes, it is prudent that they are considered together here. Hypothesis 5 focused particularly on attitudes to malingering and their relation to work attitudes, organizational trust and perceived legitimacy, whereas hypothesis 6 considers climate, job satisfaction, Absence Ethic and attitudes to promotion.

In general terms both these hypotheses are supported, although the links to absence and/or legitimacy in the cases of attitudes to malingering, climate and organizational trust are largely indirect. However, the Absence Ethic [particularly if taken as a multiple construct with sub-sets including attitudes to malingering] and job satisfaction are related to all of the other work variables and to actual absence and would therefore seem to be central to both hypotheses. This is reflected in Figure 11, shown earlier. Nicholson and Johns (1985) suggested that job satisfaction may only be relevant to absence when it [job satisfaction] was a salient feature of attitudes within the organization. The qualitative data suggest that job satisfaction is important in this situation. It is therefore not surprising that it should be so centrally related to so many measures (Steers and Rhodes 1984; Nicholson and Johns 1985; Johns, 1988; Farrell and Stamm, 1989; Hackett, 1989). Of the several potential reasons for the only moderate relationship between job satisfaction and absence raised by Johns (1988), the most relevant in the context of this study might be work group norms and opportunities for job satisfaction. Clearly, from the qualitative findings, these latter variables would be expected to differ between Job Centres, Unemployment Benefit Offices, the newly formed Integrated Offices and the Regional [Head] Office. This implies that the relationship between job satisfaction and absence is not universally moderate/low but is high for some groups/offices and low for others. This accords with the suggestion of Hackett (1989) that the issue is complex and that much data [for job satisfaction and absence] are underestimates of the true underlying relationship. Extra-organizational factors [such as outside commitments] and the opportunities these present for off-the-job satisfaction

might have a greater impact upon this relationship (Johns, 1988: Hackett, 1989) for the smaller offices employing local people.

In relation to the other measures of work attitudes, some of the issues raised by Johns (1988) and Hackett (1989) may also be relevant to the findings here for attitudes to malingering, organizational climate, organizational trust and perceived legitimacy of illness. For example, it is possible that there may be some factors that underlie all these variables: one such factor might be the organizational policy in relation to absence. Edwards and Whitston (1989) discuss the conflicting signals given by positive, development-orientated policies on the one hand and negative, control-orientated policies [such as absence control policies] on the other. When organizations are changing, and in this context this does not merely mean the programme of integrating offices but wider politically-driven changes which may threaten individuals future employment prospects, the instability of the work environment and the conflicting signals associated with it may act to reduce relationships between job satisfaction, work attitudes and absence. Such might be the case in this study. If there are underlying factors which act differentially to depress correlations between work attitudes and absence, then these would need to be considered when meta-analyses are conducted.

It can be suggested that a model of legitimacy and its relationship to absence should include job satisfaction and the Absence Ethic. It is also proposed that organizational climate, linked to organizational trust in peers, has at best an indirect link to absence through its relationship with other work attitudes. The implication of this are that behaviour of peers may be a weaker determinant of absence than personal work values and attitudes.

Hypothesis 7

This concerns the use of incentives and penalties and their relationship to perceived legitimacy, absence ethic, attitudes to malingering and organizational trust.

The findings confirm that incentives and penalties both relate to absence behaviour. Endorsement of penalties is significantly associated with perceived legitimacy and actual absence, in addition to apparently influencing susceptibilities. Since the relationship with absence was for period A [preceding the attitudes to penalties questions], it suggests those who have lower levels of absence subsequently make a self-serving adjustment to their attitudes to penalties but not to incentives. However, attitudes to both penalties and incentives were related to the perceived existence of malingering. Therefore it is likely that absence behaviour is influencing absence attitudes, and the findings from the testing of hypothesis 10 suggest that this may also be true for perceived legitimacy of certain illnesses being influenced by prior absence behaviour. The whole process is probably circular, with a continuing pattern of influence: attitudes-behaviour-attitudes, such as has been found in other literature on attitudes and attribution (e.g. Miller and Ross, 1975; Mirels, 1980; Hewstone, 1989; Harrison and Shaffer, 1994). These measures in effect take place as a 'snapshot', and although in this study there is some temporal differentiation, causality is extremely difficult to determine. From the findings, it appears that attitudes to penalties are influenced by both the absence of others and one's own absence level, but that attitudes to incentives are unaffected by one's own absence level. This implies that penalties and incentives have different motivational bases in terms of absence; it may be that the concept of legitimacy is central to this, because absences perceived as illegitimate may attract penalties, absences perceived as legitimate would attract neither penalty nor incentive and only zero absence would attract incentives.

These findings do not support the wide use of penalties as specific means of controlling attendance because this involves extrication of malingering [which these respondents seem to feel their managers are not particularly good at doing] or penalising genuine absence. Interestingly, the nature of any incentives used may be critical to their success, with recognition being more likely to be effective than other, more direct incentives.

Hypothesis 8

This concerned perceived legitimacy of illness and perceived likelihood of absence, which were shown to be related for all illnesses except depression. It has already been argued that perceived legitimacy and perceived likelihood are variations on a single theme, although legitimacy is both self- and other-focused whereas likelihood is largely self-focused.

Perceived legitimacy of each illness factor is related to its corresponding perceived absence likelihood and to other illnesses, implying some generalization of illness constructs. Interpreting this into attributions at work, an employee might judge an illness as legitimate as a reason for absence, and judge further illnesses as being more likely to result in absence. This could therefore affect employees' judgements of one another's behaviours in a wider context, influencing the perception of what constitutes malingering.

Some measures, such as perceived health and susceptibility, are more closely linked to perceived likelihood of absence and actual absence than to legitimacy. One implication from this might be that one makes an attribution about the legitimacy of an illness separately or independently from the judgements concerning one's own health and the likelihood of absence from the illness. Analysed in terms of Fishbein and Ajzen's (1975) theory of reasoned action and Ajzen's (1991) theory of planned behaviour, if the perceived legitimacy of an illness is attributed before the health and likelihood judgements, it may subsequently alter the perceived likelihood of absence and consequently affect absence itself, whereas if the attribution is made after the health and likelihood judgements, then it may fulfil a self-serving function in order to justify the absence or attendance.

Most of this discussion has concerned the link between attitudes to and attributions concerning absence from the perspective of the individual, and attempted to assess the influence of how others are perceived upon individual perceptions. What has not been considered for this legitimacy-likelihood link is how it affects the behaviour of others, such as the responses of managers. It can be argued that this point is crucial, not least in relation to malingering and the use of incentives and penalties discussed above. This will be discussed in the next chapter.

Hypothesis 9

This concerned how the different stressors from the C scale related to perceived legitimacy, and was found to be supported in general terms; in addition, stress was significantly related to actual absence. The findings on stress are consistent with the literature (e.g. Davidson and Cooper, 1984 and 1992), in that 'domestic' stressors figured heavily for women and other work stressors similarly for men. Indeed, job content stress factors were strongly associated with headache-type illnesses by men, as might have been expected from other data in this study. Although men perceived themselves as under more stress, they are apparently doing the same or similar jobs to women in most cases. Their differing views on promotion, with a greater wish to be promoted but seeing fewer chances may contribute to their greater stress. Attitudes to promotion, plus their lower levels of trust and job satisfaction found in the study, may explain some of the greater perceived stress frequency by men. Similarly, perceived gender roles may also influence perceptions and place men under greater apparent stress to keep their jobs and achieve levels of performance at work (Aaltio-Marjosola, 1994; Sachs et. al, 1992; Burke, 1994). Notwithstanding the reasons for the sex differences, it is clear that stress is linked to all of the dependent measures of absence used in this study. Stress frequency and recognition stress was significantly correlated with both preceding and subsequent absence. This suggests cause and effect in both directions, contrary to Briner and Reynolds' (1993) argument that there are no occupational consequences of stress.

The greatest perceived stressors for both sexes included quantitative overload, lack of recognition, feeling undervalued and work changes which had been and were continuing to take place [integration of offices]. Lack of recognition was an important correlate of absence attitudes and behaviour.

Hypothesis 10

A number of dependent and independent variables from the two surveys were found to be related to actual absence frequency, as the hypothesis proposed.

It is evident from this study that the notion that discretion (the A-B continuum in Nicholson, 1977) will vary for specific illnesses in different contexts may apply here. This is most clearly illustrated in the findings that perceived legitimacy relates to absence for what may be termed high discretion illnesses whereas the perceived frequency of illness specific absence is related to actual absence for low discretion illnesses. However, the most recent paper by Rhodes and Steers (1996), re-articulating their 1990 model, still seems to miss this central issue- that minor illnesses, by their very nature, involve varying elements of choice and discretion in different contexts and therefore their legitimacy as reasons for absence may vary. It is the variation, in relation to perceived legitimacy, susceptibility to illness etc. for differing minor illnesses, that has been a feature of results relating to this and the previous hypotheses.

The finding that absence is related to several work attitude variables, including job satisfaction, stress, trust in management, attitudes to penalties and the Absence Ethic accords with findings from many other studies [e.g. Chadwick-Jones et al (1982); Farrell and Stamm (1988); Hackett (1989); Bycio (1992)]. However, many of the correlations, although highly significant, account for only small portions of the total variance in absence behaviour.

Generalisation and methodological considerations

[a] Constraints, strengths and weaknesses

Any field investigation into a sensitive area will be constrained. In this study, the practical constraints related to the sensitivity and face validity of the issue in general, the time pressure to complete the first stage of T1 data collection, the use of constructed measures and the limited amount of respondents' time for questionnaires. Methodological constraints related to the self-selection of the T2 sample and the choice of measures themselves.

The practical constraints might affect the decision of some respondents to respond or not, or influence the responses to items in a constant way, or increase error variances. Constant effects are easiest to address: they may result from measurement artefacts and may affect items means without affecting the validity of comparisons and correlations; therefore, their impact on the findings from this study would be minimal. Effects on response rates can only be directly tested by comparison with the parent population on biographical measures. When tested, it was shown that the T1 respondents do not differ significantly from the population on any of the biographical measures and T2 differed only on the balance of the sexes for one grade [AO]. However, it can be seen that actual absence data from T2 respondents show a wide range of absence patterns, suggesting that it is unlikely that those with least absence chose to volunteer for T2. So responding [compared to not responding] does not appear to be related to the frequency of absences or total absences of the respondents. Therefore, it seems unlikely that respondent rate effects have any major impact upon the findings in this study. Finally, if the effects were to increase error variance, these would presumably act to decrease the general significance of findings and therefore depress any linkages rather than enhance them, unless the errors themselves are also correlated. It is proposed that in this study significant findings occur despite rather than because of error variances in the data.

Practical constraints do not therefore seem likely to detract from the main body of the conclusions.

This study has both strengths and weaknesses. That responses are derived from the employees themselves is an important strength. Collection of both perceived legitimacy and actual absence data as dependent variables strengthen the study and enabled useful data to be obtained from all respondents. With absence itself as a sole dependent variable, the data would have been limited to two dimensions [frequency and volume] and also by the timescale available and accuracy of employees' absence records. Other strengths of this study include the size of the sample and its multi-stage nature.

The large number of respondents in this investigation [over 50% of the population] enabled sub-divisions by both grade and sex simultaneously to be used in calculations, giving the analyses more power. There is always a potential issue in terms of self-selection of respondents (Campbell and Stanley, 1967), in this case for both T1 and T2. In terms of T2, it can be argued that those with high absence levels might have been less likely to volunteer as respondents, although there may also be self-serving biases- that they would not judge their high absence as such. However, absence frequency data are not available for the population in order to make such comparisons, and the very high absence frequencies for some respondents implies that the T2 absence frequencies were typical of the population.

Although there were proportionally more males in the T2 AO group than in the population, there is no evidence that findings for this group differ from those found for either grade or sex differences in the hypotheses. This is particularly clear where this group has been separately identified, as in the tests of hypotheses 1 and 2. It is therefore unnecessary to modify any major theoretical assumptions concerning legitimacy of absence simply because of a higher response rate by men in the T2 AO group.

Therefore consideration of sex and grade differences at the hypothesis testing stage is deemed sufficient.

The potential weakness of the study in having T1 and T2 measurements a year apart does not appear from the evidence and results to have been a problem. This may have been due to the re-briefing of the T2 respondents or it may be that the attitudes have relative reliability and stability compared with any differences due to age and job grade. The correlations between perceived legitimacies on the T1 B scale and perceived likelihoods from the T2 measures indicate that the time gap has little effect.

[b] Generalisation

The tests of representativeness suggest that the results are typical of the population of the Northern Region of the Employment Service. Generalisation from this population may extend to other similar public sector organizations in the north.

The extent of generalisation requires consideration, since it potentially affects validity (Campbell and Stanley, 1967). This organization has a large range of jobs, tasks and occupations but there are no manufacturing and production, marketing and sales functions. Evidence that results from some absence studies are affected by the nature of the population under investigation, such as health professionals (e.g. Hackett et. al., 1989) suggests that such occupations may hold differing perceptions of legitimacy. There are therefore limits to generalisation from this study.

Some work environments to which generalisation may be doubtful could include those where there are different norms of behaviour and organizational cultures. If Civil Servants have self-perceptions which may differentiate them from other organizations, then these could affect perceived legitimacy and the absence culture if those values and perceptions have salience (Nicholson and Johns, 1985). Further research is necessary to develop links between self-perception, organizational culture and absence, for

example by tying perceived legitimacy to self-perception, perhaps using additional health-related measures.

[c] Factors influencing validity

This study has used several analytical techniques, particularly correlation. It is to be expected that some of these will exhibit significance by chance i.e. a type I error (e.g. Blinkhorn and Johnson, 1993). However, the number of significant correlations found in the analyses substantially exceeds what one would expect by chance. Further, the use of two-tailed tests throughout the study adds strength to the findings.

Events occurring and experimental mortality between the T1 and T2 measures [or indeed during the whole duration covered by the measures of absence] are potential sources of bias (Campbell and Stanley, 1967). From the qualitative data, a major event likely to have had an impact upon many employees attitudes or behaviour is the programme of integration of the Job Centres and the UBOs. It is suggested that this impact might have increased uncertainty and stress and lowered organizational trust in both management and peers. Indeed, the lack of trust was manifest in some interviewees who had been involved in the industrial action specifically relating to the integration of offices. However, it is likely that the impact of effects of integration were not equal for all respondents. At the time of the study the integration programme was approximately one quarter complete, thus rendering respondents at differing stages in the process. Therefore, given the correlations found for these measures with absence and perceived legitimacy, it is possible that the integration programme had some impact [not able to be specified in amount or type] upon the dependent variables in the study. Any other events or changes in respondents over time would be specific to individuals and therefore likely to increase variance in responses rather than act as sources of systematic bias.

Experimenter effects in research of this kind also need to be considered (Webb et. al., 1981; Campbell and Stanley, 1967). Any effects are likely to be most apparent in the interviews in T2, where there is the possibility of effects on responses such as social approval and social desirability (Oppenheim, 1994). Following the British Psychological Society code of practice [and also the time lag from T1] necessitated the briefing of T2 interviewees in order to remind them that they had volunteered and the subject matter of the interview. However, it seems likely that answers would be less distorted when the interviewer is known to be independent of the organization rather than part of its management structure: findings from the interviews support this suggestion.

Turning to the possibilities of error and consequent reduction in validity due to measurement of the dependent and independent variables, the use in T2 of published scales for trust, job satisfaction, perceived likelihood and frequency of absence (Cook and Wall, 1980; Quinn and Staines, 1979; Nicholson and Payne, 1985) has already been addressed in chapters 4, 5 and 6, as has the comparison with Litwin and Stringer (1968) of the climate factor derived from the A scale in T1. However, there were several measures constructed for this investigation and these include all of the T1 survey, the Cantril ladders (Cantril, 1965 and 1977) on perceived susceptibility to illness and perceived health status and malingering measures in T2.

From the findings, it is clear that the A scale in T1 contained some items which, when factored, were really too few in number to form full scales [e.g. attitudes to promotion] but where the issue being questioned was possibly complex and might contain several factors; therefore the construct validity of these items can be questioned. During the analyses in chapters 6 and 7 and earlier discussion in this chapter, those items where this might be an issue [such as those forming a number of the lower order factors in the A scale factor analysis] have been treated with some caution. However, the A scale factor analysis produced two factors which were of particular value in this study - the measure

of organizational climate and the Absence Ethic. The qualitative findings would support the existence of an Absence Ethic as a robust concept, as do the findings from the various scales used as dependent and independent measures, although it might be possible to derive may several sub-scales if the concept were developed further. Apart from climate and the Absence Ethic, it can be said that the other attitudinal items on the A scale have a limited use in the study since they did not form strong factors.

The remaining constructed dependent variables included the stress scale. The measurement of stress tends to involve long and complex scales [e.g. The Occupational Stress Indicator, Cooper et. al., 1988] or particular facets of stress. What was required in this study was 15 to 20 items that would examine the main stressors affecting this particular population at the time, and no published scales could fill this need. The scale factored into several areas which are frequently occurring in the literature (e.g. Davidson and Cooper, 1984; Cooper and Payne, 1988) and which the qualitative findings reinforced. Therefore it seems likely that the factors in this scale are valid for this study in terms of establishing which stressors are related to absence and the perceived legitimacy of illness as a reason for absence.

Summary

The concept of legitimacy has been shown to be related to absence behaviour, and it is likely that the relationship operates in both directions. This relationship would appear to be moderated by sex, minor illness type, grade, age, work attitudes and in particular attitudes to absence, although it is likely that there are many other [untested] variables that also influence the legitimacy-absence relationship. The almost pervasive sex differences found accord largely with the findings of Hackett (1989) but this is not supported by some other absence research, which finds few or no sex differences (e.g. Haccoun and Jeanrie, 1995). The minor illness groups identified clearly influence the legitimacy-absence relationship but these groups do not correspond with those identified by Evans and Edgerton (1992) and therefore need further research in order to establish

what may be typical minor illness clusters for the general population. Of the measurement issues raised, self-serving bias appears to be prominent as an explanation of several effects. The integration of the offices during the progress of the study is likely to have influenced the data, although it is proposed that this and the other local events are unlikely to detract from the main findings.

Chapter 8

Implications

This final chapter is divided into 3 sections: [1] general implications for managers; [2] future research issues; [3] practical recommendations specifically for the Employment Service.

Implications for managers

It can be said that managers cannot really address the absence of their employees unless they understand it. If absence were simply a matter of taking time off for illness that incapacitated the individual, there would be no need for this study. Each individual employee makes decisions to attend or to be absent and the evidence that there is some discretion in many of these decisions is unequivocal. This study provides some insight into how people use that discretion.

If a manager makes a judgement that an absence of a subordinate is not justified, dissonance theory (Festinger, 1957) would predict that the manager will be likely to alter his or her attitudes or behaviour toward either the subordinate or to the illness or to the organization in order to achieve consonance. The same would be true in relation to the absence of a peer or colleague. Attribution theory would predict that negative judgements about the absence of others are easier to make for those outside the group, i.e. a group-serving bias (Miller and Ross, 1975; Johns and Xie, 1995). Underlying these judgements is the notion of legitimacy.

Evidence of actual absence levels shows women taking more time off than men (e.g. Taylor, 1968 and 1974; Hackett, 1989; North et. al. 1993). So the finding in this study that men legitimize absence more than women is especially interesting and flies in the face of commonly held views. In general terms, the literature on job attitudes supports the findings, whereas in contrast the literature on increased symptom sensitivity and actual absence statistics supports the hypothesis. Although it is possible that these findings are somehow specific to the organization or locality, it is difficult to identify which variables exist that could have such a profound effect on male/female differences

in legitimacy. However, whether this is a local finding or is typical generally requires further research, since this is the first study of this type to assess sex differences in minor illness perception. Taken as they are, without the locality-specific explanation, the findings in this study imply that the effects of symptom sensitivity on absence need to be rethought.

Judgements of perceived legitimacies vary widely and appear to be influenced by grade and sex. The situation where the manager and subordinate have differing opinions about an illness will occur frequently and if some illnesses are perceived by the manager to be more acceptable as reasons for absence than others, then a possible consequence is post hoc adjustment of subordinates' reasons for illness. This could be particularly true for those which are perceived to be stress-linked. It is clear that men and women have differing attitudes to absence: women show more trust and greater job satisfaction and score more highly on the Absence Ethic. This could mean that women managers may handle the absence of their subordinates differently to male managers (Loscocco, 1990). For example, if commitment is demonstrated in an organization by long hours of working in stereotypically 'male' jobs, an androgynous woman manager may be less tolerant of domestic stressors of subordinates, who will be perceived as less committed (Billing and Alvesson, 1989; Rosener, 1990; Davidson and Cooper, 1992; Campbell et. al., 1994). It could also mean that women employees are more likely to make external attributions about the absence of other women but internal attributions about the absence of male colleagues; this is supported by some of the qualitative findings.

In many organizations, the way that managers handle the absence of subordinates is increasingly coming under scrutiny, as organizations recognise that absence is a costly phenomenon and introduce absence control policies (Scott and Markham, 1982; Scott et. al., 1985). Simply changing the rules, by for example the introduction of exit interviews, does not address the causes nor improve understanding. It has been argued that toughening the controls can move the problem elsewhere (e.g. Nicholson, 1976;

Edwards and Whitston, 1987), and this could take the form of reduced effort or lower motivation. Indiscriminate use of control mechanisms, that is, to apply them to those whose absence is perceived as genuine and unavoidable, or to not apply them to those whose absence is perceived as malingering, reduces trust. This in turn may affect the perception of the psychological contract in terms of informal, interactional or procedural justice (Barling and Phillips, 1993). Taking the 'absence as a form of withdrawal' approach (Hanisch, 1995; Hanisch and Hulin, 1990; Hanisch and Hulin, 1995) it could be that some absence might itself be due to inequitable tough absence control policies, and if such absence is prevented by these policies, then other forms of withdrawal might result.

In this study, managers and subordinates could not agree on the use of incentives and penalties to control attendance. This raises a fundamental question- can attendance be amenable to the use of motivational techniques and if so, are these similar to those which might relate to effort and performance? The answer to the first part must be yes, in that basic psychological principles dictate that some absence behaviour is motivated. However, the means of motivation are less clear. Employees endorse the use of incentives, whereas managers prefer to see the use of penalties. Recognition has been identified as a key concept in this respect, along with trust, job satisfaction and commitment. It may be that one approach would be to try to achieve shared [rather than disparate] values and attitudes in relation to absence, and this means addressing how attributions and judgements may be changed to reduce their range.

One area which is clear from the study, especially from the notion of the Absence Ethic and the interview evidence, is communication about absence in relation to shared work values. Some US literature refers to 'allowable sick leave' as some sort of entitlement known to employees (e.g. Haccoun and Jeanrie, 1995) and which implies recognition by the organization of [at least] unavoidable [A-type on Nicholson's (1977) A-B continuum] absence. This is not generally reflected in absence literature in the United

Kingdom, where absence or attendance, nor the reasons for them, are generally not recognised as much as other organizational behaviours (Huczinski and Fitzpatrick, 1989). Whilst the organization's communication emphasis may be on performance [which is often rewarded by promotion], quality and costs, there has been little emphasis on absence. The findings in this study could be interpreted as supporting this position, in that the qualitative evidence suggests little in the way of senior managerial involvement in absence until a report from another region prompted some activity. For example, absence behaviour would seem in this study to be unrelated to promotion or perceptions of promotion. Employees even seem to be largely unaware of what the 'limits' are in relation to days lost. However, for those who legitimise absence, it may be an important element in their lives, possibly having some respite value for stress. Similarly, it has also been seen as a vehicle for cheating the organization in the form of non-illness malingering. However, rarely are these views aired. Communication and recognition - of the amount, frequency, nature of and reasons for absence- is therefore important for managers to address. Further, the findings in relation to the Absence Ethic imply that it is not only absence but also attendance which needs to be recognised.

In conclusion, the implications for management of these findings can be brought together under the following points:

* Indiscriminate use of tough absence control policies might result in other forms of withdrawal behaviour.
* Women managers and subordinates may respond differently to the absence of others than do men.
* Motivation to attend must involve recognition of both absence and attendance. This will of itself increase the salience of absence.
* Communication in relation to absence behaviour is important; again, this will increase the salience of absence, particularly in relation to obtaining some consensus concerning malingering and stress-induced 'respite' absence.

* Increased commitment and trust may change the types of absence, to be more 'constructive'.
* Increased use of punitive measures, when employees clearly do not endorse their use for 'genuine' absence [and may have little or no absence themselves], may alter the psychological contract. This in turn may affect other organizational indicators e.g. lowered commitment and trust, lower productivity, increased intention to leave.

Future research issues:

1. Perceived legitimacy

This investigation has opened up the concept of legitimacy, by obliging it to be considered differently depending on the nature of the illness and the sex and grade of the perceiver. The nature of legitimacy is complex, depending on different illnesses in addition to being moderated by sex and grade.

There are many problems associated with the choice of dependent variables in absence research, and the literature indicates the use mainly of duration, frequencies, self reports of duration or last time off and more specific indices, with a few notable exceptions [e.g. Nicholson and Payne, 1987]. Martocchio and Harrison (1993) have explained how much this limits the extent to which research can explain what is really happening. The use of indirect measures such as legitimacy may have a major place in future absence research.

The use of perceived legitimacy in absence research enables measurement of the whole population and provides a means of studying part of the process rather than just the outcome. Although absence is behaviour and therefore must be important, it is an endstate which may have different causal origins. Nicholson and Johns (1982) identified four types of absence, not all of which have equal meaning; it was clear in this study that different types of absence occurred but these differences were only captured in

the interviews. The underlying mediating processes need to be measured if absence is to be properly understood. Scales might be constructed to measure these different types of absence and employees perceptions of their frequency and legitimacy. Measures should initially be theory based, to address general attributions rather than workplace differences. Further investigation might use probabilistic estimation of absence [such as perceived likelihood] in particular work circumstances.

The use of alternative dependent variables permits the measurement of attitudes which it would otherwise have been difficult to tap, for example the responses of an individual to the absence of others. However, the 'self' and 'other' referencing of legitimacy presents a difficult measurement issue. If measures invite the respondent to consider their own behaviour, they will be distorted by self-serving biases (Miller and Ross, 1975; Hewstone, 1989; Johns, 1994a). If measures invite consideration of other people's behaviour or attitudes, then this may not necessarily correlate with the respondents' own behaviour or attitudes. Perhaps two types of measure are needed, for a common set of illnesses.

As Nicholson (1977) points out, the perception of discretion and actions based on the perception are context-dependent, and this seems likely to apply equally to perceived legitimacy. Therefore measures to assess the relevant contextual influences must also be considered. In this study some were assessed, including job grade, sex, organizational climate and trust, job satisfaction, perceived health status and perceived job stress, but there are other potential influences such as job characteristics and organizational control strategies. There is a need for more research here.

Motivation has appeared in many forms in this study. The conclusion that recognition, communication, commitment and trust are cornerstones of the management of absence implies that increased use of 'punitive' measures to control absence may affect the perception of legitimacy and may alter the psychological contract, but not necessarily in

ways that management would want. Negative shifts in the psychological contract may result in changes in several organizational outcomes, including increased withdrawal behaviour (e.g. Hanisch, 1995). Perception of legitimacy is clearly a very variable cognition, influenced by many factors. If the influencing factors [such as stress and job satisfaction] alter, then legitimacy is likely to alter, and subsequently so will absence. However, this latter proposition needs to tested, since the measures of legitimacy were taken as one point in time rather than longitudinally, as would be necessary for this to be examined.

2. Sex and grade differences

Sex differences found in this research were pervasive, in contrast to other research (e.g. Haccoun and Jeanrie, 1995). Future research could usefully compare, in several organizations, four groups [2 x 2 sex of manager and sex of subordinate] to measure perceived legitimacy of minor illnesses, managerial style in handling employees absence and organizational attitudes. We might expect to see similarities in perception and attribution in relation to depression when manager and subordinate are the same sex, but differences [for example in terms of likelihood of absence] in terms of headache, backache, colds, i.e. high-discretion illnesses. Further, there might be a greater similarity between the perceptions and attitudes in relation to legitimacy and minor illness where managers and subordinates were of the same sex. Investigations of this sort require access to employees in organizations, not just the managers. Such an investigation would need to obtain a large number of measures in order to identify aspects of managerial style against which to refer absence attitudes.

The grade differences, also found in other studies [e.g. North et al, 1993] are difficult to explain. The issue may be compounded by differential rates of recording absence. There may be situations where absence may be perceived as legitimate no matter what the illness, for example where employees physically take their work home and consequently feel entitled to time off. This distributive justice perspective (Barling and

Phillips, 1993) sees absence as an integral part of the psychological contract (Gibson, 1966). In Nicholson and Johns (1985) model, this would count as constructive absence- high salience, high trust, but this model requires further investigation. A longitudinal study is needed to establish whether legitimacy and absence behaviour alter with tenure, socialisation and other changes, or whether there are individual differences in absence attitudes and behaviours. Since in this study there was no evidence that absence is considered in promotion decisions, this needs to be examined in other kinds of setting.

3. Work attitudes

Work attitudes such as job satisfaction have been shown to be relevant to the concept of legitimacy and to absence. Reverse causality may occur (Clegg, 1983) and seems likely here, in a cyclical pattern. Social learning theory would suggest that these attitudes and behaviours have been learned, presumably by imitation and association (Bandura, Ross and Ross, 1963; Bandura, 1977), which raises the question of how absence behaviours and attitudes can be modified by management action. Qualitative research is also needed to establish the origins of absence behaviour and how it may change. In order to establish the predictive role of attitudes and past behaviours in relation to absence and its perceived legitimacy, more attitude measures need to be used. For example, a good theoretical case can be made for studying leadership style in relation to absence attitudes.

Modelling absence behaviour in relation to work attitudes has been problematic. The Steers and Rhodes (1978) model was based on a review of other studies; in attempting to test it, Brooke and Price (1989) found that some of their central variables appeared to have no effect. Time of measurement may be partially responsible, if some attitudes are concurrent with absence but not caused by it, and mediated by other residual factors. At the same time, some attitudes may be both cause and consequence of absence. Martocchio and Harrison (1993) counsel against attempting comprehensive data modelling. Techniques such as Repertory Grid (Kelly, 1955; Bannister, 1970) critical

incidents or focus groups may be of more use in examining which work attitude variables are most salient in particular situations.

The findings also suggest the importance of the psychological contract, as represented by the notion of an Absence Ethic. There is a need to investigate this further and to develop scales/sub-scales to measure it. Reliability and validity issues need to be addressed, such as whether the concept is stable over time and whether it applies in other kinds of organizations. Are there cross-regional or even cross-cultural differences in these attitudes to absence? In further research, it is important to establish whether social desirability responses and self-serving biases can be circumvented.

4. Minor illness

This study has only partially resolved this issue of how people categorise their illnesses in relation to absence. We do not know how symptoms are raised in awareness or understood, what construct systems are used, the attributions that people make about their own health and sickness and how they behave as a consequence.

Measures of perceived legitimacy inherently depend on respondents' understanding of what constitutes minor illnesses. Therefore there needs to be some research to establish the nature and stability of minor illness groups. It is likely in this study that there was variation in the meaning of illness terms, despite the fact that they are in common usage. A notable example of this in the study is depression. Lists of symptoms, along with some measures of perceived severity for each need to be established.

It is possible, as a result of future research into perception of minor illnesses, that the dependent variables for perceived legitimacy may include several more symptoms or illnesses. Both this study and that of Evans and Edgerton (1992) used a combination of illnesses and symptoms; in this case because these reflected reasons given for absence

on self-certification forms. It seems likely that there will be generally greater respondent consensus in relation to symptoms rather than to illnesses.

Once some coherent structure to the perceptual groups of minor illnesses or symptoms is established, it becomes possible to investigate the extent to which many organizational variables associated with absence or illness actually vary with different illnesses. This approach echoes Nicholson's (1977) proposition that it should be possible to establish individuals' A-B continua in terms of perceived discretion. From the present study it is also suggested that a prerequisite is the need to find some common understanding of words used to describe minor illness.

Recommendations for the Employment Service

This section, almost by way of an epilogue, is intended to complete the thesis in a practical way, i.e. by applying all of the knowledge and findings to the organization from which the data were obtained. The following recommendations are therefore not intended to be of general relevance but are the author's response to the specific situation in which the investigation took place.

[a] Managers should be trained to increase their awareness of absenteeism and its causes. This should involve not only monitoring procedures but also improved communication and motivational skills so that employees are aware that absence measurement is not merely being used as a control measure. In particular, there should be increased awareness that what is perceived as legitimate by one person may not be perceived as legitimate by another, and the consequences of this for absence behaviour.

[b] Absence issues should be discussed with employees in order that both manager and subordinate are aware that the matter is considered important. Recognition by the manager of good attendance should become a regular occurrence, along with recognition of good performance. Such recognition might be made as 'public' as possible.

[c] Managers should be trained to identify malingering behaviours. This needs care, because inappropriate 'toughness' in relation to genuine absence can damage organizational trust but also because failure to act upon it is also likely to reduce trust of employees in management.

[d] Managers should communicate their own perceptions of fairness and unfairness in relation to absence behaviour. Attempts should be made to obtain agreement by the members of a group/department about what constitutes fair and unfair absence, i.e. utilise peer pressure to express disapproval of malingering.

[e] The recording of reasons for absence should be improved, so that the incidence of minor illnesses can be better measured. Sick -notes entered as "cause unreadable" should be checked back with the individuals concerned. Feedback about absence and performance measures to departments should be introduced as a regular feature.

[f] Senior management need to recognise that there are differences in approaches to absence in different locations, for example, small offices may have greater cohesiveness and different work attitudes and absence norms but they may also have different group responses to the absence of colleagues.

[g] Job satisfaction is an important issue to many of the employees and may have consequences for work and absence attitudes and behaviours.

[h] The large proportion of women employees should perhaps be reflected in more women managers in future years, with the additional aim of greater variation and improved impact of management style.

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Appendices

Appendix 1

Review of North-West Region Absence Report

The North-West region of the Employment Service covers Lancashire, Cheshire and Cumbria. The investigation took place in 1989 and report was written in 1990 by the 'Sickness Absence Survey Team' at the University of Essex. The terms of reference for the survey were " To survey the incidence of and reasons for the levels of unscheduled absence amongst staff in ESNW; to examine existing personnel procedures and make recommendations as appropriate.". The questionnaire to 20% of the staff in the region was 11 A4 sides long, and contained questions relating to travelling to work, family commitments, satisfaction, job changes, stress, reasons for absence, problems caused by absence, supervisory actions, health facilities and possible job changes to reduce absence; it would have taken 10 to 25 minutes to complete. The response rate was "high".

Absence levels in gross form were taken from "SAM" [the Runcorn central computer unit] but the report was not able to relate individual questionnaire results to actual individual absence. Recording of absence was quite weak and subject to inaccuracy. In order to get any accurate recorded data, the survey team had measured absence in the region during the survey period for two four week spells, in March and May/June.

The results were that
[a] the North-West Region's absence level was 6% and rising and that was high and likely to be typical of the Department as a whole. Costs are high, estimated as £3 million for the region in 1989.
[b] The management information system was poor and inadequate, procedures are slow and bureaucratic and absence management is hardly recognised.
[c] The causes of sickness absence were many and not all related to illness. The main cause was reported to be 'stress' at 42% but the report acknowledged the questionnaire's weakness in measuring this properly. Other causes were identified as lack of recognition for good attendance, low level of job satisfaction and the ease of possible abuse of the sickness scheme.
[d] There were staff discontent and anxieties, e.g. no coherent programme for promoting the well-being of staff, low level of professionalism in personnel management [HRM problems rather than administrative], no training policy in absence management.

The main recommendations were
[a] to improve the absence control system through better records and monitoring. A central system for absence data is wrong. The group personnel handbook requires modification.
[b] greater management involvement through domiciliary visits and counselling.

This report caused reaction throughout the whole Employment Service and some regions responded by the rapid implementation of stricter controls and monitoring without consultation with the Unions; this resulted in some predictable bad feeling. The Unions perceived these approaches as 'new rules' and as badly handled and thus there has been some sensitivity about the matter of absence.

The questionnaire used raises a number of methodological issues in terms of answer formats, interpretation of answers, question construction, etc. Examples include: agree/disagree only as answer choices; only negative job changes being listed; some answers having only a box to tick when a rating scale would have been more appropriate. Measures of absence were also suspect, e.g. being based [unconventionally] on a working year of 200 days. However, it had measured self-assessment of absence by asking "If you had sick leave in the past 12 months was it 1 to 3 days, 4 to 5 days, 6 to 10 days, 11 to 20 days, over 21 days" and "did this represent 1, 2, 3 or more than 3 spells". This was the only way in which any absence measure could be related to attitudes individually.

Although the responses were anonymous, the level of candid honesty required in the answers to some of the questions was high and it might have been possible from the information given to identify respondents. The actions resulting from this report were largely 'controlling' and 'monitoring' and if not handled carefully, will appear to penalise employees who would then be less likely to give honest answers to surveys of sensitive issues in future. This raises the matter, already referred to (Edwards and Whitston, 1989 and 1993), of the conflicting 'signals' of freedom/autonomy and control/rules given by management.

Appendix 2

The T1 questionnaire and supporting letters

Dear Colleague,

I am conducting an investigation into absenteeism and in particular the opinions that people have and how they perceive it. This investigation is part of my work for a PhD and I have obtained permission to ask for your cooperation in getting to know what you really feel about the issues.

I intend eventually to present a report on my survey results. No-one will be identified in the report and no-one's answers will be traceable from what I write.

As a Chartered Psychologist, I am bound by a Code of Conduct which I hope guarantees to you my integrity in this matter. The reason that I have taken particular pains to explain this is because the subject of absence can be seen to be sensitive to some people. You will note that I am not asking for your name and thus I cannot relate your comments to your personal records in any way.

I hope therefore that you will feel able to give me entirely honest answers and comments in the knowledge that these will be treated in confidence.

Following my survey, I would like to interview a number of people and I hope that you would be willing to help. If this is the case, please could you give me your name, department and location so that I may visit you. You can return it with your questionnaire or send it back to the same address separately. Please give your details below.

I have tested out the questionnaire on several people and the times they took to complete it were between 5 and 9 minutes, so it should not take up too much time.

May I thank you in advance for your cooperation and I hope you are able to reply by Friday, 14th September.

Yours faithfully,

If you are prepared to be interviewed, please sign below.....

Name.....

Office.....

Are you Male ☐ Female ☐

Grade.....

Do you work Part-time ☐ Full-time ☐

Please tick your age group:

Up to 25 ☐ 26-35 ☐ 36-45 ☐ 46-55 ☐ over55 ☐

If someone was absent for any one day in every week, how many weeks do you think this would continue before that person was interviewed by the manager to find out why? Please tick one box.

Number of weeks elapsed	1	2	3	4	5/6	7/8	9/10	11+
If off any one day per week	☐	☐	☐	☐	☐	☐	☐	☐

What if it were any two days per week?

If off any two days per week	☐	☐	☐	☐	☐	☐	☐	☐

Do you think that there are any guidelines for managers relating to absence of their employees?

yes ☐ no ☐ dont know ☐

If yes.....do you know if the guidelines indicate any numbers of days off for a person to be interviewed by their manager?

yes, approx how many?..... no ☐ dont know ☐

If your answer to the question was 'no' or 'don't know' do you think there should be guidelines for managers?

yes ☐ no ☐ dont know ☐

Any comments?_____

Do you think it would be a good idea to offer some form of incentive for good attendance?

Yes ☐ No ☐ Don't know ☐

If yes, please tick as many of the following that you think would actually encourage good attendance:

cash award for any twelve month full attendance	
other award for any twelve month full attendance	
prize draw for full attendance	
written acknowledgement	
other [please specify].....	

Do you think that there should be some form of penalty for poor attendance?

Yes ☐ No ☐ Don't know ☐

If yes, please tick as many of the following that you think would discourage absence:

reduced salary for year in question	
not eligible for bonus for year in question	
warning action	
affect performance pay	
not given first choice of leave days	
other [please specify].....	

Here is a series of statements about your work. Please tick the box that most strongly applies to the way that you feel for each statement.. Do not miss out any statement.

	strongly agree	quite agree	just agree	just disagree	quite disagree	strongly disagree
My office is located in a pleasant area						
I like to know exactly what I am supposed to do and how I am supposed to do it.						
My job is mostly a solitary one, requiring much work on my own.						
I am clear what standards of work are expected of me.						

	strongly agree	quite agree	just agree	just disagree	quite disagree	strongly disagree
My job involves a lot of counselling.						
My job involves a lot of dealing with the public.						
The office accomodation where I work is really good.						
I like my work to be organized for me.						
I would like to be promoted fairly soon if that were possible.						
It is important to me that I work in pleasant surroundings.						
For those who want it, there are good chances of promotion here.						
People in my department are very friendly.						
The department where I work has an easy-going atmosphere.						
No-one really bothers if you take a little time off work.						
I find my job rather easy to do.						
There is often too much to do.						
My work colleagues are very kind and helpful to me.						
If I am off sick, my work waits until I return to work.						
High commitment to work is important to me.						
Taking time off for family problems should count the same as sickness absence.						
I would feel proud if I could have zero absence for a whole year.						
Good attendance should be acknowledged and recognised by the manager.						
Absence should affect performance related pay.						
I enjoy flexibility and being able to make decisions						

In this section, I am interested in your attitudes to the attendance of other people both at the Employment Service and outside and your perceptions of what is good and bad attendance in general.

Please think generally and not of your own department when answering:

Do you think that some people take time off from their work which is not really justifiable? Please tick one box from the list below:	
A lot of people take a few days off a year in this way.	
A lot of people take a lot of days a year off in this way.	
A few people take a few days a year off in this way.	
A few people take a lot of days a year off in this way.	

Which of the following would you think of as justifiable for people to be off sick? Please tick the box for each which most nearly applies to people at work in any office occupation:

I think that this reason justifies time off work.....	Always	Often	Quite a lot	Sometimes	Rarely	Never
a light head cold						
a heavy head cold						
upset stomach						
mild backache						
severe backache						
headache						
severe headache						
bad throat infection						
chest infection						
depression						
feeling sick/nausea						
viral illness						
neck strain						
migraine						
feeling dizzy						
fainting						
diarrhoea						
tonsilitis						

Do you feel that you are under stress? Please tick one box.....

Very frequently							Never

Here are some causes of stress that may occur at work or elsewhere. Please tick one box for each line to describe the extent that each is a source of stress to you.

This is a source of stress to me:	Very Frequently	Often	Half/half	Occasionally	Rarely
Too many things to do at work					
Too much reponsibility at work					
Too much reponsibility at home					
Poor office accomodation					
Job is boring					
Difficulties with people I work with					
Conflict with 'dual careers' at home					
Priorities unclear so tasks become urgent					
Not getting promotion					
Feeling undervalued					
Good work not recognised					
Desk/chair cause strain in one position all the time					
Job tasks not clear					
People expect too much of me					
Moving offices/sections just when I am getting settled					
Lack of support from Management					
Being asked to do something which I know is not the best way					
Things changing without me being properly informed					
Too much change					

Appendix 3

The T2 questionnaire/basis for interviews

On the following scale, please circle the point which best describes how you feel now about your health:

10. The best my health could be
9.
8.
7.
6.
5.
4.
3.
2.
1. The worst possible my health could be

On which step of the "ladder" were you three months ago? _____

On which step of the "ladder" were you six months ago? _____

At which point on the ladder would you definitely not go to work? _____

At which point on the ladder would you definitely go to work? _____

On the following scale, please circle the point that describes how you feel now about suffering from "common illnesses":

	diarrhoea	headache	throat infection	viral illness	backache	upset stomach	colds
I never seem to get this illness	10	10	10	10	10	10	10
	9	9	9	9	9	9	9
	8	8	8	8	8	8	8
	7	7	7	7	7	7	7
	6	6	6	6	6	6	6
	5	5	5	5	5	5	5
	4	4	4	4	4	4	4
	3	3	3	3	3	3	3
I very often seem to get this illness	2	2	2	2	2	2	2
	1	1	1	1	1	1	1

How often, if at all, have you had the following during the last two years? [regardless of whether this led to time off work]

	not at all	once/ twice	3 to 6 times	7 to 12 times	more than 12 times
cold					
upset stomach					
backache					
viral illness					
throat infection					
headache					
diarrhoea					

How likely are you to be absent from work when these events occur?

	very likely to be absent	fairly likely to be absent	50-50 chance of being absent	fairly likely to go to work	very likely to go to work
cold					
upset stomach					
backache					
viral illness					
throat infection					
headache					
diarrhoea					

Can you please think of the last time you were off work - how long ago was that?_____

How long were you off work? 1day ☐ 2days ☐ 3-5days ☐ 6-10days ☐ >10days ☐

Did any of the following play a part in your absence? Please ring any which apply:

Minor domestic problems Feeling depressed Serious overload of duties at work

Difficult to get up on time Personal Business [eg buying a house]

Serious Domestic problems interesting Local event Major disagreement with boss

Rows with workmates Accident to yourself at work Seriously ill yourself

Upset Stomach Backache Viral Illness Throat Infection Headache

Diarrhoea Cold Other minor Illness _____

All in all, how satisfied would you say you are with your job?

very satisfied; ☐
somewhat satisfied; ☐
not too satisfied; ☐
not at all satisfied ☐

If you were free to go into any type of job you wanted, what would your choice be?

the job you have now ☐
to retire and not work at all ☐
some other job to the one you have now ☐

Knowing what you know now, if you had to decide all over again whether to take the job you now have, what would you decide?

decide without hesitation to take the same job ☐
have some second thoughts ☐
decide definitely not to take the same job ☐

In general, how well would you say that your job measures up to the sort of job you wanted when you took it?

very much like the job you wanted ☐
somewhat like the job you wanted ☐
not very much like the job you wanted ☐

If a good friend of yours told you he or she was interested in working in a job like yours for your employer, what would you tell him or her?

would strongly recommend it ☐
would have doubts about recommending it ☐
would advise the friend against it ☐

Here are some statements which express opinions that people might hold about the confidence and trust that can be placed in others at work. both fellow workers and management. Please use the scale below to mark in each box in the table how much you agree or disagree with the statement:

1: No, I strongly disagree
2: No, I disagree quite a lot
3: No, I disagree just a little
4: I'm not sure
5: Yes, I agree just a little
6: Yes, I agree quite a lot
7: Yes, I strongly agree

Management in my organization is sincere in its attempts to meet the workers point of view	
The Employment Service has a poor future unless it can attract better managers	
If I got into difficulties at work, I know my workmates would try and help me out	
Management can be trusted to make sensible decisions for the Employment Service's future	
I can trust the people I work with to lend me a hand if I needed it	
Management at work seems to do an efficient job	
I feel quite confident that the Employment Service will always try to treat me fairly	
Most of my workmates can be relied upon to do as they say they will do	
I have full confidence in the skills of my workmates	
Most of my fellow workers would get on with their work even if supervisors were not around	
I can rely on other workers not to make my job more difficult by careless work	
Our management would be quite prepared to gain advantage by deceiving the workers	
There is a lot of unjustifiable absence from work in my department	
If anyone in my department was malingering, the manager would know	
My manager acts to discourage persistent unjustifiable absence	

Appendix 4.1

Correlation matrix A scale (all respondents)

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24
A1	1.000																							
A2	.098	1.000																						
A3	.047	.066	1.000																					
A4	.146	.124	.063	1.000																				
A5	.002	-.002	.131	.012	1.000																			
A6	-.101	.060	-.119	.081	.394	1.000																		
A7	.555	.102	.109	.166	.023	-.036	1.000																	
A8	.034	.054	.004	-.103	.058	.131	.100	1.000																
A9	-.042	-.027	-.071	.063	.013	.007	-.037	-.077	1.000															
A10	.073	.166	.043	.121	.060	.135	.041	.092	.069	1.000														
A11	.194	.060	.015	.136	.015	.037	.221	.168	-.074	.052	1.000													
A12	.104	.039	-.036	.199	-.022	.038	.116	.009	.012	.052	.145	1.000												
A13	.105	.008	.023	.139	-.077	-.048	.128	.024	.041	.014	.140	.467	1.000											
A14	-..052	-.040	-.017	-.053	-.078	-.013	-.010	.098	.040	-.049	-.049	-.028	.150	1.000										
A15	-..033	.001	-.031	.096	-.110	.103	-.009	.022	.184	.029	.009	.035	.128	.136	1.000									
A16	.068	.051	-.019	-.035	.092	.028	.028	.035	-.033	.035	-.030	.064	-.091	.001	-.171	1.000								
A17	.148	.107	-.068	.197	-.012	.063	.169	.048	.019	.108	.133	.543	.336	-.009	.046	.082	1.000							
A18	.032	-.013	.266	-.090	.012	-.161	.010	.008	.020	.013	-.041	-.184	-.100	.044	-.090	.102	-.181	1.000						
A19	.161	.030	.076	.171	.071	-.043	.142	-.141	.095	.095	.088	.191	.094	-.079	-.066	.102	.131	-.015	1.000					
A20	.065	.028	.012	-.021	.016	.060	.039	.106	-.016	.027	.058	-.071	-.037	.025	.084	-.057	-.035	.017	-.016	1.000				
A21	.107	.075	.027	.174	.029	.077	.097	-.012	.094	.152	.097	.128	.097	-.052	.035	-.019	.125	-.049	.337	.056	1.000			
A22	.056	.096	.039	.095	.041	.045	.058	.028	.111	.094	.024	.080	.042	.036	.027	.015	.049	.013	.222	.022	.550	1.000		
A23	.032	.011	-.004	.076	.033	-.020	.064	.016	.045	-.013	.072	.006	.024	.049	.025	-.032	-.016	.008	.136	.129	.265	.357	1.000	
A24	.036	.045	.080	.166	.091	-.020	.052	-.242	.258	.086	-.053	.101	.103	.026	.080	.047	.100	.045	.344	-.068	.200	.154	.064	1.000

Appendix 4.2

Factor analysis of A scale: factor loadings from orthogonal transformation, varimax solution for all data.

Scale item	Factor 1	2	3	4	5	6	7
A1	.062	.039	.770	.049	.036	-.061	.095
A2	.009	.004	.273	.318	.031	.067	.066
A3	-.058	-.021	.168	.109	.064	-.060	.627
A4	.177	.062	.348	.240	.337	.206	-.116
A5	-.070	.049	-.077	.647	-.046	-.339	-.074
A6	.019	.027	-.155	.749	-.175	.034	-.255
A7	.108	.046	.762	.009	-.033	-.010	.130
A8	.118	.059	.094	.204	-.676	-.013	.100
A9	.037	.116	-.143	.031	.350	.489	.089
A10	.043	.037	.143	.496	.093	.127	.100
A11	.155	.100	.479	.056	-.227	-.019	-.122
A12	.801	.052	.101	.032	.099	-.095	-.149
A13	.732	.035	.088	-.112	-.028	.175	.063
A14	.278	.065	-.253	-.110	-.314	.295	.384
A15	.108	-.018	-.029	.118	-.047	.734	-.019
A16	.150	.006	-.082	.137	.052	-.512	.231
A17	.725	.002	.171	.126	.068	-.060	-.152
A18	-.196	-.006	-.002	-.074	-.003	-.097	.722
A19	.162	.402	.181	.066	.484	-.171	.072
A20	-.176	.213	.147	.070	-.345	.237	.057
A21	.092	.746	.115	.136	.170	.028	-.065
A22	.049	.801	-.011	.079	.048	.016	.048
A23	-.061	.691	.036	-.103	-.117	.042	-.020
A24	.153	.188	-.047	.170	.626	.153	.257

Eigenvalues, proportions of variance and factor intercorrelations

Factor	eigenvalue	prop'n of variance	factor 1	2	3	4	5	6	7
1	2.872	.120	1						
2	1.880	.078	.161	1					
3	1.751	.073	.255	.148	1				
4	1.614	.067	.074	.184	.038	1			
5	1.511	.063	-.171	-.124	-.094	.113	1		
6	1.263	.053	.106	.047	-.080	.043	-.040	1	
7	1.195	.050	-.129	-.044	.144	-.123	-.151	-.017	1
8	1.118	.047							
9	1.071	.045							

Appendix 4.3

Correlation matrix for C scale (all respondents)

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19
C1	1.000																		
C2	.552	1.000																	
C3	.230	.311	1.000																
C4	.178	.183	.205	1.000															
C5	.020	-.014	.033	.260	1.000														
C6	.140	.175	.063	.187	.151	1.000													
C7	.116	.151	.474	.086	.021	.095	1.000												
C8	.358	.330	.168	.171	.103	.318	.219	1.000											
C9	.089	.042	.034	.148	.312	.196	.022	.182	1.000										
C10	.229	.163	.131	.239	.338	.281	.088	.282	.595	1.000									
C11	.239	.179	.127	.248	.330	.268	.087	.285	.503	.815	1.000								
C12	.113	.137	.102	.265	.166	.149	.063	.150	.168	.204	.201	1.000							
C13	.240	.274	.149	.232	.171	.267	.138	.580	.149	.269	.311	.238	1.000						
C14	.448	.469	.198	.147	.053	.213	.187	.406	.104	.334	.336	.150	.342	1.000					
C15	.121	.167	.091	.113	.042	.123	.095	.178	.086	.145	.148	.121	.171	.187	1.000				
C16	.243	.211	.121	.279	.248	.321	.120	.324	.330	.552	.574	.207	.356	.332	.191	1.000			
C17	.236	.188	.099	.214	.244	.303	.054	.355	.304	.421	.453	.168	.396	.292	.195	.546	1.000		
C18	.302	.217	.189	.251	.223	.255	.154	.369	.240	.420	.465	.150	.402	.337	.186	.511	.573	1.000	
C19	.396	.390	.226	.229	.118	.186	.149	.340	.047	.238	.289	.155	.290	.413	.230	.355	.359	.508	1.000

Appendix 4.4

Factor analysis of C scale: factor loadings from varimax rotation of six factors

Scale item	Factor 1	2	3	4	5	6
C1	.109	.805	.040	.080	.049	.147
C2	-.003	.803	.139	.129	.119	.110
C3	.035	.229	.805	-.044	.144	.119
C4	.123	.108	.109	.027	.721	.205
C5	.441	-.171	-.005	.036	.450	.129
C6	.213	.033	.008	.604	.116	.090
C7	.027	.017	.867	.170	-.038	.064
C8	.100	.305	.127	.744	.002	.196
C9	.778	-.006	.006	.111	.104	-.040
C10	.865	.171	.052	.126	.084	.171
C11	..812	.176	.036	.127	.081	.257
C12	.076	.100	-.005	.201	.725	.008
C13	.076	.152	.052	.729	.174	.268
C14	.174	.643	.091	.264	-.025	.239
C15	-.014	.120	.135	.137	.146	.597
C16	.518	.109	.021	.235	.101	.504
C17	.370	.039	-.063	.315	.040	.618
C18	.304	.116	.079	.201	.040	.732
C19	.011	.415	.079	.034	.118	.691

Eigenvalues, proportions of variance and factor intercorrelations

Factor	eigenvalue	proportion of variance	factor 1	2	3	4	5	6
1	5.720	.301	1					
2	2.064	.109	.189	1				
3	1.268	.067	.058	.237	1			
4	1.123	.059	.312	.296	.168	1		
5	1.047	.055	.241	.158	.063	.216	1	
6	.977	.051	.375	.354	.195	.389	.244	1
7	.840	.044						
8	.787	.041						

Appendix 4.5

Correlation matrix: perceived legitimacy of minor illnesses (all respondents)

illness	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1.000																	
2	.539	1.000																
3	.330	.433	1.000															
4	.424	.289	.333	1.000														
5	.157	.361	.292	.316	1.000													
6	.388	.285	.296	.401	.205	1.000												
7	.235	.431	.339	.290	.408	.627	1.000											
8	.257	.417	.367	.198.	.345	.307	.470	1.000										
9	.245	.384	.355	.220	.348	.251	.366	.719	1.000									
10	.189	.213	.205	.226	.229	.220	.253	.245	.329	1.000								
11	.245	.315	.406	.283	.245	.323	.376	.377	.368	.324	1.000							
12	.160	.331	.320	.149	.292	.202	.314	.509	.527	.300	.407	1.000						
13	.218	.262	.231	.365	.278	.263	.247	.301	.337	.340	.399	.385	1.000					
14	.134	.281	.285	.169	.303	.309	.519	.403	.374	.275	.338	.432	.332	1.000				
15	.146	.224	.276	.237	.227	.305	.362	.329	.312	.291	.494	.378	.426	.462	1.000			
16	.082	.236	.249	.160	.270	.212	.331	.360	.321	.263	.449	.415	.379	.434	.613	1.000		
17	.152	.270	.359	.144	.246	.196	.302	.429	.413	.232	.375	.462	.278	.407	.401	.435	1.000	
18	.122	.262	.246	.135	.269	.171	.247	.531	.525	.210	.322	.529	.290	.355	.361	.405	.529	1.000

Appendix 4.5 (cont)

Correlation matrix B scale (male)

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18
B1	1.000																	
B2	.543	1.000																
B3	.419	.409	1.000															
B4	.383	.261	.430	1.000														
B5	.235	.403	.369	.395	1.000													
B6	.354	.267	.298	.370	.255	1.000												
B7	.229	.428	.319	.294	.532	.652	1.000											
B8	.184	.342	.355	.174	.442	.320	.495	1.000										
B9	.213	.327	.341	.299	.419	.266	.393	.707	1.000									
B10	.131	.149	.091	.130	.303	.174	.246	.264	.342	1.000								
B11	.269	.367	.487	.371	.346	.357	.428	.477	.442	.346	1.000							
B12	.117	.256	.304	.164	.395	.199	.286	.505	.523	.336	.425	1.000						
B13	.241	.222	.326	.451	.399	.332	.266	.274	.312	.376	.437	.349	1.000					
B14	.158	.269	.269	.185	.384	.373	.556	.361	.336	.381	.388	.382	.361	1.000				
B15	.129	.215	.304	.311	.341	.391	.400	.384	.319	.372	.522	.403	.444	.492	1.000			
B16	.064	.212	.248	.190	.393	.234	.363	.334	.277	.351	.472	.476	.378	.389	.607	1.000		
B17	.237	.293	.385	.262	.311	.275	.350	.435	.380	.301	.438	.420	.363	.328	.427	.403	1.000	
B18	.148	.289	.244	.217	.341	.246	.303	.488	.422	.219	.404	.510	.268	.326	.385	.400	.510	1.000

Appendix 4.5 (cont)

Correlation matrix B scale (female)

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18
B1	1.000																	
B2	.538	1.000																
B3	.290	.445	1.000															
B4	.445	.301	.297	1.000														
B5	.191	.458	.365	.428	1.000													
B6	.416	.296	.313	.414	.216	1.000												
B7	.245	.434	.361	.286	.484	.611	1.000											
B8	.286	.448	.372	.209	.403	.308	.464	1.000										
B9	.255	.409	.356	.189	.417	.256	.364	.724	1.000									
B10	.216	.241	.260	.269	.264	.244	.257	.237	.325	1.000								
B11	.242	.294	.382	.241	.277	.298	.345	.336	.344	.314	1.000							
B12	.181	.363	.333	.142	.314	.199	.324	.512	.533	.284	.396	1.000						
B13	.208	.279	.190	.329	.330	.234	.241	.312	.348	.324	.383	.401	1.000					
B14	.122	.286	.291	.164	.354	.286	.507	.420	.389	.225	.319	.456	.319	1.000				
B15	.152	.228	.262	.206	.262	.272	.349	.305	.308	.253	.485	.369	.419	.449	1.000			
B16	.096	.248	.261	.144	.288	.192	.310	.374	.349	.223	.433	.387	.381	.458	.622	1.000		
B17	.113	.260	.346	.094	.280	.164	.284	.426	.426	.199	.350	.484	.239	.443	.388	.455	1.000	
B18	.112	.250	.249	.099	.293	.138	.223	.551	.571	.206	.285	.539	.300	.368	.350	.409	.539	1.000

Appendix 4.6:

Factor analysis of B scale, [2 rotations].

B scale factor loadings for rotation of seven factors

	Factor						
Illness	1	2	3	4	5	6	7
B1	.111	.708	-.051	.224	.083	-.246	.372
B2	.255	.728	.064	.144	.091	.253	.078
B3	.155	.702	.309	.041	.002	.214	.026
B4	.015	.284	.077	.197	-.007	.178	.795
B5	.261	.223	.132	.124	.083	.782	.308
B6	.093	.203	.143	.836	.044	-.122	.278
B7	.201	.204	.218	.762	.076	.384	.003
B8	.768	.216	.101	.267	.075	.158	.042
B9	.785	.189	.061	.140	.217	.142	.112
B10	.150	.107	.178	.091	.902	.069	.107
B11	.180	.333	.601	.133	.231	-.028	.144
B12	.649	.125	.348	.026	.190	.089	.053
B13	.239	-.015	.394	.014	.288	.109	.615
B14	.294	.032	.472	.414	.139	.326	-.087
B15	.157	.034	.783	.198	.096	.032	.178
B16	.238	.017	.768	.077	.046	.152	.078
B17	.522	.212	.516	.021	-.062	.019	-.042
B18	.780	.019	.303	.006	-.067	-.005	.110

Eigenvalues, proportions of variance and factor intercorrelations

		proportion of	factor						
Factor	eigenvalue	variance	1	2	3	4	5	6	7
1	6.662	.370	1						
2	1.745	.097	.285	1					
3	1.262	.070	.465	.134	1				
4	1.035	.058	.209	.420	.266	1			
5	.889	.049	.231	.193	.312	.213	1		
6	.799	.044	.324	.267	.279	.280	.183	1	
7	.742	.041	.109	.398	.204	.370	.232	.197	1
8	.687	.038							
9	.630	.035							

B scale factor loadings for rotation of eight factors

Illness	Factor 1	2	3	4	5	6	7	8
B1	.096	.846	.011	.180	.058	-.118	.279	.111
B2	.226	.773	.134	.101	.050	.379	-.020	.182
B3	.197	.227	.105	.119	.058	.188	.118	.817
B4	.037	.183	.046	.217	.029	.176	.822	.208
B5	.255	.084	.145	.130	.084	.793	.306	.159
B6	.109	.189	.118	.844	.062	-.117	.285	.099
B7	.200	,125	.216	.766	.073	.393	-.002	.123
B8	.768	.172	.088	.267	.073	.189	.026	.102
B9	.788	.140	.041	.143	.221	.170	.100	.095
B10	.159	.064	.156	.099	.911	.076	.091	.087
B11	.212	.110	.491	.171	.264	-.057	.172	.460
B12	.650	.110	.345	.020	.185	.107	.020	.089
B13	.235	.128	.475	-.019	.280	.130	.549	-.130
B14	.283	.050	.513	.395	.118	.334	-.133	.003
B15	.163	.045	.796	.187	.092	.015	.137	.105
B16	.236	.028	.794	.061	.034	.141	.030	.086
B17	.546	.010	.417	.054	-.039	-.010	-.013	.375
B18	.787	.005	.287	.007	-.062	-.005	.098	.058

Eigenvalues, proportions of variance and factor intercorrelations

Factor	eigenvalue	prop'n of variance	factor 1	2	3	4	5	6	7	8
1	6.662	.370	1							
2	1.745	.097	.239	1						
3	1.262	.070	.550	.153	1					
4	1.035	.058	.298	.374	.297	1				
5	.889	.049	.299	.196	.298	.214	1			
6	.799	.044	.346	.256	.291	.314	.196	1		
7	.742	.041	.185	.371	.210	.300	.227	.242	1	
8	.687	.038	.344	.362	.332	.300	.184	.271	.257	1
9	.630	.035								

Appendix 4.7

[Note: there may be minor discrepancies within these correlations and those in the text, due to variations in N between single correlations and correlation matrices]

Means, standard deviations and intercorrelations for T1 core variables

	mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 grade	2.34	0.63	1																	
2 stress overload	11.37	2.69	-.086	1																
3 stress monotony	12.68	2.31	.177	.189	1															
4 stress recognit	15.00	4.14	.143	.319	.437	1														
5 stress manage't	15.25	3.48	-.109	.471	.385	.647	1													
6 stress domestic	8.42	1.87	-.037	.291	.160	.129	.215	1												
7 stress ambiguity	8.59	1.72	-.084	.444	.320	.425	.540	.215	1											
8 absence ethic	9.21	3.63	-.051	.031	-.092	-.002	-.063	-.052	-.047	1										
9 climate	6.63	2.21	.031	-.142	-.172	-.342	-.315	-.050	-.244	.127	1									
10 legit colds	8.56	1.64	.125	.091	.152	.034	.083	.124	.083	-.150	.038	1								
11 legit back/neck	9.07	1.62	.124	.125	.143	.048	.076	.084	.095	-.182	-.024	.395	1							
12 legit nausea	7.51	1.84	.173	.119	.145	.070	.067	.071	.088	-.089	.041	.451	.450	1						
13 legit headaches	11.56	2.70	.116	.070	.163	.067	.058	.099	.104	-.159	-.022	.395	.400	.476	1					
14 legit infections	13.29	4.83	.083	.103	.153	.070	.084	.081	.089	-.161	.033	.400	.389	.543	.535	1				
15 legit dizzy	7.19	2.35	.045	.084	.096	.009	.025	.106	.054	-.097	.018	.232	.420	.497	.494	.542	1			
16 legit sev back	2.90	1.12	.126	.094	.175	.079	.071	.072	.074	-.123	-.002	.381	.462	.382	.465	.461	.343	1		
17 legit depression	3.42	1.30	-.010	.134	.116	.045	.084	.097	.079	-.125	-.024	.216	.324	.302	.290	.323	.295	.266	1	
18 legit malaise	13.72	3.94	.086	.105	.129	.030	.040	.101	.072	-.116	.027	.319	.457	.697	.546	.710	.909	.396	.341	1

Appendix 4.7 (cont)

Intercorrelations of T1 core variables, T2 core variables and absence spells

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	43	44	45
19 Cantril health	.016	.169	.148	.193	.144	.140	.162	-.244	-.094	.153	.108	.134	.225	.071	.060	.107	.132	.090	-.089	-.177	-.144
20 Cantril 3 months	.126	.118	.084	.187	.160	.247	.184	-.209	-.029	.145	.058	.177	.242	.044	.079	.136	.128	.111	-.223	-.374	-.313
21 Cantril 6 months	.090	.078	.092	.176	.130	.176	.183	-.253	-.066	.092	.112	.118	.209	.052	.099	.086	.109	.100	-.207	-.363	-.306
22 trust manag't	.111	.106	.215	.325	.315	.091	.241	-.264	-.229	.108	.009	.045	.045	-.027	.022	.097	.049	-.003	.223	.221	.249
23 trust peers	.066	.030	-.001	.079	.161	.116	.156	-.007	-.298	.115	-.101	-.072	-.022	-.196	-.135	-.063	-.089	-.171	.032	.080	.070
24 job satisfaction	.169	.080	.298	.218	.134	.042	.261	-.165	-.147	-.008	.005	.050	.033	-.056	.016	.040	.132	.001	-.199	-.316	-.270
25 agg suscepts	.168	.194	.083	.244	.222	.208	.140	-.249	-.102	.192	.133	.210	.270	.044	.144	.189	.092	.161	-.228	-.272	-.285
26 mal 1	-.048	.033	.008	-.037	-.010	-.014	.031	-.217	.057	.072	.112	.101	.224	.203	.153	.055	.064	.178	.016	.090	.024
27 mal 2	.047	-.036	.033	.160	.014	-.095	.050	-.079	-.158	-.081	-.136	-.090	-.122	-.007	-.015	-.034	-.022	-.019	-.136	-.151	-.169
28 mal 3	-.003	.044	-.014	.036	.040	.011	.092	-.024	-.124	-.109	-.155	-.161	-.087	-.129	-.055	-.045	-.031	-.120	-.016	-.008	-.011
29 cold fr	-.097	-.042	.005	-.182	-.114	-.084	-.122	.129	.142	-.031	-.059	-.082	-.133	.028	-.084	-.117	-.045	-.090	.178	.196	.225
30 stom fr	-.116	-.081	-.011	-.182	-.077	-.030	-.122	.205	.150	-.074	-.072	-.142	-.136	.113	-.116	-.023	-.058	-.101	.112	.166	.150
31 back fr	.027	-.235	-.002	-.068	-.132	-.096	-.121	.011	.023	.031	-.133	-.002	-.016	-.050	-.098	-.102	.019	-.096	-.094	.140	.035
32 viral fr	-.105	-.085	-.125	-.164	-.151	-.184	-.127	.166	.091	-.138	-.109	-.119	-.096	-.030	-.104	-.065	-.118	-.075	.267	.248	.280
33 throat fr	-.064	.039	.032	-.069	-.125	-.078	-.065	.215	.017	-.173	-.157	-.104	-.245	-.060	-.093	-.157	-.124	-.103	.197	.267	.258
34 head fr	-.052	-.006	-.045	-.071	-.039	-.150	-.133	-.025	-.041	-.007	-.053	-.049	-.051	.011	-.082	-.047	.032	-.069	.140	.052	.107
35 diarr fr	-.068	-.063	-.034	-.053	-.013	-.056	-.055	.148	.053	-.053	-.052	-.100	-.094	.052	-.126	.004	-.075	-.098	.093	.158	.126
36 cold l	.097	.108	.149	.067	.138	.101	.097	-.189	-.100	.397	.150	.190	.133	.078	.008	.238	-.009	.054	-.324	-.435	-.428
37 stom l	.200	.017	.111	.096	.039	.021	.063	-.054	-.043	.234	.158	.288	.136	.198	.030	.184	-.033	.176	-.192	-.351	-.311
38 back l	.119	.101	.099	.008	.045	.071	.095	-.105	-.007	.097	.044	.121	.016	.042	.000	.166	.020	.005	-.186	-.293	-.257
39 viral l	.096	.053	.142	.087	.094	.064	.156	-.152	.058	.139	.058	.185	.096	.299	.122	.240	.022	.189	-.266	-.274	-.293
40 throat l	.038	.000	.178	.055	.066	.045	.155	-.086	-.019	.164	.092	.210	.245	.332	.095	.073	.079	.137	-.289	-.244	-.312
41 head l	.114	.051	.097	.108	.146	.122	.197	-.094	-.056	.101	.049	.160	.051	.015	-.030	.116	-.059	.018	-.148	-.217	-.203
42 diarr l	.147	.040	.142	.099	.153	.019	.230	-.132	.015	.156	.040	.300	.094	.304	.104	.144	.062	.245	-.184	-.323	-.287
43 period A	-.196	.046	-.255	-.238	-.081	-.096	-.088	.239	.186	-.234	-.013	-.072	-.114	.005	.054	-.158	.030	-.005			
44 period B	-.278	-.037	-.205	-.140	.010	-.079	-.151	.238	.145	-.194	-.073	-.107	-.159	.013	-.051	-.141	-.005	-.096			
45 period A+B	-.260	.012	-.250	-.211	-.045	-.094	-.132	.243	.202	-.238	.005	-.093	-.154	-.037	-.005	-.160	.015	-.057			

key: fr= perceived frequency of illness
l= perceived likelihood of absence

Appendix 4.7 (cont)

Means, standard deviations and intercorrelations for T2 core variables

	mean	s.d.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
19 Cantril health	7.69	1.60	1																
20 Cantril 3 months	7.71	1.84	.717	1															
21 Cantril 6 months	7.69	1.82	.560	.603	1														
22 trust manag't	24.13	7.05	.170	.104	.073	1													
23 trust peers	32.91	4.98	.088	.031	.036	.357	1												
24 job satisfaction	3.10	1.06	.138	.122	-.014	.502	.194	1											
25 agg suscepts	50.26	10.77	.380	.307	.357	.213	.270	.097	1										
26 mal 1	4.29	1.73	.081	.089	.089	-.108	-.217	.002	-.022	1									
27 mal 2	4.32	1.58	.118	.111	.073	.401	.236	.182	.172	-.206	1								
28 mal 3	4.70	1.48	.115	.083	.105	.258	.322	.187	.018	-.223	.464	1							
29 cold fr	2.73	0.94	-.195	-.222	-.219	-.053	-.103	.019	-.385	.063	-.112	.137	1						
30 stomach fr	2.15	0.94	-.071	-.087	-.141	-.182	-.030	-.127	-.257	.013	-.093	.191	.254	1					
31 back fr	2.14	1.37	-.249	-.150	-.192	-.039	.018	.057	-.199	-.074	-.021	.078	.096	.098	1				
32 viral fr	1.72	0.83	-.178	-.184	-.198	-.148	-.082	-.123	-.400	-.036	-.019	.076	.256	.303	.336	1			
33 throat fr	2.09	0.96	-.158	-.236	-.252	-.066	-.132	-.029	-.469	.075	-.060	.095	.541	.175	.104	.315	1		
34 head fr	3.10	1.45	-.139	-.090	-.244	-.102	-.061	.026	-.321	-.013	.002	-.009	.151	.208	.165	.058	.003	1	
35 diarr fr	2.01	0.98	-.296	-.159	-.208	-.111	-.077	-.096	-.228	.033	-.052	.131	.082	.537	.135	.284	.194	.242	1
36 cold l	4.47	0.75	.190	.194	.178	.098	.146	.077	.258	-.019	.081	.051	-.197	-.015	-.002	-.085	-.226	.055	.051
37 stom l	3.99	1.00	.073	.080	.053	.064	.084	.085	.208	.074	.120	.036	-.148	-.061	-.003	-.118	-.086	-.034	-.012
38 back l	4.38	0.90	.184	.252	.099	.168	.066	.181	.179	-.035	.051	.051	-.069	.080	-.060	-.083	-.131	.132	-.019
39 viral l	3.08	1.18	.137	.092	.091	.165	.072	.157	.317	.222	.170	-.001	-.118	.060	-.065	-.027	-.155	-.155	.042
40 throat l	3.82	1.07	.157	.089	.121	.137	.122	.146	.219	.114	.090	-.049	-.196	.023	.053	-.157	-.158	-.041	.031
41 head l	4.61	0.78	.119	.225	.397	.044	-.025	.101	.184	.070	-.134	-.072	-.053	-.078	.012	-.191	-.112	-.016	-.055
42 diarr l	3.05	1.30	.167	.234	.242	.113	-.080	.120	.129	.146	.103	.003	-.126	-.031	-.014	-.173	-.063	-.069	.086

	36	37	38	39	40	41	42
36 cold l	1						
37 stom l	.272	1					
38 back l	.205	.160	1				
39 viral l	.285	.378	.193	1			
40 throat l	.310	.306	.243	.540	1		
41 head l	.108	.088	.125	.083	.208	1	
42 diarr l	.235	.481	.183	441	.363	.200	1

Appendix 5:

Actual absence data: analysis of variance for absence spells by sex and grade and means for each sex.

Note: for each analysis of variance, numbers in AA and HEO+ grades were 6 and 4 respectively: therefore AA has been combined with AO and HEO has been combined with EO, resulting in two grade groups in the analyses.

Period A

variable	df	mean sq	F value	prob
sex (A)	1	42.4	2.55	.1132
grade (B)	1	136.3	2.18	.1425
AB	1	11.9	0.11	.7361
Error	108	16.6		

	AO		EO		total	
	mean	N	mean	N	mean	N
male	4.37	27	3.48	21	3.98	48
female	5.89	36	4.46	28	5.27	64
total	5.24	63	4.04	48	4.71	112

Period B

variable	df	mean sq	F value	prob
sex (A)	1	18.9	1.10	.2975
grade (B)	1	134.8	7.82	.0061
AB	1	6.4	0.37	.5454
Error	204	17.2		

	AO		EO		total	
	mean	N	mean	N	mean	N
male	6.15	27	3.43	21	4.96	48
female	6.50	36	4.75	28	5.73	64
total	6.35	63	4.18	49	5.40	112

Appendix 5 continued

Periods A + B

variable	df	mean sq	F value	prob
sex (A)	1	117.9	2.03	.1568
grade (B)	3	311.1	5.36	.0225
AB	3	1.3	0.02	.8812
Error	204	58.0		

	AO		EO		total	
	mean	N	mean	N	mean	N
male	10.52	27	6.90	21	8.94	48
female	12.39	36	9.21	28	11.00	64
total	11.59	63	8.22	49	10.12	112

Appendix 6.1

Results of T1 guidelines questions

Question: Do you think there are any guidelines?

Yes	1025	[78.9%]
No	64	[4.9%]
Don't Know	210	[16.2%]
N=	1299	

Question: If yes, do you know if these guidelines indicate numbers of days off before being interviewed by the manager? [N=1051]

Yes, gave a number	342	[32.5%]
No	115	[10.9%]
Don't Know	594	[56.5%]
N=	1051	

Question: If no, or 'don't know' do you think there should be guidelines?

Yes	771	[93.8%]
No	33	[4.0%]
Don't Know	18	[2.2%]
N=	822	

Note: the totals do not correspond: it seems that some respondents have ignored "if yes" or "if no" instructions and continue to answer questions regardless.

Appendix 6.2:

Endorsement of incentives and penalties by age group

For incentives
[expected frequencies in brackets]

	Age group					
Answer	1	2	3	4	5	total
yes	208 *[179.3]*	317 *[321.7]*	149 *[161.5]*	75 *[84.6]*	22 *[23.8]*	771
no	85 *[115.1]*	211 *[206.6]*	116 *[103.7]*	66 *[54.3]*	17 *[15.3]*	495
don't know	8 *[6.5]*	12 *[11.7]*	6 *[5.9]*	1 *[3.1]*	1 *[0.9]*	28
totals	301	540	271	142	40	1294

Combining age groups 4 and 5 because of low expected values gives $\chi^2 = 20.15$, with 8 df, significant at $p<.0078$

For penalties
[expected frequencies in brackets]

	Age group					
Answer	1	2	3	4	5	total
yes	176 *[193.2]*	337 *[350.1]*	183 *[172.2]*	107 *[91.6]*	31 *[26.2]*	834
no	95 *[82.4]*	163 *[149.8]*	65 *[73.5]*	28 *[39.1]*	5 *[11.2]*	356
don't know	24 *[19.4]*	36 *[35.3]*	15 *[17.3]*	5 *[9.2]*	4 *[2.6]*	84
totals	295	536	263	140	40	1274

Combining age groups 4 and 5 because of low expected values gives $\chi^2 = 18.30$, with 8 df, significant at $p<.0055$

Appendix 6.3:

Endorsement of incentives and penalties by grade.

Endorsement of incentives

[expected frequencies in brackets]

Answer	Grade AA		AO		EE		HEO+		total
yes	80	*[66.6]*	433	*[414.3]*	227	*[237.2]*	25	*[50.0]*	765
no	31	*[43.1]*	244	*[268.1]*	167	*[153.5]*	53	*[30.4]*	495
don't know	1	*[2.3]*	20	*[14.6]*	5	*[8.4]*	1	*[1.7]*	27
total	112		697		399		79		1287

Combining the two rows 'no" and don't know" because of low expected values, gives $\chi^2 = 52.02$, with 3 df, significant at p<.001.

Endorsement of penalties

[expected frequencies in brackets]

Answer	Grade AA		AO		EE		HEO+		total
yes	69	*[72.7]*	433	*[453.5]*	268	*[254.3]*	61	*[50.5]*	831
no	35	*[31.1]*	207	*[193.7]*	101	*[108.6]*	12	*[21.6]*	355
don't know	7	*[7.2]*	52	*[44.7]*	19	*[25.1]*	4	*[5.0]*	82
total	111		692		388		77		1268

$\chi^2 = 13.09$, with 6 df, significant at p<.0417.

Appendix 6.4

A Scale: t-test and Mann-Whitney tests for sex differences, showing similarities between probabilities derived from these tests.

Scale item	Men $\bar{x}$	Women $\bar{x}$	t-value	prob	Mean ranks m	f	z-value	prob
A1	3.44	3.24	2.17	.0304*	679	636	-.1.92	.0546†
A2	1.91	1.76	2.29	.0225*	687	630	-.2.71	.0067**
A3	3.93	3.91	0.14	.8869	646	647	-.0060	.9955
A4	2.00	1.88	1.89	.0577†	680	636	-2.089	.0367*
A5	3.43	3.22	2.05	.0406*	675	630	-1.996	.0460*
A6	2.29	1.96	3.35	.0008***	703	623	-3.937	.0001***
A7	3.18	3.19	-0.06	.9486	645	647	-.0820	.9348
A8	4.58	4.51	.837	.4025	652	639	-.5900	.5553
A9	2.02	2.52	-.533	.0001***	546	678	-6.064	.0001***
A10	2.15	1.97	3.05	.0023**	689	629	-.2.77	.0056**
A11	4.61	4.27	4.02	.0001***	708	618	-4.024	.0001***
A12	2.07	1.97	1.97	.0490*	669	637	-1.556	.1198
A13	2.47	2.47	-.016	.9874	644	648	-.1900	.8489
A14	3.59	3.95	-4.41	.0001***	573	671	-4.388	.0001***
A15	3.19	3.15	.583	.5598	651	645	-.2420	.8088
A16	2.96	2.77	2.37	.0177*	682	633	-2.201	.0277*
A17	2.27	2.13	2.74	.0061**	682	629	-2.481	.0131*
A18	3.83	4.16	-3.51	.0004***	583	662	-3.558	.0004***
A19	1.98	1.78	3.46	.0006***	695	627	-3.191	.0014**
A20	3.95	3.97	-.240	.8094	643	645	-.0680	.9455
A21	2.14	1.87	3.71	.0002***	700	620	-3.773	.0002***
A22	2.09	2.02	.893	.3722	661	643	-.8890	.3741
A23	3.39	3.39	-.004	.9970	647	647	-.0300	.9762
A24	1.57	1.65	-1.72	.0854†	627	656	-1.405	.1600

*Note: † indicates p<.10, * indicates p<.05, ** indicates p<.01 and *** indicates p<.001, all 2-tailed*
N= 376 for men and N= 915 for women

Appendix 6.5

Chi-squared analysis of T1 A scale item A6 [job dealing with the public] by grade *6*

A6 response	Grade AA	AO	EO	HEO+	N
1	54 *[65]*	453 *[402]*	232 *[230]*	3 *[46]*	742
2	18 *[21]*	150 *[129]*	66 *[74]*	5 *[15]*	239
3	14 *[7]*	34 *[47]*	28 *[27]*	10 *[5]*	86
4	10 *[9]*	31 *[54]*	24 *[31]*	34 *[6]*	99
5	16 *[10]*	27 *[64]*	48 *[37]*	27 *[7]*	118
N	112	695	398	79	1284

Note : ratings 4 and 5 on A6 were merged in this analysis because expected values in cells for HEO+ were low for these two ratings; therefore in the table below A6 response 4 refers to questionnaire responses of 4 or 5 while rating 5 refers to questionnaire response .
Expected values are in brackets

$\chi^2 = 293.2$ *with 12 d.f.,* $p<.0001$

Appendix 6.6

A scale item 9 [wish to be promoted] cross-tabulated with 11 [perceived chances of promotion]

	A9						
A11	1	2	3	4	5	6	N
1	16*(15)*	8 *(8)*	4 *(5)*	3 *(4)*	3 *(2)*	3 *(2)*	37
2	42*(48)*	31*(26)*	13*(17)*	11*(12)*	12 *(6)*	9*(10)*	118
3	69*(81)*	48*(43)*	41*(29)*	22*(21)*	7*(13)*	11*(12)*	198
4	88*(111)*	67*(59)*	42*(40)*	42*(28)*	20*(17)*	11*(16)*	270
5	105*(116)*	68*(61)*	49*(41)*	24*(29)*	22*(18)*	14*(17)*	282
6	201*(150)*	54*(79)*	37*(54)*	30*(38)*	17*(23)*	27*(22)*	366
N	521	276	186	132	81	75	1271

Note: expected values in brackets

Appendix 6.7

B scale means, standard deviations and t-tests for men and women.

	Illness	Men $\bar{x}$	Men s.d.	Women $\bar{x}$	Women s.d.	t value	prob
B1	Cold	5.2	0.8	5.1	0.8	1.82	0.0688
B2	Severe Cold	3.4	1.1	3.4	1.1	0.27	0.7846
B3	Stomach	3.8	1.0	3.6	1.0	3.08	0.0021**
B4	Mild Backache	4.9	0.9	4.9	0.9	-1.27	0.2047
B5	Severe Backache	2.8	1.2	2.9	1.1	-2.31	0.0208*
B6	Headache	4.9	1.0	5.1	0.9	-4.17	0.0001***
B7	Severe Headache	3.4	1.2	3.6	1.1	-3.24	0.0012*
B8	Throat Infection	2.9	1.2	2.9	1.2	0.99	0.3220
B9	Chest Infection	2.8	1.2	2.7	1.2	2.33	0.0198*
B10	Depression	3.4	1.4	3.4	1.3	-0.42	0.6720
B11	Sickness/Nausea	3.7	1.2	3.9	1.1	-2.83	0.0047**
B12	Viral Illness	2.6	1.2	2.7	1.2	-0.89	0.3774
B13	Neck Strain	4.2	1.1	4.2	1.1	-0.08	0.9332
B14	Migraine	2.9	1.3	2.9	1.2	0.43	0.6656
B15	Feeling Dizzy	4.0	1.2	4.0	1.2	0.46	0.6455
B16	Fainting	2.9	1.4	3.3	1.4	-3.46	0.0006***
B17	Diarrhoea	2.8	1.4	2.7	1.3	1.03	0.3016
B18	Tonsillitis	2.4	1.3	2.4	1.2	0.09	0.9249

*Note: * indicates p<.05, ** indicates p<.01 and *** indicates p<.001, all 2-tailed*
N= 376 for men and N= 915 for women

Appendix 6.8

B scale frequencies as percentages for each scale point

(rounded to one decimal point)

Illness	Scale point 1	2	3	4	5	6	total
Light Cold	0.1	0.6	0.6	18.9	43.4	36.4	100
Heavy Cold	7.2	14.1	21.1	48.6	7.8	1.2	100
Stomach	3.6	11.0	17.8	52.0	13.1	2.0	100
Mild Backache	0.2	1.2	2.7	27.8	40.6	27.5	100
Severe Backache	14.5	20.2	31.3	29.6	3.8	0.5	100
Headache	0.2	1.2	3.7	21.1	34.0	40.0	100
Severe Headache	5.7	12.2	21.3	42.4	15.7	2.6	100
Throat Infection	16.7	21.2	25.2	30.5	4.8	1.6	100
Chest Infection	18.8	24.3	27.5	25.7	3.2	0.6	100
Depression	8.6	17.5	20.1	36.5	11.6	5.6	100
Sickness/Nausea	4.0	10.4	16.4	42.0	22.3	5.1	100
Viral Illness	24.3	22.3	23.2	26.5	3.2	0.5	100
Neck Strain	1.7	6.9	11.1	42.8	28.4	9.0	100
Migraine	18.1	20.5	22.6	30.9	7.3	0.6	100
Feeling Dizzy	4.7	8.1	12.9	37.9	28.8	7.6	100
Fainting	19.2	13.6	16.6	34.0	14.5	2.2	100
Diarrhoea	25.7	20.6	20.2	25.9	5.9	1.7	100
Tonsillitis	34.3	21.6	22.6	18.0	3.2	0.3	100

Note N=1290 approx. for each illness

Appendix 6.9

B scale: comparison of the sexes using mean ranks and z values for the Mann-Whitney U test and the t-test.

	Illness	Mean Ranks m	f	z	t	p(z)
B1	Cold	658	620	1.85	1.82	0.0644
B2	Severe Cold	648	644	0.21	0.27	0.8336
B3	Stomach	687	621	3.16	3.08	0.0016**
B4	Mild Backache	621	649	-1.28	-1.27	0.2006
B5	Severe Backache	601	661	-2.74	-2.31	0.0062**
B6	Headache	580	669	-4.16	-4.17	0.0001***
B7	Severe Headache	596	666	-3.22	-3.24	0.0012**
B8	Throat Infection	661	640	0.96	0.99	0.3370
B9	Chest Infection	680	629	2.27	2.33	0.0232*
B10	Depression	638	645	-0.30	-0.42	0.7642
B11	Sickness/Nausea	601	660	-2.74	-2.83	0.0062**
B12	Viral Illness	624	648	-1.07	-0.89	0.2846
B13	Neck Strain	645	642	0.13	-0.08	0.9866
B14	Migraine	651	644	0.33	0.43	0.7414
B15	Feeling Dizzy	653	640	0.61	0.46	0.5418
B16	Fainting	589	665	-3.45	-3.46	0.0004***
B17	Diarrhoea	659	640	-0.84	1.03	0.4010
B18	Tonsillitis	645	647	-0.09	0.09	0.9282

Note: * *indicates p<.05,* ** *indicates p<.01 and* *** *indicates p<.001, all 2-tailed*

Additional notes [a] higher rank sums relate to lower legitimization
[b] the df in the t-test are all approximately 1270, making t directly comparable with z in this context
[c] that items B8, B9, B10, B14, and B15 have high standard deviations, while B12, B16, B17 and B18 additionally are bimodal in distribution

Appendix 6.10

B scale: t-tests for part-time and full-time employees

B Scale Item	$\bar{x}$ pt	$\bar{x}$ ft	t-value	prob
B1 cold	5.09	5.15	.913	.3615
B2 severe cold	3.28	3.41	.576	.1154
B3 stomach	3.70	3.67	.354	.7234
B4 mild back	4.89	4.90	.195	.8451
B5 severe back	2.92	2.89	.323	.7471
B6 headache	5.11	5.06	.550	.5824
B7 severe head	3.57	3.58	.182	.8560
B8 throat inf	2.73	2.93	2.160	.0313*
B9 chest inf	2.54	2.23	2.232	.0258*
B10 depression	3.40	3.42	.253	.8000
B11 sick/nausea	3.93	3.82	1.186	.2357
B12 viral ill	2.65	2.63	.188	.8508
B13 neck strain	4.02	4.19	2.020	.0436*
B14 migraine	2.73	2.93	2.020	.0430*
B15 dizzy	3.79	4.04	2.647	.0082**
B16 fainting	3.00	3.20	1.759	.0788
B17 diarrhoea	2.51	2.74	2.172	.0301*
B18 tonsillitis	2.15	2.38	2.458	.0141*

*Note: * indicates p<.05 and ** indicates p<.01, all 2-tailed. N (pt) = 191 and N (ft) =1100*

Appendix 6.11

C scale: means and standard deviations for men and women and t-tests for sex differences

		Men		Women			
	Stressor	$\bar{x}$	s.d.	$\bar{x}$	s.d.	t value	prob
C1	quantitative overload	3.1	1.2	3.2	1.2	-1.33	.1820
C2	qualitative overload	4.1	1.0	4.1	1.0	-0.28	.7771
C3	home responsibility	4.2	1.1	3.8	1.2	5.07	.0001***
C4	office accommodation	4.3	1.1	4.3	1.1	0.38	.7035
C5	boring job	3.8	1.2	4.0	1.2	-3.28	.0011**
C6	difficult work people	4.3	0.9	4.4	0.8	-3.12	.0018**
C7	dual career	4.7	0.7	4.4	1.0	5.48	.0001***
C8	priorities unclear	4.0	1.1	4.3	1.0	-3.83	.0001***
C9	not getting promotion	3.7	1.4	4.1	1.2	-4.89	.0001***
C10	undervalued	3.5	1.3	3.6	1.3	-2.11	.0353*
C11	no recognition	3.4	1.3	3.6	1.3	-2.62	.0090**
C12	desk/chair strain	4.5	0.9	4.4	1.0	1.56	.1188
C13	unclear tasks	4.2	1.0	4.4	1.1	-3.03	.0025**
C14	expect too much	4.1	1.1	4.1	1.1	0.32	.7516
C15	moving offices	4.4	1.0	4.4	1.0	-0.29	.7726
C16	no management support	3.9	1.2	3.9	1.2	-1.09	.2742
C17	not best way	3.6	1.1	3.9	1.0	-4.02	.0001***
C18	change, not informed	3.4	1.1	3.5	1.2	-1.02	.3100
C19	too much change	3.6	1.3	3.7	1.3	-1.20	.2285

*Note N= 917 for women, N= 376 for men; *indicates p<.05, **indicates p<.01 and *** indicates p<.001.;*

Appendix 6.12

Cross-tabulation of frequency of stress with grade.

	overall stress score						
grade	1	2	3	4	5	6	row total
AA	8 *(9)*	7 *(18)*	25 *(35)*	22 *(21)*	33 *(21)*	16 *(6)*	111
AO	60 *(58)*	111 *(113)*	211*(214)*	135 *(131)*	135 *(131)*	35 *(39)*	687
EO	35 *(33)*	71 *(65)*	131 *(124)*	72 *(76)*	68 *(76)*	20 *(23)*	397
HEO +	4 *(7)*	21 *(13)*	30 *(25)*	15 *(15)*	8 *(15)*	2 *(5)*	80
col total	107	210	397	244	244	73	1275

Notes: expected values are in brackets. χ^2 *= 45.92, with 12 df, significant at p<0.0001.*

Cross-tabulation of "stress frequency" with age groups.

	overall stress score						
age group	1	2	3	4	5	6	row total
< 25	18 *(25)*	51 *(49)*	81 *(91)*	54 *(56)*	70 (57)	21 *(17)*	295
26-35	43 *(45)*	88 *(89)*	181 *(166)*	94 *(103)*	104 *(103)*	27 *(31)*	537
36-45	27 *(23)*	55 *(45)*	82 *(83)*	51 *(51)*	44 *(52)*	10 *(15)*	269
46++	20 *(15)*	19 *(30)*	53 *(56)*	45 *(34)*	28 *(35)*	15 *(10)*	180
total	108	213	397	244	246	73	1281

Notes: [a] expected values are in brackets. χ^2 *= 28.60, with 15 df, significant at p<0.0181.*
[b] age groups reduced to four because expected values were less than five for two cells in the highest age group.

Cross-tabulation of C2 [responsibility at work] with grade

	C2 responses				
grade	1&2	3	4	5	totals
AA	6 *(8)*	15 *(20)*	30 *(29)*	59 *(53)*	110
AO	43 *(50)*	114 *(126)*	171 *(182)*	362 *(332)*	690
EO	32 *(29)*	84 *(73)*	115 *(105)*	167 *(191)*	398
HEO +	12 *(6)*	20 *(14)*	21 *(21)*	26 *(38)*	79
totals	93	233	337	614	1277

Notes: [a] expected values in brackets. χ^2 *= 27.05, with 9 df, significant at p<0.01.*
Note: [b] two C2 groups are combined because expected values were less than five for two cells

Appendix 6.13: Regression of C scale stress factors, sex and grade on "stress frequency"

Item	coefficient	t-value	prob
sex	.075	1.09	.2768
grade	-.112	2.51	.0124
overload	.237	17.32	.0001
monotony	.019	1.23	.2174
recognition	.022	2.42	.0157
management	.039	3.30	.0010
domestic	.077	4.37	.0001
ambiguity	-.021	.95	.3411

Notes: F= 90.24, p<.0001 with 8, 1198 d.f. N=1207
intercept= -.347; R= .613; adjusted R^2= .372

Appendix 6.14.

[a] Correlations of perceived susceptibilities to illnesses with likelihood of being absent if have an illness for all T2 respondents

	Likelihood of absence if have:						
Susceptibility	Cold	Stomach	Backache	Viral Inf	Throat Inf	Headache	Diarrhoea
Cold	.233***	.130	.077	.196**	.166*	.071	.079
Stomach	.159*	.140*	.104	.102	.022	.149*	.068
Backache	.038	.067	.021	.103	.042	.030	-.020
Viral Ill	.146*	.088	.153*	.150*	.131	.125	.042
Throat Inf	.243***	.176**	.170*	.206**	.156*	.170*	.050
Headache	.108	.033	-.003	.147*	.081	.124	.051
Diarrhoea	.140*	.129	.072	.112	.087	.152*	.013

*Notes: N=215; * indicates p<.05, ** indicates p<.01 and *** indicates p<.001; perceived susceptibility scores 10 for 'I never get this illness' to 1 for 'I frequently get this illness', and perceived likelihood scores 1 for 'very likely to be absent' to 5 for 'very likely to go to work'. Thus, a positive correlation means that high susceptibility is related to greater likelihood of absence.*

Appendix 6.14 (cont.)

[b] Correlations between perceived susceptibility to illness and perceived likelihood that illness will lead to absence for each sex separately

Women

	Likelihood of absence if have:						
Susceptibility	Cold	Stomach	Backache	Viral Inf	Throat Inf	Headache	Diarrhoea
Cold	.240**	.162	.080	.201*	.084	.008	.136
Stomach	.055	.111	.051	.020	-.062	.054	.043
Backache	.029	.044	-.037	.127	.025	-.042	-.107
Viral Inf	.197*	.153	.282**	.133	.129	.137	.009
Throat Inf	.243**	.172	.224*	.154	.151	.122	.018
Headache	.020	-.055	-.142	.028	-.072	.025	.065
Diarrhoea	.180*	.220*	.022	.105	.122	.203*	.080

*N= 123; * = p<.05; ** = p<.01*

Men

	Likelihood of absence if have:						
Susceptibility	Cold	Stomach	Backache	Viral Inf	Throat Inf	Headache	Diarrhoea
Cold	.240*	.118	.063	.187	.316**	.175	.040
Stomach	.323**	.206*	.152	.212*	.174	.305**	.111
Backache	.032	.059	.103	.059	.022	.129	.056
Viral Inf	.068	-.019	-.001	.176	.117	.094	.064
Throat Inf	.244*	.188	.073	.282**	.187	.282**	.122
Headache	.227*	.134	.169	.288**	.239*	.236*	.007
Diarrhoea	.079	-.006	.135	.130	.059	.076	-.089

*N= 94; * =p< .05; **= p<.01*

Appendix 6.15:

Correlations of perceived frequency with susceptibility to and likelihood of absence

[a] perceived frequency with susceptibility to absence for both sexes

	Susceptibility to absence for						
Frequency	Cold	Stomach	Backache	Viral Inf	Throat Inf	Headache	Diarrhoea
Cold	-.667***	-.218**	.009	-.213**	-.393***	-.167*	-.145*
Stomach	-.167*	-.562***	-.026	-.181**	-.095	-.174*	-.248***
Backache	.028	.040	-.742***	.074	-.019	-.024	-.036
Viral Ill	-.275***	-.187**	-.054	-.662***	-.358***	-.134*	-.188**
Throat Inf	-.445***	-.162*	-.008	-.283***	-.729***	-.140*	-.204**
Headache	-.140*	-.130	-.039	.049	.075	-.725***	-.134*
Diarrhoea	-.075	-.339***	.008	-.176**	-.130	-.147*	-.591***

*Notes: N=215; * indicates p<.05, ** indicates p<.01 and *** indicates p<.001; perceived susceptibility scores 10 for 'I never get this illness' to 1 for 'I frequently get this illness', and frequency scores 1 for 'not at all' to 5 for "more than 12 times'. Thus, a positive correlation means that high susceptibility is related to greater frequency of absence.*

[b] perceived frequency with likelihood of absence for both sexes

	Likelihood of absence for						
Frequency	Cold	Stomach	Backache	Viral Inf	Throat Inf	Headache	Diarrhoea
Cold	-.157*	-.141*	.023	-.079	-.096	-.056	-.090
Stomach	-.086	-.068	.076	.028	.007	-.096	-.087
Backache	-.036	-.046	-.010	-.072	.049	.008	-.003
Viral Ill	-.070	-.048	.072	.023	-.074	-.107	-.058
Throat Inf	-.233***	-.137*	-.160*	-.130	-.135*	-.117	-.100
Headache	-.015	-.072	.077	-.178**	-.059	-.014	-.080
Diarrhoea	-.050	-.016	.013	.022	.019	-.109	.090

*Notes: N=215; * indicates p<.05, ** indicates p<.01 and *** indicates p<.001; perceived likelihood of absence is scored 1= 'very likely to be absent' to 5= 'very likely to go to work' and frequency scores 1 for 'not at all' to 5 for "more than 12 times'. Thus, a negative correlation means that high likelihood of absence if one has an illness is related to greater frequency of absence.*

[c] perceived frequency of illness with perceived likelihood of that illness resulting in absence, for men and women separately

	Likelihood	
Frequency of illness	Male	Female
cold	-.210*	-.133
stomach	-.090	-.071
backache	-.033	.001
viral inf	.031	.061
throat	-.123	-.168
headache	-.087	.060
diarrhoea	.117	.072
N	85	119

Note: no correlation is significant at p<.05, 2-tailed
† *indicates p<.10*

Appendix 6.16:

Job satisfaction scores.

	$\bar{x}$	s.d.	N
all	3.08	1.08	220
men	2.92	0.99	95
women	3.20	1.13	125
typist/AA	3.26	1.16	13
AO	2.82	1.01	98
EO	3.28	1.12	85
HEO+	3.31	0.99	19

comparing men with women, t= -1.95, with 218 df, p< .053
comparing four grade groups, F=3.18, with 2, 211 df, p<.0249

U.S. sample 1977*	3.66	1.02	1515

* *Quinn and Staines (1979)*

Appendix 6.17:

Two-way analyses of variance of faith and confidence [trust] by sex:

Faith and confidence in managers: mean scores and N for each cell.

	grade				
	AA	AO	EO	HEO+	totals
male means	23.5	20.6	23.0	24.7	22.0
male N	2	46	32	12	92
female means	28.8	24.3	25.9	28.0	25.6
female N	11	52	51	6	120
total means	28.0	22.6	24.8	25.8	24.1
total N	13	98	83	18	212

variable	df	mean sq	F value	prob
sex (A)	1	248.9	5.43	.0208
grade (B)	3	114.1	2.49	.0615
AB	3	4.2	0.09	.9645
Error	204	45.9		

Faith and confidence in peers: mean scores and N for each cell

	grade				
	AA	AO	EO	HEO+	totals
male means	29.0	32.0	32.8	34.1	32.5
male N	2	46	32	12	92
female means	35.5	32.4	33.3	34.2	33.2
female N	11	52	53	6	122
total means	34.5	32.2	33.1	34.1	32.9
total N	13	98	85	18	214

variable	df	mean sq	F value	prob
sex (A)	1	60.6	2.35	.1271
grade (B)	3	24.6	0.95	.4166
AB	3	20.7	0.80	.4945
Error	206	25.8		

Appendix 7.1: Hypothesis 1

Kruskal-Wallis one-way analyses of variance showing mean ranks and H value for B scale illness groups by grade, conducted separately for each sex.

	Mean ranks[a] male grades					Mean Rank [b] female grades				
Illness group	AA	AO	EO	HEO+	H value	AA	AO	EO	HEO+	H value
colds	171	174	188	234	12.8**	474	421	453	569	13.7 **
headaches	124	172	204	214	18.3***	447	439	462	584	10.4 *
infections	163	172	190	204	4.9	403	451	461	504	4.6
back/neck	128	180	195	207	10.9*	450	433	470	532	7.4
nausea/sick	138	171	209	204	15.8**	378	428	492	547	23.0***
dizzy/faint	141	192	194	167	7.3	420	445	465	527	5.2
severe back	122	180	188	246	25.4***	405	446	474	541	9.4 *
depression	180	197	182	172	2.8	461	451	449	490	0.9
'malaise'	132	180	201	181	9.5*	389	428	473	545	14.6 **
N (approx.)	26	174	125	48		87	512	268	39	

Notes * *indicates* $p<.05$; ** $p<.01$; *** $p<.001$.
H is distributed as a χ^2 *with 3 d.f.. and therefore these significances are for all grades*
The higher the mean rank within each illness/sex group, the less the illness is perceived to be a legitimate reason for absence

Appendix 7.2: Hypothesis 1

B scale analysis of sex differences for each grade for all illnesses using Mann-Whitney U tests.

	Mann-Whitney Rank Sums							
	AA		AO		EO		HEO+	
Illness	m	f	m	f	m	f	m	f
B1 Cold	56	53	354	334	194	196	46	41
B2 Heavy cold	49	59	339	349	204	198	43	45
B3 Upset stomach	59	55	360	339	212	191*	45	41
B4 Mild back	40	60**	330	351	196	199	41	46
B5 Severe back	41	61**	317	357	179	208**	44	41
B6 Headache	45	60*	300	361**	189	204	38	50**
B7 Severe head	39	62**	306	361**	196	201	40	49
B8 Bad throat	55	57	360	343	202	198	41	47
B9 Chest Inf'n	63	55	358	343	208	193	45	43
B10 Depression	55	58	359	343	193	198	40	49
B11 Feel sick	47	59	315	356**	192	201	41	48
B12 Viral Ill	54	56	334	351	189	201	44	42
B13 Neck strain	49	59	356	343	198	197	43	44
B14 Migraine	47	59	348	347	207	196	43	45
B15 Dizzy	49	59	368	339	198	199	42	46
B16 Fainting	47	60	320	353*	188	203	36	53**
B17 Diarrhoea	58	57	338	351	217	191*	43	45
B18 Tonsillitis	57	57	319	357**	210	194	47	40
N (approx.)	26	87	174	512	125	268	48	39

**indicates p<.05; ** indicates p <.01.*
values are rank sums for the sexes for each illness and grade
higher rank sums indicate less legitimization

Appendix 7.3: Hypothesis 1

B scale dependent variables Mann-Whitney test between male and female for minor illness factors by grade

	Mann-Whitney Rank Sums							
	AA		AO		EO		HEO+	
Illness groups	m	f	m	f	m	f	m	f
colds	49	55	340	339	197	195	44	42
headaches	39	60**	309	355**	198	199	39	49*
infections	58	55	338	345	203	192	44	41
back/neck	42	60**	338	345	193	197	41	45
nausea	50	56	329	346	202	194	42	45
dizzy/faint	47	60*	339	345	192	200	39	51**
severe back	41	61**	317	357**	179	208**	44	41
depression	55	58	359	343	193	198	40	49
'malaise'	46	58*	327	342	196	194	39	49*
N (approx.)	26	87	174	512	125	268	48	39

*Note: * indicates p<.05 and ** indicates p<.01*

Higher rank sums indicate lower perceived legitimacy of illness

Appendix 7.4: Hypothesis 1

Analyses of variance and multiple regressions of age and grade on perceived legitimacy for each sex

Men

	Illness	means for age groups 1	2	3	4	F value	prob
B1	Cold	5.3	5.1	5.3	5.3	1.88	.1325
B2	Severe Cold	3.4	3.3	3.6	3.5	2.35	.0723
B3	Stomach	3.7	3.6	4.1	4.1	4.89	.0024**
B4	Mild Backache	4.7	4.8	5.1	4.9	3.69	.0122*
B5	Severe Backache	2.8	2.5	3.1	2.9	4.41	.0046**
B6	Headache	4.7	4.9	5.0	5.0	1.48	.2198
B7	Severe Headache	3.2	3.4	3.7	3.5	2.80	.0399*
B8	Throat Infection	3.0	2.9	3.1	3.5	1.15	.3289
B9	Chest Infection	2.8	2.7	3.1	2.9	1.71	.1644
B10	Depression	3.6	3.3	3.3	3.4	1.47	.2220
B11	Sickness/Nausea	3.5	3.7	3.9	3.7	1.26	.2881
B12	Viral Illness	2.6	2.5	2.6	2.7	0.57	.6352
B13	Neck Strain	4.2	4.1	4.2	4.2	0.28	.8363
B14	Migraine	2.9	2.9	3.0	3.1	0.27	.8459
B15	Feeling Dizzy	4.1	4.0	4.0	3.8	0.99	.3991
B16	Fainting	3.1	2.8	2.9	3.1	1.24	.2952
B17	Diarrhoea	2.8	2.7	2.9	2.7	0.20	.8943
B18	Tonsillitis	2.2	2.4	2.4	2.5	0.96	.4096

*Note: * indicates p<.05, ** indicates p<.01, all 2-tailed. N= 376*

Women

	Illness	means for age groups 1	2	3	4	F value	prob
B1	Cold	5.1	5.0	5.2	5.4	10.84	.0001***
B2	Severe Cold	3.3	3.3	3.6	3.7	13.26	.0001***
B3	Stomach	3.5	3.6	3.8	4.0	11.82	.0001***
B4	Mild Backache	4.7	4.8	5.1	5.1	12.89	.0001***
B5	Severe Backache	2.8	2.8	3.2	3.1	11.98	.0001***
B6	Headache	5.0	5.0	5.2	5.2	7.12	.0001***
B7	Severe Headache	3.4	3.5	3.8	3.8	8.12	.0001***
B8	Throat Infection	2.9	2.8	3.0	2.9	0.75	.5225
B9	Chest Infection	2.7	2.7	2.8	2.8	0.99	.3981
B10	Depression	3.5	3.3	3.3	3.5	2.20	.0862
B11	Sickness/Nausea	3.6	3.8	4.0	4.0	7.31	.0001***
B12	Viral Illness	2.7	2.6	2.6	2.7	0.73	.5357
B13	Neck Strain	4.2	4.1	4.1	4.2	1.02	.3840
B14	Migraine	2.9	2.8	2.9	3.1	1.83	.1391
B15	Feeling Dizzy	4.1	4.0	4.0	4.0	0.29	.8294
B16	Fainting	3.1	3.1	3.3	3.4	3.64	.0124*
B17	Diarrhoea	2.8	2.6	2.8	2.7	0.71	.5478
B18	Tonsillitis	2.3	2.3	2.4	2.5	0.82	.4827

*Note: * indicates p<.05 and *** indicates p<.001, all 2-tailed; N= 915*

Appendix 7.4 continued:

Regressions of age and grade on B scale perceived legitimacy factors

Women

Legitimacy factor	F	prob	age t	age prob	grade t	grade prob
colds	21.77	.0001***	6.2	.0001***	0.2	.8732
nausea	21.79	.0001***	4.3	.0001***	3.6	.0004***
back/neck	6.13	.0023**	2.6	.0098**	1.5	.1376
infections	1.61	.2010	0.3	.7750	1.6	.1095
headaches	12.63	.0001***	4.1	.0001***	1.5	.1379
dizzy/faint	3.73	.0244*	1.2	.2207	2.0	.0508
severe back	12.14	.0001***	1.6	.1171	4.0	.0001***
depression	0.39	.6800	0.1	.9388	0.8	.4146
malaise	12.23	.0001***	2.9	.0035**	2.9	.0034**

*Note: * indicates p<.05; ** indicates p<.01 and *** indicates p<.001. N= 915*

Men

Legitimacy factor	F	prob	age t	age prob	grade t	grade prob
colds	4.65	.0101*	0.3	.7489	2.7	.0079**
nausea	6.86	.0012**	4.3	.0001***	3.6	.0004***
back/neck	6.37	.0019**	1.1	.2745	3.4	.0007***
infections	2.25	.1068	0.7	.5048	2.0	.0422*
headaches	11.93	.0001***	0.2	.8294	4.1	.0001***
dizzy/faint	0.30	.7220	0.8	.4280	0.6	.5648
severe back	8.87	.0002***	0.7	.5091	3.8	.0002***
depression	0.58	.5582	0.7	.4905	0.3	.7684
malaise	1.94	.1499	0.1	.8886	1.5	.1314

*Note: * indicates p<.05; ** indicates p<.01 and *** indicates p<.001. N= 376*

Appendix 8: Hypothesis 2

Correlations of perceived legitimacy of minor illnesses and "stress frequency", for AO and EO grades by sex.

Illness	EO fem	EO male	AO fem	AO male
B1 Cold	.082	.167	.053	.018
B2 Heavy cold	.155*	.036	.097*	.092
B3 Stomach	.171**	.107	.067	.076
B4 Mild back	.028	.124	.097*	.146†
B5 Severe back	.192***	.007	.103*	.019
B6 Headache	.129*	.086	.083†	.137†
B7 Severe head	.150*	.074	.095*	.097
B8 Throat Inf	.153*	.029	.100*	.131†
B9 Chest Inf	.137*	.040	.052	.152*
B10 Depression	.127*	.041	.113*	.080
B11 Sick/nausea	.077	.126	.015	.176*
B12 Viral ill	.095	.026	.071	.104
B13 Neck str	.142*	.204*	.124**	.173*
B14 Migraine	.090	.094	.074†	.117
B15 Dizzy	.133*	.078	.056	.157*
B16 Fainting	.134*	.007	.018	.122
B17 Diarrhoea	.045	.257**	.083	.034
B18 Tonsillitis	.059	.155†	.034	.143†
N = approx.	262	127	498	169

*Notes: † indicates p<.10; * indicates p<.05, ** indicates p<.01 and *** indicates p<.001*

Appendix 8: Hypothesis 2 (cont.)

Correlations of perceived legitimacy of minor illnesses and "stress frequency", for AA and HEO+ grades by sex.

Illness	AA fem	AA male	HEO fem	HEO male
B1 Cold	.253*	.196	-.260	-.085
B2 Heavy cold	.100	.329†	-.058	-.142
B3 Stomach	.164	.370†	.230	.051
B4 Mild back	.135	-.065	-.014	.056
B5 Severe back	.068	.023	.159	.045
B6 Headache	.260*	.394*	.024	-.084
B7 Severe head	-.010	.063	.125	-.120
B8 Throat Inf	-.036	.122	.123	-.100
B9 Chest Inf	.074	.271	.173	-.125
B10 Depression	.307**	-.232	.114	.008
B11 Sick/nausea	.048	.413*	.514**	.058
B12 Viral illness	.029	.423*	.069	.122
B13 Neck strain	.137	.234	-.032	-.106
B14 Migraine	.044	.257	.191	-.030
B15 Dizzy	.070	.310	.248	.094
B16 Fainting	.110	.112	.376*	.043
B17 Diarrhoea	.152	-.096	.056	.069
B18 Tonsillitis	.129	.050	.129	.071
N = approx.	83	26	39	48

*Notes: † indicates p<.10; * indicates p<.05, ** indicates p<.01 and *** indicates p<.001*

Appendix 9.1 Hypothesis 3

Regressions of T2 perceived health and susceptibility on perceived likelihoods of absence for all T2 respondents combined.

Perceived likelihood	R	R^2	F-value	prob	variables with t >1.96
cold	0.27	0.07	1.97	.0521	suscept throat
stomach	0.19	0.04	0.94	.4859	--
back	0.16	0.03	0.78	.6034	--
viral	0.27	0.07	2.21	.0347	suscept throat
throat	0.21	0.04	1.06	.3916	--
head	0.23	0.05	1.32	.2363	--
diarr	0.16	0.02	0.62	.7617	--

Appendix 9.2 Hypothesis 3

Regressions of T2 perceived health status and perceived susceptibilities on T1 B scale perceived legitimacies of minor illness factors.

Regressions for Men

N= 86

Illness group	R	R^2	F-value	prob	t >1.96
colds	0.29	0.08	0.83	.5803	–
nausea/sick	0.42	0.17	2.06	.0501	suscept throat
back/neck	0.37	0.14	1.58	.1447	suscept back
infections	0.28	0.08	0.86	.5548	–
headaches	0.46	0.21	2.62	.0134	suscept back
dizzy/faint	0.29	0.09	0.94	.4901	suscept colds
severe back	0.34	0.12	1.31	.2495	–
depression	0.37	0.14	1.61	.1355	suscept stomach
'malaise'	0.38	0.15	1.67	.1195	–

Regressions for Women

N= 110

Illness group	R	R^2	F-value	prob	t >1.96
colds	0.27	0.07	1.17	.1169	–
nausea/sick	0.28	0.08	1.33	.2030	–
back/neck	0.29	0.08	1.43	.1572	–
infections	0.28	0.08	1.31	.2171	C go to wk, C not go to wk
headaches	0.37	0.14	2.51	.0045	suscept throat
dizzy/faint	0.26	0.07	1.11	.3546	C not go to wk
severe back	0.30	0.09	1.53	.1169	–
depression	0.24	0.06	0.95	.4950	–
malaise	0.31	0.09	1.61	.0924	suscept diarr, C go & not go to wk

Note: C in the final column refers to the Cantril Ladder

Appendix 10.1: Hypothesis 4

Correlations for both sexes separately of T2 organizational trust with T1 B scale perceived legitimacies.

Illness group	Women		Men	
	Management	Peers	Management	Peers
colds	.181†	.047	.095	.184†
nausea/sick	.090	-.075	-.034	-.052
back/neck	-.023	-.108	.064	-.129
infections	-.007	-.207*	-.049	-.159
headaches	.086	-.097	.000	.062
dizzy/faint	.051	-.091	-.037	-.162
severe back	.050	-.177†	.093	.045
depression	.113	.063	-.009	-.256*
malaise	.096	-.084	-.067	-.155
N	117		94	

Notes: † *indicates p<.10;* * *indicates p<.05*

Correlations of T2 perceived likelihood with trust in management and peers

T2 illness	Women		Men	
	Management	Peers	Management	Peers
colds	.117	-.097	.260*	.246*
stomach	.077	-.053	.061	-.018
back	.119	.079	.174†	-.027
viral	.072	-.056	.215*	.119
throat	.013	.047	.203†	.156
head	.025	.034	.177†	-.007
diarr	.067	-.105	.185†	-.087
N	117		94	

Notes: † *indicates p<.10;* * *indicates p<.05*

Appendix 10.2: Hypothesis 4

Regressions of trust and grade on perceived likelihood of absence if ill for both sexes separately

T2 illness	R	R^2	F-value	prob	variable with p<.0500
for men, N= 91 [2, 89 d.f.]					
colds	0.28	0.08	3.85	.0249	trust m
stomach	0.24	0.06	2.72	.0713	grade
back	0.17	0.03	1.36	.2617	–
viral	0.24	0.06	2.63	.0780	–
throat	0.19	0.04	1.70	.1890	–
head	0.17	0.03	1.39	.2555	–
diarrhoea	0.21	0.04	2.03	.1376	–
for women, N=117 [2, 115 d.f.]					
colds	0.18	0.03	1.31	.2738	–
stomach	0.17	0.03	1.18	.3212	–
back	0.24	0.06	2.10	.1042	–
viral	0.10	0.10	0.38	.7661	–
throat	0.08	0.01	0.24	.8659	–
head	0.15	0.02	0.91	.4365	–
diarrhoea	0.18	0.03	1.34	.2641	–

Regressions of sex, grade, trust m and trust p on perceived likelihood of absence if ill

[N= 2132, with 2, 211 df]

Illness	R	R^2	F-value	prob	variable with p<.0500
colds	0.22	0.05	2.52	.0425	trust m
stomach	0.23	0.06	3.01	.0191	grade [sex at p<.0696]
back	0.22	0.05	2.57	.0393	trust m
viral	0.15	0.02	1.15	.3345	–
throat	0.21	0.05	2.41	.0503	sex
head	0.16	0.03	1.43	.2241	–
diarrhoea	0.24	0.06	3.26	.0128	sex, trust m [grade at p<.0699 and trust p at p<.787]

Appendix 10.3: Hypothesis 4

Regressions of trust, sex, grade and A18 [if sick, work waits] on B scale perceived legitimacy factors

T2 illness	R	R^2	F-value	prob	variable with t >1.96
colds	0.18	0.03	1.30	.2645	–
nausea/sick	0.15	0.01	0.58	.7140	–
back/neck	0.20	0.04	1.58	.1676	A18
infections	0.18	0.03	1.29	.2678	trust p
headaches	0.14	0.02	0.74	.5960	–
dizzy/faint	0.16	0.02	0.98	.4290	–
severe back	0.22	0.05	2.01	.0783	sex
depression	0.14	0.02	0.74	.5949	–
malaise	0.16	0.02	0.97	.4400	–

Note: N= 216, with 2, 213 d.f.

Appendix 11: Hypothesis 5

Correlations, for both sexes, between attitudes to malingering and T2 perceived likelihood of being absent with an illness

T2 Illness	women			men		
	mal 1	mal 2	mal 3	mal 1	mal 2	mal 3
cold	.031	-.061	-.032	-.100	.214†	.183†
stomach	.117	.122	-.005	.069	.079	-.036
backache	-.070	-.084	.018	-.037	.157	.131
viral ill	.210*	.043	.044	.094	.223*	-.047
throat inf	.047	.001	.030	.097	.156	-.053
headache	.111	-.140	-.135	-.008	-.034	-.080
diarrhoea	.172†	.053	-.053	.138	.148	.042
N		106			82	

*† indicates p<.10; * indicates p<.05, ** indicates p<.01 all 2-tailed*

Correlations for both sexes for the three attitudes to malingering items and 'B' scale perceived legitimacy factors

Illness group	women			men		
	mal 1	mal 2	mal 3	mal 1	mal 2	mal 3
cold	.068	-.114	-.054	.065	.023	-.207†
sick/nausea	.193*	-.055	-.043	-.004	-.147	-.299**
back/neck	.171†	-.191†	-.050	.049	-.111	-.276*
infections	.265**	-.088	-.054	.119	.100	-.229*
headaches	.342**	-.153	-.008	.052	-.121	-.186†
dizzy	.250*	-.082	-.025	.059	.022	-.081
severe back	.188†	-.184†	-.025	-.094	.140	-.028
depression	.027	.049	.057	.090	-.134	-.154
malaise	.295**	-.071	-.017	.020	-.045	-.220†
N= approximately		121			93	

*Note: * indicates p<.05, ** indicates p<.01 and *** indicates p<.001*

Appendix 12.1: Hypothesis 6 (a)

T 1 correlations of climate and Absence Ethic with perceived legitimacies

	men		women	
Illness group climate	absence ethic	climate	absence ethic	
cold	-.141**	.053	-.168***	-.008
sick/nausea	-.132*	.027	-.082*	.036
back/neck	-.184**	-.016	-.194***	-.019
infections	-.165**	.025	-.129***	.079*
headaches	-.106*	-.021	-.190***	-.018
dizzy	-.136**	-.006	-.093**	.042
severe back	-.112*	.052	-.154***	-.004
depression	-.173***	-.004	-.095**	-.006
malaise	-.152**	.037	-.099**	.043
N	367		890	

Appendix 12.2: Hypothesis 6

T 1 correlations of A scale factors with perceived legitimacies for both sexes

Illness group	A scale factors			
	sol/work	client	flexibility	confidence
cold	.032	.110**	-.066*	.019
back/neck	.005	-.012	-.090*	.006
sick/nausea	-.022	.013	-.059	.025
headaches	.005	.048	-.075*	.035
infections	-.044	.084*	.024	.028
dizzy	.012	-.013	-.054	.008
severe back	-.026	.061*	-.033	.087
depression	-.014	.011	.006	-.023
malaise	-.006	-.005	-.043	.018

* *indicates p<.05, N=1255*

Appendix 12.2 (cont.)

Correlations between 'A' scale work attitudes and 'B' scale perceived legitimacy factors separately for men and women separately

Women

Illness group	A scale factors: sol/work	client	flexibility	confidence
cold	.036	.111**	-.038	.032
back/neck	-.020	-.003	-.081	.011
sick/nausea	-.024	-.004	-.046	.013
headaches	-.011	.072	-.065	-.008
infections	-.050	.084	-.032	.016
dizzy	-.016	.023	-.091	.006
severe back	-.041	.055	-.033	.052
depression	-.031	.024	-.004	-.027
malaise	-.029	.021	-.056	.002

** indicates p<.05,*

Men

Illness group	A scale factors: sol/work	client	flexibility	confidence
cold	.031	.105*	-.135*	-.055
back/neck	.051	-.024	-.109*	.002
sick/nausea	-.022	.058	-.091	.055
headaches	.022	.023	-.092	.123*
infections	-.024	.081	.004	.068
dizzy	.055	-.066	.035	.003
severe back	-.021	.115*	-.028	.159**
depression	.027	-.003	.028	-.013
malaise	.028	-.035	-.010	.046

** indicates p<.05,*

Appendix 12.3 Hypothesis 6 [c]

Correlation of job satisfaction with T1 B scale perceived legitimacy factors and T2 perceived likelihood of absence.

T1 legitimacy factor	correlation	T2 likelihood of illness	correlation
colds	-.007	colds	.053
sick/nausea	.049	upset stomach	.044
back/neck	.007	backache	.235***
infections	-.057	viral illness	.132
headaches	.030	throat infection	.078
dizzy/faint	.016	headache	.051
severe back	.040	diarrhoea	.162*
depression	.133†		
malaise	.028		
N	212		212

*† indicates p<.10; * indicates p<.05, all 2-tailed*

Appendix 12.4: Hypothesis 6 [c]

Correlations of attitudes to promotion, A9 and A11 with B scale perceived legitimacies for men and women separately.

	men		women	
Illness group	A9	A11	A9	A11
cold	-.081	.053	.010	-.054
sick/nausea	-.011	.083	.036	.008
back/neck	-.041	.070	-.033	.016
infections	-.001	-.012	.025	-.027
headaches	.035	.064	-.012	-.003
dizzy	-.039	.038	-.006	.026
severe back	.110*	.000	.010	-.049
depression	-.128*	-.028	-.037	-.052
malaise	-.028	.065	.010	.020

N= 890

Appendix 13.1 Hypothesis 7 [a]

T-tests of endorsement of penalties for trust, attitudes to malingering and job satisfaction.

*Notes: numbers answering don't know were too few to be included in the analyses and these were deleted; therefore t-tests comparing yes and no answers only were performed in all four tables below and † indicates p<.10; * indicates p<.05, all 2-tailed.*

Endorsement of penalties by men

Attitude	t-value	prob	answer means yes	no	d/k
mal 1	1.50	.1371	4.6	4.0	3.2
mal 2	0.70	.4885	4.0	3.8	3.5
mal 3	-1.42	.1606	4.7	5.1	4.5
trust/man	1.52	.1312	22.6	20.3	27.5
trust/peers	0.40	.6880	32.8	32.3	35.5
job satisfaction	-0.67	.4948	14.3	15.0	18.0
N			54	29	4

Endorsement of penalties by women

Attitude	t-value	prob	answer means yes	no	d/k
mal 1	1.76	.0824†	4.4	3.7	4.4
mal 2	-0.07	.9429	4.5	4.6	4.2
mal 3	-0.55	.5800	4.6	4.7	4.6
trust/man	0.66	.5106	25.9	24.9	26.3
trust/peers	-0.06	.9539	33.2	33.3	33.0
job satisfaction	0.76	.4489	16.0	15.1	17.7
N			65	32	5

Appendix 13.1 (cont.)

Endorsement of incentives by men

	t-value	prob	answer means yes	no	d/k
mal 1	1.36	.1769	4.6	4.1	6.0
mal 2	2.20	.0312*	4.3	3.5	6.0
mal 3	2.27	.0262*	5.2	4.4	5.0
trust/man	2.48	.0151*	23.9	20.5	9.0
trust/peers	1.49	.1398	33.6	32.0	22.0
job satisfaction	-0.20	.8410	14.4	14.6	25.0
N			47	43	1

Endorsement of incentives by women

	t-value	prob	answer means yes	no	d/k
mal 1	1.74	.0848†	4.4	3.8	3.0
mal 2	0.80	.4250	4.5	4.7	4.7
mal 3	0.32	.7466	4.6	4.5	4.7
trust/man	0.13	.8941	25.7	25.5	26.0
trust/peers	-1.15	.2528	32.8	33.8	30.7
job satisfaction	-0.11	.9122	15.8	15.9	16.3
N			62	42	3

Appendix 13.2 : Hypothesis 7 (b):

Correlation coefficients between T1 B scale perceived legitimacy factors and T2 susceptibilities to illness: tables separately for sex and for endorsement/not endorsement of incentives or penalties [8 tables]

For men who endorse penalties

	Perceived susceptibility to absence with illness						
Illness group	colds	stomach	back	viral	throat	head	diarrhoea
colds	.159	.178	.092	-.032	.159	.202	-.113
sick/nausea	.283*	.222	.154	.080	.333*	.174	.187
headaches	.321*	.222	.126	-.151	.285*	.224	.013
infections	.178	.060	.093	-.005	.134	.162	-.102
back/neck	.138	.095	.239†	-.170	.063	.147	.151
dizzy/faint	.216	.321*	-.081	-.119	.019	.165	.160
severe back	.356**	.040	.093	-.041	.207	.327*	.013
depression	.020	.220	.143	-.172	.088	.030	.035
'malaise'	.244†	.307*	.070	-.011	.187	.193	.205

Notes: N= 54
*† indicates p<.10; * indicates p<.05, ** indicates p<.01 all 2-tailed*

For women who endorse penalties

	Perceived susceptibility to absence with illness						
Illness group	colds	stomach	back	viral	throat	head	diarrhoea
colds	.268*	. 082	-.149	.212†	.214†	-.036	.061
sick/nausea	.101	-.020	-.129	.177	.096	-.025	.064
headaches	.158	.190	-.061	.139	.276*	-.013	.174
infections	.067	-.231†	-.014	.044	-.038	-.244*	.021
back/neck	.041	.006	.103	.013	-.012	-.011	.033
dizzy/faint	-.038	-.003	.095	.169	.036	.027	.129
severe back	.233*	.004	.038	.241	.217†	.020	.100
depression	.185	.012	-.160	-.019	.107	.113	-.039
'malaise'	-.057	-.029	-.024	.192	.096	-.016	.114

Notes: N= 73
*† indicates p<.10; * indicates p<.05, ** indicates p<.01 all 2-tailed*

For men who endorse incentives

Illness group	Perceived susceptibility to absence with illness						
	colds	stomach	back	viral	throat	head	diarrhoea
colds	.227	.228	.202	.102	.230	.159	.193
sick/nausea	.220	.346*	.189	.210	.343*	.047	.240
headaches	.349*	.175	.284†	.022	.242	.322*	.134
infections	.029	.308*	.204	.213	.121	-.028	.083
back/neck	.256†	.166	.163	-.007	.101	.253†	.085
dizzy/faint	.074	.254†	-.013	-.029	.010	.094	-.005
severe back	.227	.164	.103	.098	.183	.128	-.012
depression	-.119	.253†	.235	-.129	.117	-.103	-120
'malaise'	.152	.330*	.117	.065	.188	.085	.103

Notes: N= 54
*+ indicates p<.10; * indicates p<.05, ** indicates p<.01 all 2-tailed*

For women who endorse incentives

Illness group	Perceived susceptibility to absence with illness						
	colds	stomach	back	viral	throat	head	diarrhoea
colds	.201†	.215†	-.051	.192	.216†	.147	.116
sick/nausea	.125	-.010	.025	.257*	.117	.132	.220†
headaches	.212†	.207†	.215†	.374*	.403*	.086	.145
infections	.024	-.170	.043	-.022	-.043	-.137	.213†
back/neck	.137	.047	.167	.079	.217†	.036	.062
dizzy/faint	.095	-.001	.283*	.265*	.051	.042	.171
severe back	.133	.024	.180	.206†	.192	.146	.105
depression	.109	-.033	.132	.086	.081	.262	.103
'malaise'	.171	-.018	.158	.308*	.115	.099	.237*

Notes: N= 71
*† indicates p<.10; * indicates p<.05, ** indicates p<.01 all 2-tailed*

Appendix 13. 2 continued

For men who do not endorse penalties

Illness group	Perceived susceptibility to absence with illness: colds	stomach	back	viral	throat	head	diarrhoea
colds	-.030	.292	-.041	.019	.169	.356†	.276
sick/nausea	-.024	.425*	.235	.190	.410*	.225	.273
headaches	.377*	.211	.146	.274	.364†	.524**	.271
infections	-.018	.147	.168	.240	.315†	.046	.062
back/neck	.226	.090	.120	.132	.379*	.151	.207
dizzy/faint	.248	.186	.322†	.211	.288	.088	.358†
severe back	-.069	-.104	-.029	.008	.177	-.060	-.244
depression	.120	.069	.424*	.077	.215	-.044	.301
'malaise'	.157	.338†	.373*	.254	.438*	.158	.381*

Notes: N= 29
*† indicates p<.10; * indicates p<.05, ** indicates p<.01 all 2-tailed*

For women who do not endorse penalties

Illness group	Perceived susceptibility to absence with illness: colds	stomach	back	viral	throat	head	diarrhoea
colds	.202	.203	.039	.270	.334†	-.007	.077
sick/nausea	-.119	.070	-.103	.078	-.052	.434**	.337*
headaches	.003	-.018	.223	.211	.308†	.131	-.055
infections	-.139	-.291†	.126	-.033	.218	-.115	.034
back/neck	.148	.047	.247	.030	.200	-.223	-.119
dizzy/faint	.094	-.140	.201	.106	.018	-.035	-.151
severe back	-.103	-.162	.039	.095	.135	.034	-.230
depression	-.012	.101	.169	.138	.049	.107	.048
'malaise'	.020	-.095	.084	.087	.000	.142	.010

Notes: N= 37
*† indicates p<.10; * indicates p<.05, ** indicates p<.01 all 2-tailed*

For men who do not endorse incentives

Illness group	Perceived susceptibility to absence with illness						
	colds	stomach	back	viral	throat	head	diarrhoea
colds	.063	.261†	-.037	-.048	.053	.299*	.008
sick/nausea	.185	.216	.220	.224	.335*	.184	.225
headaches	.296†	.267†	.098	.094	.316*	.230	.109
infections	.187	-.041	.173	.142	.256†	.052	-.062
back/neck	.137	.205	.235	.099	.313*	.080	.226
dizzy/faint	.371*	.303*	.169	.259†	.199	.093	.347*
severe back	.168	-.041	-.040	-.030	.268†	.181	-.040
depression	.331*	.217	.228	.126	.158	.131	.336*
'malaise'	.282†	.278†	.245	.290†	.315*	.157	.378*

Notes: N= 43
*† indicates p<.10; * indicates p<.05, ** indicates p<.01 all 2-tailed*

For women who do not endorse incentives

Illness group	Perceived susceptibility to absence with illness						
	colds	stomach	back	viral	throat	head	diarrhoea
colds	.183	-.014	-.100	.249	.263†	-.150	.048
sick/nausea	-.214	.149	-.173	-.032	-.018	.184	.213
headaches	.060	.046	-.073	.067	.235	-.022	.101
infections	-.130	-.215	.034	.021	.165	-.140	-.128
back/neck	.053	-.080	.191	.136	-.071	-.167	-.100
dizzy/faint	-.223	-.123	-.043	-.006	-.005	-.013	-.102
severe back	.003	-.061	.135	.113	.197	-.058	-.026
depression	-.001	.161	-.353*	-.060	.078	-.093	-.056
'malaise'	-.255†	-.040	-.057	-.024	.002	.031	.017

Notes: N= 48
*† indicates p<.10; * indicates p<.05, ** indicates p<.01 all 2-tailed*

Appendix 13.3 Hypothesis 7 (b)

Regressions of incentives, penalties and sex on B scale perceived legitimacy factors

Illness group	R	R2	F	p	t>1.96
colds	.120	.012	5.998	.0005	penalty
back/neck	.145	.019	8.900	.0001	penalty
nausea	.117	.011	5.764	.0006	penalty
headaches	.164	.025	11.576	.0001	penalty, sex
infections	.118	.012	5.938	.0005	penalty, sex
dizzy	.109	.010	5.027	.0018	penalty, sex
severe back	.125	.013	6.590	.0002	penalty
depression	.112	.010	5.235	.0014	penalty
malaise	.118	.012	5.879	.0006	penalty, sex
aggregated legitimacies	.163	.024	10.616	.0001	penalty

Appendix 13.4 : Hypothesis 7 (b):

Analyses of variance for B scale legitimacy factors and susceptibility by endorsement of incentives or penalties for both sexes separately.

Male penalties: Legitimacies

Illness factor	F-value	prob	mean for each answer type yes	no	d/k
colds	1.64	.1950	8.7	8.3	8.6
sick/nausea	2.00	.1364	7.6	7.1	7.4
back/neck	5.37	.0050	9.1	8.5	9.3
infections	2.55	.0792	13.8	12.5	13.8
headaches	3.18	.0428	16.3	15.4	16.2
dizzy	1.26	.2846	7.1	6.7	7.3
severe back	3.07	.0477	2.8	2.6	3.2
depression	1.87	.1549	3.5	3.1	3.4
malaise	2.02	.1343	14.7	13.8	14.7
N			248	96	20

Male penalties :Susceptibilities

Susceptibility	t-value	prob	mean for each answer type yes	no	d/k
diarrhoea	1.25	.2152	8.2	7.6	8.2
headaches	-0.18	.8581	6.8	6.9	7.5
throat inf	2.10	.0387	7.6	6.5	6.7
viral inf	2.56	.0124	8.4	7.2	7
backache	1.38	.1712	8.2	7.4	7.5
stomach	1.26	.2117	7.5	6.8	8.7
colds	0.44	.6599	5.9	5.6	7.2
N			55	29	4

Note: the don't know answers were discarded from the analyses and consequently t-tests were conducted to compare yes with no answers

Female penalties: legitimacies

Illness group	F-value	prob	mean for each answer type yes	no	d/k
colds	7.62	.0005	8.7	8.2	8.3
sick/nausea	6.57	.0015	7.6	7.2	7.6
back/neck	9.00	.0001	9.3	8.8	8.8
infections	5.98	.0026	13.6	12.3	13.0
headaches	16.20	.0001	17.0	15.8	15.9
dizzy	5.80	.0031	7.5	6.9	7.2
severe back	6.83	.0011	3.0	2.8	2.8
depression	6.89	.0011	3.5	3.2	3.4
malaise	7.80	.0004	15.1	14.0	14.9
N			576	257	64

Female penalties :Susceptibilities

	t-value	prob	mean for each answer type yes	no	d/k
diarrhoea	1.02	.3112	8.3	7.9	6.7
headaches	1.86	.0649	6.4	5.4	6.2
throat inf	2.29	.0238	7.6	6.4	6.3
viral inf	2.51	.0135	8.2	7.1	8.0
backache	1.20	.2319	7.5	6.8	8.0
stomach	0.49	.6255	7.8	7.5	6.5
colds	0.81	.4188	6.6	6.2	5.3
N			73	37	6

Note: the don't know answers were discarded from the analyses and consequently t-tests were conducted to compare yes with no answers

Male incentives: legitimacies

	t-value	prob	mean for each answer type yes	no	d/k
colds	-0.79	.4326	8.6	8.7	8.6
sick/nausea	-1.51	.1311	7.4	7.7	7.6
back/neck	-0.20	.8421	9.0	9.0	9.7
infections	1.25	.2112	13.8	13.1	12.7
headaches	0.65	.5135	16.2	16.0	15.9
dizzy	1.51	.1308	7.1	6.8	7.6
severe back	1.05	.2961	2.8	2.7	3.1
depression	1.39	.1667	3.5	3.3	3.3
malaise	0.17	.8624	14.5	14.4	15.1
N			218	146	7

Note: the don't know answers were discarded from the analyses and consequently t-tests were conducted to compare yes with no answers

Male incentives: Susceptibilities

	t-value	prob	mean for each answer type yes	no	don't know
diarrhoea	1.15	.2525	8.3	7.8	9.0
headaches	2.50	.0141	7.6	6.2	1.0
throat inf	-0.32	.7495	7.1	7.2	5.0
viral inf	0.67	.5047	8.1	7.8	7.0
backache	-0.80	.4232	7.7	8.1	10.0
stomach	1.14	.2579	7.6	7.0	3.0
colds	1.68	.0967	6.3	5.4	5.0
N			47	44	1

Note: the don't know answers were discarded from the analyses and consequently t-tests were conducted to compare yes with no answers

Appendix 13.4 (cont.)

Female incentives: legitimacies

	F-value	prob	mean for each answer type: yes	no	don't know
colds	0.31	.7327	8.6	8.5	8.8
sick/nausea	0.30	.7383	7.5	7.5	7.8
back/neck	0.09	.9090	9.1	9.1	9.2
infections	0.67	.5134	13.3	13.0	13.3
headaches	0.17	.8391	16.6	16.6	17.0
dizzy	0.22	.8032	7.3	7.2	7.6
severe back	1.43	.2386	2.9	3.0	3.5
depression	0.15	.8642	3.4	3.4	3.3
malaise	0.29	.7494	14.7	14.7	15.3
N			542	342	21

Female incentives: Susceptibilities

	t-value	prob	mean for each answer type: yes	no	don't know
diarrhoea	-1.01	.3144	8.0	8.3	7.3
headaches	0.09	.9272	6.0	6.0	7.7
throat inf	0.78	.4341	7.3	7.0	5.3
viral inf	1.12	.2664	8.0	7.6	5.7
backache	-0.94	.3472	7.1	7.6	9.0
stomach	-1.43	.1558	7.4	8.0	8.3
colds	1.55	.1246	6.7	6.0	7.0
N			70	49	3

Note: the don't know answers were discarded from the analyses and consequently t-tests were conducted to compare yes with no answers

Appendix 14: Hypothesis 8

Correlations between T1 'B' scale perceived legitimacy factors and T2 perceived likelihoods of absence for men.

	Perceived likelihood of absence with illness						
Illness groups	colds	stomach	back	viral	throat	head	diarrhoea
colds	.440***	.261*	.010	.131	.066	.044	.067
sick/nausea	.142	.264*	-.030	.191	.175	.053	.227*
back/neck	.160	.201	.057	-.080	.087	.090	.084
infections	.055	.142	-.001	.211*	.305**	.025	.257*
headaches	.291**	.213*	.078	.096	.154	.186	.125
dizzy	.023	.020	-.018	.002	.067	-.042	.077
severe back	.273**	.280**	.210*	.236*	.093	.104	.235*
depression	.013	.052	.000	-.043	.056	-.050	.103
malaise	.086	.163	.006	.120	.105	.009	.139

Notes: N= 90
** indicates p<.05; ** indicates p<.01 and *** indicates p<.001, all 2-tailed*

Correlations between T1 'B' scale perceived legitimacy factors and T2 perceived likelihoods of absence for women.

	Perceived likelihood of absence with illness						
Illness group	colds	stomach	back	viral	throat	head	diarrhoea
colds	.339**	.160	.202*	.142	.214*	.128	.212*
sick/nausea	.238**	.330***	.271**	.187*	.263**	.255**	.375***
back/neck	.149	.131	.021	.180	.125	.021	.006
infections	.085	.245**	.093	.364***	.355***	.005	.332***
headaches	.201*	.141	.112	.216*	.184*	.269**	.129
dizzy	-.005	.046	-.005	.244**	.132	-.029	.147
severe back	.232*	.155	.113	.263**	.132	.133	.100
depression	-.026	-.109	-.049	.088	.104	-.070	.032
malaise	.111	.235*	.114	.267**	.231*	.099	.278**

Note N=125
** indicates p<.05; ** indicates p<.01 and *** indicates p<.001, all 2-tailed*

Appendix 15: Hypothesis 9

Correlations between T1 B scale legitimacy factors and stress factors from T1 C scale for men and women separately.

Women

	Stress factors					
Illness group	recog	overload	domestic	ambig	manag	monotony
colds	.069*	.066*	.133***	.058	.049	.164***
sick/nausea	.046	.069*	.107**	.096**	.082*	.134***
back/neck	.069*	.046	.098**	.080*	.063†	.140***
infections	.034	.053	.111**	.056	.060†	.138***
headaches	.065	.042	.113***	.043	.061†	.154***
dizzy	-.008	-.007	.118***	.011	.017	.096*
severe back	.077*	.074*	.134***	.043	.063†	.193***
depression	.061	.082*	.145***	.071*	.107**	.109**
malaise	.035	.011	.122***	.025	.029	.123***

*Note N=880; † indicates p<.10, * indicates p<.05; ** indicates p<.01 and *** indicates p<.001, all 2-tailed*

Men

	Stress factors					
Illness group	recog	overload	domestic	ambig	manag	monotony
colds	.015	.090†	.051	.167**	.096†	.139**
sick/nausea	.085†	.131*	-.017	.075	.153**	.170***
back/neck	.062	.118*	.033	.142**	.105*	.151**
infections	.103*	.153**	-.044	.128*	.125*	.154**
headaches	.140**	.110*	.088	.163**	.138**	.192***
dizzy	.048	.074	.025	.108*	.082	.074
severe back	.077	.122*	-.018	.138**	.109*	.122*
depression	-.021	.066	-.024	.100	.058	.108*
malaise	.076	.122*	-.014	.131*	.134**	.122*

*Note N=368; † indicates p<.10, * indicates p<.05; ** indicates p<.01 and *** indicates p<.001, all 2-tailed*

key to stress factors:

recog= recognition: C9, C10, C11, C16
overload: C1, C2, C14
domestic: C3, C7
ambig= ambiguity: C6, C8, C13
manag= management/change: C15, C17, C18, C19
monotony: C4, C5, C12

Appendix 16: Intercorrelations between aggregated perceived legitimacy and aggregated perceived susceptibility to illness and core variables.

Correlations between perceived frequencies and likelihoods of absence with aggregated perceived legitimacy and perceived susceptibility to illness scales

	aggr perceived legitimacy		aggr perceived suscept	
illness	r	prob	r	prob
perceived frequency of illness				
colds	-.096	n.s.	-.410	.0001
upset stomach	-.056	n.s.	-.278	.0001
backache	-.102	n.s.	-.212	.0019
viral illness	-.131	.0675	-.402	.0001
throat inf	-.189	.0080	-.484	.0001
headache	-.022	n.s.	-.300	.0001
diarrhoea	-.065	n.s.	-.288	.0001
perceived likelihood of absence				
colds	.210	.0032	.295	.0001
upset stomach	.227	.0015	.179	.0087
backache	.098	n.s.	.148	.0323
viral illness	.277	.0001	.247	.0003
throat inf	.245	.0007	.175	.0108
headache	.101	n.s.	.215	.0016
diarrhoea	.244	.0006	.063	n.s.

Notes: N=220; probabilities all 2-tailed