Affective States at Work and Prosocial Organisational Behaviour:

A Case Study of Health Care Workers in the NHS

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Abstract

Affective states at work (or job affect), defined as positive and negative feelings induced by commonplace events or circumstances in the workplace, have recently attracted increasing attention in the field of organisational psychology and behaviour. The main focus of interest in job affect has been in terms of its hypothetical positive behavioural consequences on prosocial organisational behaviour. However, existing conceptualisations of job affect leave much to be desired. Job affect is a mood state, and is conceptually distinct from related concepts such as job satisfaction, affective disposition, and emotions. Based on a sample of over 200 nurses working in a London based NHS Trust, the thesis focused on three main aims: a) to gain a better understanding of the nature of affect at work; b) to test the hypothesised link between job affect and prosocial organisational behaviour; and finally c) to explore the potential antecedents of job affect.

To achieve the first aim, the structure of affect was first theoretically and empirically explored. In terms of affect structure, a unipolar Four-Factor Model was proposed for the present study as an alternative to the standard bipolar Two-Factor Model of affect found in the literature. The results of confirmatory factor analyses provided support for the proposed Four-Factor Model. Also, the four unipolar affect measures seemed reasonably independent of one another, and demonstrated high reliability and validity. Building on the unipolar Four-Factor Model, the second aim of the thesis was explored by testing the relationship between prosocial organisational behaviour (PSOB) and job affect conceptualised in unipolar terms. Based on this unipolar conceptualisation, two hypotheses were tested, namely that prosocial organisational behaviour is positively related to both positive and negative job affect. Two forms of PSOB important to the nursing context were proposed as the consequences of job affect: altruistic forms of PSOB and continuous-improvement forms of PSOB. Overall, the results supported the two research hypotheses, and the significant relationships were sustained after controlling for job attitudes in the analyses. Having shown that employees' affective experiences in the workplace are important in terms of PSOBs, the third and final aim was to identify key antecedents which generate particular affective experiences, while also looking at the impact of these antecedents on PSOBs. A series of antecedents, including job-design factors, social factors, and individual dispositional factors were hypothesised as the potential determinants of job affect. The findings broadly supported the hypothesised links, while also showing some of the antecedents to have a direct impact on PSOB. Contributions and major research implications as well as future research directions are discussed at the end.

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My greatest debt is to my supervisor Riccardo Peccei who has spent countless hours listening to me. His advice and suggestions not only broadened my horizons but were invaluable in completing the research. I know now what the supportive supervision is, and how that makes "a difference."

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Contents

List of Tables

List of Figures

Chapter 1 Introduction

It is well recognised that feelings, moods and emotions often have a profound influence on our perceptions, judgements and behaviours. The question of how feelings influence our social and cognitive processes has been of intense interest to philosophers and artists, as well as lay people. However, the scientific study of affective influences on social and cognitive processes is a fairly recent development. It may partly be due to the fact that "emotions" and "moods" are often considered as biological phenomena. The study of emotions in psychology began 100 years ago by asking what role the autonomic nervous system plays in the subjective experience of emotion. For instance, the first theory of emotions, the James-Lange theory (James, 1884; Lange, 1885; Lange & James, 1922) asked whether individual emotions had particular patterned bodily reactions associated with them, e.g., heart rate, skin temperature, and neural activation. Understanding emotion as a mainly biological phenomenon may have restricted social scientific approaches to it.

A second explanation can be formulated in relation to the history of psychology. "Affect" had been, at the birth of psychology, undoubtedly a central concern of psychological studies, as *affect, cognition*, and *conation* had been officially recognised as the tripartite themes of psychology. Research on emotions can be found in many early writings (e.g., Cannon, 1927; James, 1884, 1890, 1894; Lange, 1885; Lange and James, 1922). However, in the 1950s when occupational and organisational psychology emerged as important sub-disciplines in their own right, mainstream psychology began to be heavily driven by "*cognitivism*". The growing emphasis placed on the study of artificial intelligence, information processing, and long-term and short-term memory are but a few examples of the cognitivist turn in psychology whose influence has been vast and has continued until this day. For instance, the debate on "the primacy of *affect* versus *cognition*" mainly driven by Zajonc and Lazarus in the early 1980s reflects this

trend in psychology. The fundamental question in this debate is whether emotions are completely determined by cognitions or can exist without the aid of cognitive mechanisms. Those who argue for the "primacy of cognition" contend that individuals cannot respond emotionally unless they first cognitively appraise the meaning and personal significance of an event (e.g., Averill, 1982, 1994; Lazarus, 1982, 1984, 1991a; Scherer, 1984, 1994). For these theorists, cognitive activity is a necessary prerequisite to emotion; take away the cognitive processing and the emotion disappears. Others who are for the "primacy of affect" argue that emotional reactions do not necessarily require such cognitive evaluations (e.g., Ekman, 1992, 1993; Izard, 1990, 1992; Zajonc, 1980, 1981, 1984).

Born in the era of cognitivism, organisational psychology has, without a doubt, been influenced enormously by many cognitive concepts and theories from the domains of both general and cognitive psychology. Cognitively toned conceptualisations of *job attitudes* such as job involvement, organisational commitment, and job satisfaction became popular subjects of study within work settings, both in their own right and in relation to various forms of organisational behaviour including, for example, task performance, turnover and absenteeism (Brief, 1998; Meyer & Allen, 1997; Spector, 1997). Cognitive concepts and processes such as instrumentality and expectancy (e.g., Mitchel, 1974; Vroom, 1964), and equity and justice (e.g., Adams, 1965; Folger & Greenberg, 1985; Homans, 1961), were proposed to explain work motivations and, implicitly, *emotions* too (Reeve, 1997). In this way, the subject of emotions in organisational psychology had been marginalised.

Apart from the academic trend in psychology, the relative neglect of emotional aspects in the study of organisations also reflects the marginalisation of emotions in organisational analysis and management thinking more generally. The reasons for this are many and complex (see, for example, Fineman, 1993; Putnam & Mumby, 1993). Arguably though, of major importance here has been the intellectual legacy of both Weber and Taylor. Historically, in fact, much of the

debate in the management and organisational literature has been conditioned by a concern for rationality and efficiency, linked to the Weberian analysis of bureaucracy (Weber, 1947) and Taylor's proposed system of Scientific Management (Taylor, 1911). This is reflected in the overriding preoccupation of management and organisational scholars alike during much of this century with the benefits and limitations of both bureaucracy (e.g., Merton, 1940; March & Simon, 1958) and scientific management (e.g., Noon & Blyton, 1997; Rose, 1975), and with the more recent search for viable alternative systems of management and organisation (e.g., Burns & Stalker, 1961; Kanter, 1989; Mintzberg, 1979; Piore & Sabel, 1984; Quinn, 1992). And not surprisingly, emotions have not played a prominent role in this debate. The emphasis has, for the most part, been on what Peters and Waterman (1982) have termed the 'hard Ss' in organisations. Namely, the focus has been on the analysis of organisational strategies, structures and systems, and associated institutional mechanisms, rules and procedures, underpinned by more or less explicit assumptions about the role of rationality and its limitations in organisational life (c.f. Simon's (1961) concept of bounded rationality). In this context, human emotions or affects have, at best, been accorded only secondary importance. Analytically, they have been treated very much as a residual category, important primarily as a potential source of bias and interference in individual decision-making processes and in the rational operation of organisational systems (Burrell & Morgan, 1979; Frank, 1988; Hatch, 1997).

Arguably, the downplaying of human affect in the classical and mainstream organisational and management literature is but a reflection of a more fundamental trend, identified by social theorists such as Foucault (1985), Elias (1994) and Giddens (1991), towards the management and control of emotions in social life more generally in modern(ist) societies. In particular, it goes hand in hand with a long term trend towards a sharper separation between the public and private spheres, between work and non-work, in industrial societies – a trend that has been accompanied by concomitant pressures to de-emphasise the role of

affect at the workplace and to relegate the emotions to the private sphere in peoples' lives (Tilly & Tilly, 1998; Newton, 1998). In practice, as many commentators have suggested (e.g., Gouldner, 1954; Merton, Grey, Hockey, & Selvin, 1952), this has, historically, translated into a concern within modern bureaucratic organisations either to banish or to "de-emotionalise" emotions in the workplace. That is to say, either to suppress emotions completely at work, or to make them rational in terms of organisational goals and management purposes. Hence the emphasis, for instance, on impersonal criteria for making decisions and on restraints on emotional expressions at work which have long been the hallmarks of bureaucracy (Weber, 1947). Or the emphasis which bureaucratic, Taylorist type organisations have traditionally placed on impersonal rules, procedures and job descriptions as a way of managing and controlling human irrationality (or, implicitly, emotions) and, therefore, of more effectively structuring individuals' decisions and behaviour at work (Gouldner, 1954; Crozier, 1964). In brief, the process of marginalisation of human affect and emotions at work could, historically, be said to have taken place at two levels in parallel in modern societies. One has been within work organisations themselves, at the level of the actual workplace. And the other, has been at the level of the text, in the commentaries and analyses of the world of work in the mainstream management and organisational literature where human emotions have often been so successfully marginalised as to completely disappear from the picture and become virtually impossible to detect any longer.

Interestingly, however, the subject of emotions had been there all the time in many studies of organisations, although not explicitly addressed as such. For instance, the central emphasis placed by the Human Relations (Roethlisberger & Dickson, 1939; Likert, 1961), and the Socio-Technical Systems literature (Trist, Higgin, Murray, & Pollock, 1963; Emery & Trist, 1960), on the "human" or "social" aspects of work, can be essentially understood as a concern with how to make workers "feel" good on the job by introducing more supportive and less alienating work practices. Similarly, in the job redesign literature, various forms

of job enrichment and teamwork have, for instance, been proposed as a way to enhance employees' work motivation and performance. In this work, probably best epitomised by Hackman and Oldham's (1975) Job Characteristics Model, a series of "critical psychological states" are assumed to act as mediating mechanisms between the enriched job components and the outcomes. The "critical psychological states" underlying the idea of job redesign, might, however, best be described as enhanced positive "feelings" at work to be achieved through new task arrangements. Workers' feelings and emotions are focused on more explicitly in the literature on organisational culture and climate. This is evident in particular in some of the prescriptive work in this area concerned, for example, with developing more effective corporate cultures by strengthening the "emotional" bond between workers and their company and enhancing their experience of "pleasant feelings" at the workplace (Peters & Waterman, 1982; Deal & Kennedy, 1982; Schneider, 1990).

Recently, organisation researchers have begun more directly to address the issue of emotions and affect in the workplace. The increasing number of studies on *emotion work* and *emotional labour* reflects this recent trend in organisation studies (e.g., Hochschild, 1983; Rafaeli & Sutton, 1989; Sutton, 1991; Van Maanen & Kunda, 1989). Hochschild (1983), for instance, has explored how certain organisations require the expression of particular emotions at work from their employees in order to maximise organisational productivity, an aspect of job performance that has been labelled "emotional labour." Since Hochschild (1983), the term "emotional labour" has been used to typify the way roles and tasks exert overt and covert control over emotional displays (Putnam & Mumby, 1993) and require the display of a certain kind of emotion irrespective of inner feelings. Hochschild estimates that one-third of employees in the US have to engage in some kind of emotional labour, and she gives many examples where workers find it tiresome and frequently stressful to fake such emotions. Related research on emotion work has been done on norms or display rules for emotional expression (Rafaeli & Sutton, 1987, 1989, 1990; Sutton & Rafaeli, 1988), discrepancies

between expressed and felt emotions (Rafaeli & Sutton, 1989, 1990; Sutton & Rafaeli, 1988), and ways employees deviate from prescribed emotional norms (Sutton, 1991). This work, like that of Hochschild, highlights the problems involved when displays of emotions in organisations need to be managed primarily for instrumental purposes, a form of emotional labour that entails costs for employees.

Feminist organisational theorists have taken these arguments a step further by linking a focus on emotions to a kind of personal authenticity, and arguing that expression of a wider range of emotions at work (labelled "bounded emotionality") is desirable (Mumby & Putnam, 1992; Putnam & Mumby, 1993). The idea of bounded emotionality has been proposed as an alternative to the bureaucratic way of organising, and has attracted considerable interest amongst some organisation theorists (e.g., Martin, Knopoff, & Beckman, 1998; Meyerson, 1998). This approach questions whether norms of bureaucratic impersonality need be a defining characteristic of large organisations (Mumby & Putnam, 1992). An alternative norm, that of bounded emotionality, is suggested designed to encourage the constrained expression of emotions at work in order to enhance community building and personal well-being in the workplace (Martin, et al., 1998).

At a more micro-level of analysis, the concept of *"positive affect"* has attracted increasing interest among organisational researchers in recent years. Mainly based on work from experimental psychology, "positive affect" has been suggested to have a significant influence on several aspects of social behaviour that can be very constructive in an organisational context (e.g., George & Brief, 1992; George, 1991; Isen & Baron, 1991; Staw, Sutton, & Pelled, 1994; Weiss & Cropanzano, 1996). With respect to the types of affect which have been studied in this line of inquiry, the literature has tended to focus on low-level, "everyday" feeling states, rather than on relatively intense, dramatic, focused episodes of emotions. It is well known that powerful emotions can interrupt and influence

behaviour, but growing evidence indicates that even low-level general feeling states, or moods, are potentially quite influential in thought processes, attitudes, and behaviours (e.g., Bower, 1981; Clark & Isen, 1982; Rosenhan, Salovey, & Hargis, 1981; Teasdale & Forgarty, 1979). Because these states are relatively subtle, and because they may occur frequently (triggered by very mild positive or negative events), the effects that they have on social interaction and cognitive processes in the workplace may be quite pervasive. However, the precise nature of these affective states, as well as their consequences and antecedents in the workplace, have not been systematically examined in the literature.

The thesis explores this last, psychological approach to affect in the workplace. It is intended as a contribution to our understanding of the nature, consequences and antecedents of affective states at work, based on a structural, systematic analysis of the work experiences of a sample of nurses in the UK National Health Service (NHS). A proper understanding of the mechanisms mediating between feeling states and social processes is of considerable practical relevance not only for the nursing occupation and the NHS, but also for service workers and organisations more generally. In developed industrialised societies an ever increasing proportion of workers is employed in tertiary, service industries, where frequent encounters with customers are the major part of work. Hence, not only health care work, but service work more generally is, by and large, emotion work, where social and interpersonal skills requiring the effective display and management of affect and emotions, becomes a prerequisite for successful task performance.

At the same time, however, it is important to note that, because of the very nature of the work involved, nurses and health care professionals in general are likely to be subject to more frequent and/or intense affective experiences than employees working in other settings. I propose the term *affective occupation* to describe this kind of work. Affective occupations are ones where a) employees' interpersonal encounters with customers are very frequent, b) close working

relationships and proximity with colleagues are necessary, and c) the work itself is "affectively charged" in the sense that the interaction with the end product or service also occurs in an affective way. The notion of affective occupation is different from that of emotional labour in that the former serves to describe a type of situation where employees are subject to rich affective experiences in their work, whereas emotional labour describes a type of work where employees' emotions are required to be used for instrumental purposes. Affective occupations may or may not require emotional labour, and emotional labour may or may not be central to affective occupations. However, because nursing is an affective occupation and nurses work in contexts where affective experiences are likely to be more frequent, work related affective experiences are likely to assume greater importance and have more of an impact on the daily work behaviours of nurses than on that of other groups of employees who do not work in affective occupations. As such, nurses provide an ideal occupational groups to study in order to gain a better understanding of the nature, consequences and antecedents of affect at work.

Throughout the thesis, I will focus on nurses' affective experiences at the workplace. In terms of affect, I will focus on general feeling states, or moods, rather than intense emotions. I will first try to gain a better understanding of nurses' affective experiences in the workplace, and explore the more general question of the nature of affect at work from a structural perspective. I will then look at nurses' prosocial behaviours as a consequence of their workplace affective experiences, and finally I will explore the potential antecedents of these affective experiences at the workplace.

Chapter 2 The study of affect at work

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In this chapter, the main issues relating to the study of affect at work will be outlined. In the first section, I critically review the way the construct of affect has been conceptualised in the organisational literature and highlight some of the major problems surrounding current conceptualisations of affect. In the process, I distinguish the concept of job affect from a series of related constructs, including the notion of emotions, job satisfaction and affective dispositions. This serves to locate the analysis of job affect within a broader conceptual domain, while at the same time helping to clarify the specific focus of the present study. The second section looks in greater detail at why the study of job affect is important focusing, in particular, on the hypothesised consequences of affect for various forms of prosocial organisational behaviour. To this end I critically consider the literature that deals with affect and prosocial behaviour and identify key gaps in our understanding of the relationship between job affect and prosocial organisational behaviour at the workplace. In so doing, I highlight important issues that need to be addressed for further progress to be made in the study of affect at work. I also consider the work and organisational contexts where the investigation of the job affect-prosocial behaviour relationship is likely to prove most interesting and promising, and link this to the analysis of nursing as an affective occupation. Finally, based on the above discussion, in the last part of the chapter I outline and describe the three main aims of the thesis which are to use the sample of nurses covered in the research to examine the nature, consequences and antecedents of affect at work.

2.1 Affect at work and related concepts

Recently, the organisation literature has witnessed an increasing interest in the study of employee positive affect at work (e.g., George, 1991; George & Brief, 1992; Isen & Baron, 1991; Staw & Barsade, 1993; Staw, Sutton, & Pelled, 1994). Positive affect, defined as pleasant feelings induced by commonplace events or circumstances (Isen & Baron, 1991), has attracted considerable attention among organisation researchers concerned primarily to demonstrate its potential pervasive influence on various positive organisational outcomes. As reviewed by Isen and Baron (1991), positive affect has been found to increase a person's tendency to help others (e.g., Aderman, 1972; Batson, Coke, Chard, Smith, & Taliaferro, 1979; Cunningham, 1979; Rosenhan, Salovey, & Hargis, 1981) and promote innovation and creative problem solving (e.g., Isen & Daubman, 1984; Isen, Daubman, & Nowicki, 1987). It has also been found to reduce hostile aggressiveness in face-to-face negotiations (e.g., Baron, 1974; Baron, 1990; Baron & Ball, 1974) and to promote cooperativeness in integrative bargaining situations (e.g., Carnevale & Isen, 1986). Though the empirical support for the link between positive affect and positive organisational outcomes within organisational settings is still limited, it is plausible that affective states and work behaviour could be linked (Isen & Baron, 1991; George & Brief, 1992).

While a growing interest in positive affect can be found in the recent organisation literature, some degree of conceptual confusion is also evident: namely, a tendency to conflate positive affect with job attitudes, affective dispositions, and emotions. For instance, Staw and Barsade (1993) interpreted the recent interest in positive affect within the organisation literature as an extension of job attitudes research. They argued that, "when job attitudes are explicitly *equated* with affective states, it is not much of a logical extension to argue that job attitude research should be expanded by incorporating more varied research on affect" (p.305, italics added by present author). They further argued that job attitude

research could be broadened and enriched by considering a wider range of emotions, affective dispositions and moods that people bring to the work situation. In fact, the "affect" they examined in their study was *dispositional affect* rather than state affect. Similarly, Staw, Sutton, and Pelled (1994) proposed that, "research can profitably examine how *emotion* influences a wider set of personal and organisational outcomes" (p.51, italics added by present author), but understood employee positive emotion as a broader formulation of job attitudes.

Although some organisational researchers do not particularly try to make a clear distinction between attitudes, emotions and affects (e.g., Staw & Barasde, 1993; Staw, Sutton, & Pelled, 1994), others are very concerned about the potential problems caused by the confusion between these constructs (e.g., George, 1991; George & Brief, 1992; Weiss & Cropanzano, 1996). To contribute to the analysis of affect in an organisational context, and, in particular, to gain a better understanding of the nature, consequences and antecedents of affective states at the workplace, a clear conceptualisation of the construct of interest, and of how it differs from cognate constructs, is first required. Therefore, I begin with a general overview of job satisfaction, a widely studied job attitude in the organisation literature, and contrast this with job affect. The effort at conceptual clarification then continues by looking at the distinction between affect and emotion, and finally through a discussion of the state-versus-trait affect issue.

2.1.1 Job affect and job satisfaction

Job satisfaction has been traditionally defined by Locke (1976) as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p.1300). Although this suggests that job satisfaction is an affect or emotion, researchers have usually treated job satisfaction as an attitude (see

Spector, 1997).[1] Judging from the nature of most job satisfaction questionnaires, Weiss and Cropanzano (1996) suggest that job satisfaction should be more accurately seen as "a positive or negative evaluative judgement of one's job or job situation" (p.2). Satisfaction is an evaluative judgement about one's job that partly results from affective experiences at work, and also partly results from more abstract beliefs about one's job.

However, although the job satisfaction construct has been defined by two components, a cognitive and an affective one, most empirical or methodological approaches to job satisfaction are cognitively laden (Brief, 1998; Brief & Roberson, 1989; Organ & Near, 1985). For instance, Brief and Roberson's (1989) empirical examination of existing measures of job satisfaction indicated that the Minnesota Satisfaction Questionnaire (Weiss, Dawis, England, & Lofquist, 1967) captured no affect, just cognitions; and the Job Descriptive Index (Smith, Kendall, & Hulin, 1969) contained some positive affect, but mostly cognitions. It therefore appears that, although the conventional definition of job satisfaction contains an affective element, empirical studies of job satisfaction have been dominated by measures that fail to adequately gauge how people affectively evaluate their jobs.

In addition to the empirical or methodological stances, the theoretical positions on job satisfaction have also been dominated by a cognitive approach. As noted by Weiss & Cropanzano (1996), conceptually job satisfaction is represented most commonly by what Lawler (1968), for example, referred to as Discrepancy Theory, Locke (1976) as outcome-value discrepancies, and Ilgen (1971) as outcome-expectancy discrepancies. In the general cognitive approach to job satisfaction, the job environment is represented as a set of concrete features (e.g.

[1] Some researchers (e.g., Porter, 1961) have approached job satisfaction from the perspective of need fulfilment, that is, whether or not the job meets the employee's physical and psychological needs at work, such as pay. However, most researchers today tend to focus attention on cognitive processes rather than on underlying needs, therefore, the attitudinal perspective has become the predominant one in the study of job satisfaction.

job characteristics) which become the objects of cognitive evaluation. These features are perceived by job incumbents who compare their perceptions of the job environment to their own standards (e.g. expectations, values, needs). Then some sort of comparison process occurs to assess the match between perceptions and standards and the degree of match leads to individual evaluations of job satisfaction. Satisfaction is greater when outcomes are close to expectations, lower when they fall short. From this comparison point of view, job satisfaction becomes entirely cognitive in nature.

Judging from the nature of most job satisfaction questionnaires and from the main theoretical approaches to job satisfaction it would be more accurate to argue that job satisfaction is a positive or negative evaluative judgement of one's job or job situation (Weiss & Cropanzano, 1996). This evaluative judgement is decidedly not the same thing as an affective reaction. As Abelson, Kinder, Peters, and Fiske (1982) noted, affective reports are distinct from semantic judgements (Osgood, Suci, & Tannenbaum, 1957), the latter being akin to traditional job satisfaction indexes. In turn, this suggests that affect at work is probably less cognitively filtered than is job satisfaction. In this sense, job affect, or affect at work, is distinguishable from the notion of job satisfaction, which probably has stronger cognitive underpinnings.

Individuals' affective experiences at work can be caused by various events in the workplace including, probably, aspects of one's job. However, individuals' affective states are not necessarily the result of these evaluations about one's job. In sum, while affective experiences may influence judgements about the job, job satisfaction and job affect are not equivalent constructs.

2.1.2 Job affect : mood or emotion?

In the literature the terms "affect" and "mood" tend to be used interchangeably, therefore I will do the same in the present study. As already noted, in the organisation literature, positive affect is defined as pleasant feelings induced by commonplace events or circumstances (Isen & Baron, 1991). It has also been referred to as mood at work (George, 1989; George & Brief, 1992). In a strict sense, however, affect is considered to be a more general concept; it has valence (positive or negative) and intensity (weak to strong) (Morris, 1989). Mood and emotion also have valence and intensity, and are actually specific types of affective states. However, whereas the term "affect" tends to be used to denote mood states in the literature, it is not frequently used in the same way to refer to emotions. Emotion generally denotes a strong affective reaction to a specific object or cause, while mood usually refers to a milder, more diffuse affective state that may not be directed towards any single object (Lazarus, 1991a, 1991b).

Mood also involves a more or less well-formed set of beliefs about whether, in general, we are likely to experience pleasure or pain - positive or negative affect - in future (Morris, 1989). Whereas mood reflects a change in expectation about the general likelihood of positive or negative affect in the future, emotion reflects the existence of a specific goal, or of a perceived change in one's relation to a specific goal, in the present. Therefore, for mood, the focus is on expectations about the occurrence of pleasurable or unpleasurable events in the future; for emotion, the focus is on reactions to changes in one's current relation to a given goal.

Arguably, mood and emotion can be distinguished by three features: *intensity*, *duration*, and *diffuseness* (Frijda, 1993; Morris, 1989). More specifically, mood, as compared to emotion, is thought to be less intense, of longer duration, and to lack specificity with regard to a particular object or behavioural response. The first two criteria may not be very useful since moods can vary greatly in their

duration while emotions, on the other hand, can last for long periods of time. In addition, diffuse affective states like anxiety or depression can be of very high intensity while specific emotional reactions can be rather mild. Therefore, the last criterion could be said to constitute the real distinguishing feature between mood and emotion: diffuseness in terms of both object and response (Morris, 1989). Emotions are affective states directed at someone or something. Moods, on the other hand, lack an object to which the affect is directed. Lazarus (1991a) makes a similar point that moods are vague and lack "contextual provocation."

None of these authors, however, is suggesting that moods do not have specific causal antecedents, only that the experience of the mood does not include the causal factor. The importance of the experiential disconnection between the affect state and its cause is further underlined by the fact that an emotion turns into a mood when one loses the focus on the eliciting event or object. Similarly, making the cause of the mood salient may transform a mood into a weak emotion. This latter position is consistent with research which demonstrates that when people are made aware of the cause of their mood state many of the global effects of mood are eliminated (Clore, 1992). Mood researchers also argue that moods, more than emotions, are diffuse in terms of elicited responses in that they influence a wide variety of cognitive and behavioural responses which are not connected to the original source of the mood (Isen, 1984; Morris, 1989). In other words, the effects of mood tend to be less dependent on the nature of the cause of the mood.

It is "mild, positive affective states" or "mild elation" that the literature suggests have a significant effect on social behaviours and cognitive processes (Isen & Baron, 1991). And this positive affect is clearly a "mood" rather than an "emotion." It is such "affects" or "moods" that constitute the focus of the present study, bearing in mind that, as in most of the literature in this area, the terms "affect" and "mood" will be used interchangeably throughout the thesis.

2.1.3 Affective state versus affective disposition

Another conceptual distinction that is worth noting at this stage is that between state-affect (or affective state) and trait-affect (or affective disposition). Affective disposition commonly refers to a general tendency to experience a particular mood or to react to objects in a particular way (Tellegen, 1985). As Watson and Pennebaker (1989) indicate, affect can be measured as a state or as a trait; the trait represents stable individual differences in the level of positive or negative mood generally experienced, whereas the state captures how a person feels at a given point in time. Thus, state positive affect refers to affects that are experienced in the short run and fluctuate over time, whereas affective disposition refers to stable individual differences in affect levels (Watson & Pennebaker, 1989).

Affective disposition is often referred to in the literature as positive affectivity (PA) and negative affectivity (NA) (e.g., George, 1989; Tellegen, 1985; Watson, Clark, & Carey, 1988; Watson & Pennebaker, 1989). Affective traits such as PA and NA appear to act as latent predispositions that help set the stage for individuals to have more or less intense experiences of certain types of affects. These traits are affective predispositions and not the experience of affect. Thus, we can further see that a given affective trait has an impact only under particular environmental conditions. For example, an individual who is high in trait PA does not necessarily experience positive affect throughout his or her life. Rather, such an individual is predisposed to react more strongly to positive events when they happen to occur. When no positive event takes place, individuals high and low on trait PA should have similar levels of affect. Similar arguments apply with respect to the relationship between NA and negative affective experiences.

Dispositional affect and state affect can, therefore, be related. Individuals high on positive affectivity, for instance, tend to experience more positive affect across

situations than do individuals low on positive affectivity (e.g., Tellegen, 1985; Watson & Pennebaker, 1989). Although affective disposition has an impact on positive affective states at work, state affect is also influenced by situational factors and the interaction between the person and the situation. Therefore, individuals high on positive affectivity may not experience positive affect at work (because of situational factors and their interaction with personality). Likewise, individuals low on positive affectivity may still experience positive affects at work because the situation is favourable.

2.1.4 Summary

So far, I have tried to differentiate job affect, the focus of this thesis, from the related concepts of job satisfaction, emotion, and affective disposition. The literature seems to indicate that job satisfaction is a more cognitively laden concept both empirically and theoretically. Moreover, the affective component of job satisfaction tends to represent semantic judgements about the object, the job, in a positive or negative way, which are not the same as affective experiences. Of the three concepts of affect, mood, and emotion, affect is the most general one, with mood and emotion being, strictly speaking, specific types of affect. The literature on moods, however, tends to use the terms "affect" and "mood" interchangeably, and so does the organisational literature. It is clear that the recent interest in positive affect in the organisational literature is focused on mild positive feelings, which represent moods rather than emotions. Both state affect and trait affect have been of interest to psychologists, and although they are related they are clearly different constructs.

I now turn to the context where positive affect has been mainly investigated in organisational settings. In looking at this issue, I will also outline the main research questions I will address in the thesis.

2.2 Affect and prosocial behaviour

Recent interest in positive affect in the organisational literature has centred mainly on its relationship to positive organisational outcomes, represented by a variety of different concepts such as prosocial organisational behaviour (Brief & Motowidlo, 1986), spontaneous cooperative behaviour (e.g., Barnard, 1938; Thompson, 1967; Katz, 1964), contextual performance (Borman & Motowidlo, 1993), and organisational citizenship behaviour (Bateman & Organ, 1983). The common essence which all of these concepts are trying to capture is that of individual's discretionary contribution which goes beyond what is formally required (Brief & George, 1992; for a comprehensive review of the subtle differences among the meanings conveyed by the various labels, see Van Dyne, Cummings, & McLean Parks, 1995). Among the different concepts referred to above, prosocial organisational behaviour is the broadest in its coverage: it covers in-role as well as extra-role behaviours, it includes behaviours that can be recognised by the formal organisational reward systems, and it also does not exclude interpersonally-directed prosocial behaviours which might not be functional to the organisation (Brief & Motowidlo, 1986; George & Brief, 1992).

Brief and Motowidlo (1986) defined prosocial organisational behaviour (PSOB) as behaviour which is performed by a member of an organisation, directed towards an individual, group, or the organisation itself, with the intention of promoting the welfare of the target at which it is directed (Brief & Motowidlo, 1986). This definition is designed to encompass a wide range of behaviours with important implications for organisational functioning which have in common the central notion of intent to benefit others (Brief & Motowidlo, 1986). Examples include helping other employees, volunteering for things that are not required, and making innovative suggestions to improve a department. Compared to role performance which depends, by and large, on one's skills and knowledge of given tasks, PSOBs are discretionary behaviours. They also contribute to the effective

functioning of the organisation in several ways such as by enhancing co-worker or managerial productivity, by serving as a means of coordinating activities between team members and across work groups, and by reducing the need to devote resources to purely maintenance functions. In summary, it would usually seem desirable to foster these kinds of social processes in organisational settings, since they seem likely to contribute to the smooth functioning, pleasant atmosphere, helpfulness, and thus efficiency of the organisation.

In their review aiming at the conceptual clarification of related extra-role concepts, Van Dyne, Cummings, and McLean Parks (1995) severely criticised the prosocial organisational behaviour construct. Van Dyne and his colleagues argued that the PSOB construct, due to the broadness of its definition, did not provide a strong foundation for empirical research. They went on to argue that researchers should drop the PSOB construct and should instead concentrate research on other supposedly more focused forms of behaviour, such as organisational citizenship behaviour (OCB). However, while acknowledging the criticisms on the broadness of the PSOB construct as well as acknowledging the popularity of the OCB concept in the recent organisational literature, I argue that the notion of PSOB is still important and provides some significant advantages over the OCB contruct. There are at least three reasons for choosing to focus on PSOB rather than OCB in the present study.

First, OCB is predominantly conceptualised as extra-role behaviour (ERB)[2], that is to say, as behaviour which goes beyond existing role expectations (Van Dyne, et al., 1995). As a form of ERB, OCB should not include behaviour which may be perceived as in-role by the actor (the employee). Although ERB is proposed

[2] There is some disagreement in the literature about whether OCB is ERB. For instance, Graham (1991) has suggested that OCB can be viewed as an enlarged form of job performance, and as such, is not extra-role. In her view, in-role and extra-role behaviour are two dimensions of a more global construct (organisational citizenship behaviour). Also, some elements of OCB have been operationalised as in-role characteristics and may not be extra-role (e.g., conscientiousness, obedience, courtesy, and civic virtue). Overall, however, it would be fair to say that the dominant view in the literature, as exemplified, for instance, in the work of Organ (1988a) and in the review by Van Dyne et al. (1995), is that OCB is extra-role.

to be conceptually distinct from in-role behaviour (IRB) (Van Dyne, et al., 1995), it is, in practice, often very difficult to differentiate extra-role from in-role behaviour (Morrison, 1994). It is also important to note that a major obstacle in empirical research on OCB may lie in the very difficulty of making a clear distinction between ERB and IRB, where the former forms part of OCB and the latter does not. More specifically, as Graham (1991) noted, studying OCB as ERB may be difficult because, firstly, the same behaviour might be considered in-role or extra-role depending on the perspectives of the observers as well as the actors (Morrison, 1994). Secondly, as Van Dyne et al. (1995) recognised, role perceptions or role-definitions may change over time; a particular behaviour once perceived (by observers and/or by actors) as extra-role may later become perceived as in-role, or vice versa. The PSOB construct, on the other hand, while acknowledging the nature of pro-social acts as voluntary or discretionary, does not exclude behaviour which might be in-role.

In addition to these conceptual problems relating to ERB, OCB focuses on the organisation as the presumed beneficiary of the behaviour (e.g., Van Dyne, et al., 1995). In other words, it is the organisation that is directly identified as the beneficiary of citizenship behaviours, even though the relevant acts are often targeted at specific individuals (e.g., co-workers or supervisors). In contrast, PSOB defines the intended beneficiary of the action as the target itself, be this an individual, a group, or the organisation as a whole (Brief & Motowidlo, 1986). By employing the PSOB construct instead of OCB, therefore, research can explicitly focus on interpersonally-directed or group-directed prosocial behaviours which may be no less frequent or important forms of behaviour in organisations.

Finally, unlike research on OCB, PSOB research may be regarded as a direct extension of social psychological research on prosocial behaviour. Hence the empirical evidence and explanatory mechanisms already identified in the prosocial literature can be directly applied to the organisational context without a long line

of logical justifications. The prosocial literature in social psychology is vast, particularly that dealing with the conditions which lead people to engage in prosocial behaviours (e.g., affective states of the potential actors). Provided the driving motive for investigating PSOB or OCB is the promotion of these kinds of desirable behaviours in organisations, the potential extrapolation of the existing social psychology arguments to the organisational context can be of great advantage.

In attempts to identify the causes of prosocial behaviour at work, and in line with the broader social psychological literature, positive mood at work (George & Brief, 1992) or positive affect (Isen & Baron, 1991) has been proposed as a direct antecedent. The rationale for the relationship comes from numerous social psychological studies which have demonstrated that prosocial or helping behaviours are fostered or facilitated by positive mood states (e.g., Aderman, 1972; Cunningham, Steinberg, & Grev, 1980; Isen, Clark, & Schwartz, 1976; Isen & Levin, 1972; Levin & Isen, 1975; Rosenhan, Salovey, & Hargis, 1981). As briefly mentioned earlier, people who are induced to be in positive affective states are more likely to be helpful to others. For instance, subjects who experience success at tasks are more likely to help others (e.g., Isen, Horn, & Rosenhan, 1973), as are subjects who find a dime in a telephone booth (Isen & Levin, 1972), or are given free stationery (Isen, Clark, & Schwartz, 1976). There are several explanations for this "feel good, do good" phenomenon.[3] One explanation is that being in a good mood is reinforcing, and helping others is a form of self-reward that enables a person to maintain this pleasurable state (Fiske & Taylor, 1991). Another explanation is that people who are in a good mood are generally more attracted to others (e.g., Mehrabian & Russell, 1975) and therefore more willing to help people whom they are attracted to. While these studies were not generally conducted in work settings, there appear to be no strong grounds for questioning their generalisability to organisations and

[3] The various mechanisms linking positive moods and prosocial behaviours are discussed in detail in Chapter 5.

organisational behaviour. Some of these studies were conducted in laboratory settings (e.g., Isen, Horn, & Rosenhan, 1973), and some were performed in natural settings (e.g., Isen, Clark, & Schwartz, 1976; Isen & Levin, 1972). Thus, the findings appear generalisable over a wide range of contexts, and there is a basis for assuming that they would be applicable in work environments as well. In an organisational setting, for instance, George (1991) found that positive mood is significantly and positively associated with the performance of both extrarole and role-prescribed prosocial organisational behaviour.

However, in the organisational literature, empirical attempts to investigate the positive affect-prosocial organisational behaviour relationship have left much to be desired. This is mainly due to the fact that, assuming job satisfaction to be an indicator of mood at work, researchers have frequently used job satisfaction indices to relate to prosocial behaviours in work contexts (e.g., Bateman & Organ, 1983; Motowidlo, 1984; Motowidlo, Packard, & Manning, 1988; Puffer, 1987; Scholl, Cooper, & McKenna, 1987; Smith, Organ, & Near, 1983). However, the use of job satisfaction indices, as Organ (1988a) himself has pointed out, makes it difficult to determine whether the satisfaction-prosocial behaviour relationship is due to the effects of positive mood or positive job cognitions. For instance, in a study of organisational citizenship behaviour, Organ and Konovsky (1989) set out to determine if these behaviours are cognitively or affectively driven, and favoured a cognitive interpretation. George (1991) argued, however, that the affect measure which Organ and Konovsky (1989) used may have been a trait measure rather than a state one, and she also noted, in support of this interpretation, that although in her own research state positive affect emerged as a significant predictor of her measure of prosocial behaviour, namely helping behaviour directed at customers, trait positive affect did not.

It should also be noted that studies of the relationship between predictors having some degree of affective content and prosocial or citizenship behaviours, have generally found that the predictor variables did not account for especially large

proportions of the variance in PSOB or OCB. However, it is probably premature to conclude that the affect-prosocial behaviour relationship may not exist in organisational settings. There are at least two reasons for this. First, the number of empirical studies exploring the affect-prosocial behaviour relationship in organisational contexts is very small; second, in many cases, the predictors used were not pure indicators of positive affect or mood. Taken together these features suggest the need for additional research. The research must, however, include a well-operationalised concept of affect. In other words, pure indicators of job affect need to be used to test the hypothesised relationship between affect at work and prosocial organisational behaviour. Arguably though, such research is all the more important and relevant if explicitly focused on so-called affective occupations. Employees' affective experiences should, in fact, be more frequent and, therefore, should potentially have a more pervasive influence on their work-related behaviours in the context of such affective occupations, than in less affectively-laden work settings. Arguably, therefore, affective occupations such as nursing provide an ideal settings not only for exploring the nature and structures of affective states at work, but also for investigating and gaining a better understanding of the job affect-prosocial organisational behaviour relationship at the workplace.

Based on the above arguments and suggestion, I now turn to the specific aims of the thesis.

2.3 Aims of the thesis

2.3.1 Conceptualisation and operationalisation of affect

The first aim of the thesis is to contribute to a better understanding of the nature of job affect. This aim relates closely to the job affect-prosocial organisational behaviour hypothesis to be tested. In order to be able to systematically investigate the relationship between affect and prosocial behaviour in the work and organisational context, the nature and type of affect to be examined first needs to be carefully specified. Two issues are of importance regarding the conceptualisation and operationalisation of affect. First, and at a more general level, affect should, as already noted, be differentiated from related concepts such as job satisfaction and affective disposition. This is not to suggest that a consideration of these other variables is not important for an understanding of prosocial behaviours. Employees' affective dispositions and job attitudes may also influence prosocial behaviours at the workplace, and their influence may even be stronger than that of moods. I do contend, however, that the explanation for any potential links in this case is likely to be different, and that the underlying mechanisms involved are not likely to be the same as in the mood literature. One could argue that, in an applied research context, conceptual refinements and distinction of this kind are of little practical benefit since they preclude the development of a broader understanding of the issues involved. I would argue, however, that a far greater danger lies in continuing to operate with general and imprecise conceptualisations since these, ultimately, impede proper understanding of relevant phenomena and relationships and delay knowledge accumulation.

A second and more important issue surrounding the conceptualisation and operationalisation of affect concerns the way in which job affect or mood at work is described. The literature on moods and emotions recognises that affect itself is

multidimensional and emphasises the importance of the structure of the psychological experience. A growing body of research (e.g., Warr, Barter, & Brownbridge, 1983; Watson, 1988) suggests that rather than viewing affect as a unidimensional construct ranging from positive to negative or from good to bad, affect should be viewed in terms of two independent dimensions, positive affect and negative affect. Examples of evidence supporting the validity of the bidimensional conceptualisation of affect include the fact that positive and negative affect have differential relationships with various personality traits (Tellegen, 1985) and that they are related to different types of daily activities (e.g., Thayer, 1996; Lazarus, 1991b). For instance, positive mood has been found to be related to social interaction, but negative mood has been found to be unrelated to social activity (e.g. Clark & Watson, 1988).

Understanding affect: Hierarchical-versus-structural approach

In an attempt to understand the nature of affect, researchers tend to pursue two different approaches: hierarchical and structural ones respectively. Researchers who distinguish emotions from other affective states tend to engage in "hierarchical" studies. The classic question here concerns the number and nature of *primary* emotions or affects, that is, of affective states that cannot be reduced to more elementary components. Contemporary theorists concerned with this question agree on at least five or six such primary emotions, namely joy, love, fear, anger, sadness, and disgust (e.g., Ekman & Friesen, 1971; Izard, 1977; Plutchik, 1980; Tomkins, 1982). Researcher have frequently used various methods such as cluster analysis, discriminant analysis, and Q-sort techniques to find such primary emotions. In these hierarchical approaches these "primary" categories represent basic affect families, and other affects represent slight variations on and/or combinations of these primary groups.

A second classical question concerns the relations among affective states, which leads to a "structural" approach. The central concern of structural studies, including the present research, is to understand various affective states in relation to other affective states. Compared to the hierarchical approach, the structural approach is not particularly concerned with the phenomenal experience of discrete affects. Researchers in the latter tradition attempt to describe affect more systematically and have been particularly concerned with reducing the affective experience to underlying dimensions. The most common paradigm for doing this has been to administer a large number of affect items to a group of respondents. The responses are then subjected to a dimensional analysis (factor analysis, multidimensional scaling, etc.). The obtained factors are taken to indicate the underlying dimensional structure of affect. Although the techniques used in these studies are similar, the dimensions obtained vary among researchers.

Structure of affect

In the literature, a two-dimensional approach has been prominently suggested and relatively well established[4] (e.g., Bush, 1973; Russell, 1978, 1979, 1980, 1983; Schlosberg, 1952, 1954). Although there is less agreement on the identification of the major two dimensions involved, a rather strong consensus has emerged that the dimensions are *interpretable* as "pleasure-displeasure" and "high-low arousal" (Russell, 1979). Evidence for additional dimensions has occasionally been found, but these have accounted for small amounts of variance in the data, and their identification has been inconsistent (Bush, 1973; Russell & Mehrabian, 1977; Schlosberg, 1954). Tellegen and his colleagues (Watson & Tellegen, 1985; Zevon & Tellegen, 1982) have also concluded on the basis of correlations among mood ratings that there are two major orthogonal dimensions, although they

[4] Issues relating to the structure of affect are discussed in detail in Chapter 4.

interpreted the dimensions as "high versus low positive affect" and "high versus low negative affect."

This two-dimensional approach has predominantly favoured "bipolarity" assumptions about affect (e.g., Russell, 1979; Warr, 1987; Watson & Tellegen, 1985). It suggests that affective space can be described in terms of two poles; one is presumably pleasant or positive and the other is unpleasant or negative (Russell, 1979). For instance, one major affect dimension is described as "enthusiasm-depression" (e.g., Warr, 1987, 1990). According to Warr's model, an enthusiastic or happy mood is conceptualised as the opposite of a depressive or sad mood. In other words, the affective dimension runs from an unpleasant pole (e.g., sad mood) to neutral (e.g., neither sad nor happy) to a pleasant pole (e.g., happy mood). Similarly, Watson and Tellegen (1985) suggest that enthusiasm-related moods can be conceptualised as "high positive affect" whereas the absence of such positive affect is reflected in slightly depressive moods conceptualised as "low positive affect." In summary, within bipolar affect models, which are advocated by many researchers (Russell, 1979; Warr, 1987; Watson & Tellegen, 1985), enthusiastic or happy moods and depressive or sad moods are understood as being part of a single factor rather than comprising two separate factors.

Bipolarity-versus-unipolarity

Although the bipolar affect structure appears to be commonly accepted in the literature, some preliminary results suggest that the dimensionality of mood at work may be somewhat more complex (e.g., Burke, Brief, George, Roberson, & Webster, 1989). In the process of developing their Job Affect Scale (JAS), Burke et al. (1989) found that a unipolar-based factor solution was better fitted to their data than was a bipolar-factors solution. According to their data, for instance, the "enthusiasm-depression" dimension, which has been frequently described as a

single bipolar factor, was better understood as two separate factors, "enthusiasm" and "depression".

A unipolarity-based understanding of affect structure has particular significance in relation to the analysis of the relationship between negative affect and prosocial behaviour at work. In the prosocial literature positive affect is not the only mood which researchers are interested in examining. In addition to positive mood, negative mood (typically operationalised as "a slightly depressed" mood) has also been intensively investigated by researchers. The literature acknowledges that the effects of positive and negative affect are not always symmetric. In fact, the effects of negative mood on prosocial behaviour seem to parallel rather than oppose those of positive mood (Carlson & Miller, 1987). For negative mood which is predominantly operationalised as being sad or slightly depressed[5], a comprehensive body of research also shows enhancing effects on helping behaviours. As for positive mood, one prominent explanation is a motivational one. This, as is discussed in greater detail in Chapter 4, is the negative-state-relief explanation which claims that sadness promotes people's motivation to help others because helping another person can lift one's mood.

In the prosocial literature, however, most of the studies have independently manipulated positive and negative affect and then compared the affect induced group to a control group. Even where both positive and negative affect are manipulated in the same study, results have been generally interpreted independently. In other words, the effects of positive affect have been compared with those of a neutral condition, as have the effects of negative affect. These paradigms can hide the fact that while being in a positive affective states may have effect A, being in a negative affective state does not necessarily have an effect opposite to A. For example, being in a positive affective state often

[5] Note that under the bipolar model of affect structure such as Watson & Tellegen (1985) this sad or depressed mood is not conceptualised as "negative" affect but as "low positive" affect, while anxiety is conceptualised as negative affect.

increase helping behaviour when compared to a control condition of a neutral affect (Isen & Baron, 1991). However, being in a negative affective state can also increase helping behaviour, again, when compared to a neutral condition (Carlson & Miller, 1987; Morris, 1992).

These intuitively incompatible findings concerning the effects of positive and negative affect on prosocial behaviour may significantly undermine the assumption of bipolarity. At this point, it is important to note that these non-symmetric findings are not necessarily a problem, if the affect dimensions are understood in terms of a unipolar model where negative affect (prominently operationalised as a slightly depressive mood) and positive affect (prominently operationalised as an elated mood) are conceptualised as two independent factors. These issues, linked to the broader debate about the structure of affect at work, are of central concern to the present thesis. The structural discussion related to the bipolarity issue and the possibility of an alternative, namely unipolar, understanding of affect structure is fully described in Chapter 4 where alternative factor models are also presented and empirically tested using data from the sample of nurses covered in the research.

2.3.2 The affect-prosocial organisational behaviour relationship

A more systematic understanding of the structure of affect, the first aim of the research as described in the previous section, serves as the major building block for the rest of the thesis. As indicated in Section 2.2, employees' affective states have been proposed as the main determinants of prosocial organisational behaviours, but years of empirical research have not been tremendously successful in demonstrating a strong link between the two. As suggested, one main reason for this may be that the predictors used have frequently been more or less distant proxies of affect rather than pure indicators of affect itself. Therefore,

based on well-operationalised, and more robust indicators of affect, which should be available as a result of achieving the first research purpose, the second aim of the thesis is to properly test the affect-prosocial behaviour relationship in an organisational setting. It is hoped that the use of better indicators will provide a stronger and clearer test of the relationship between job affect and prosocial organisational behaviour and better enable us, therefore, to detect and understand the possible links between affect and PSOB at work.

The investigation of the job affect-prosocial organisational behaviour relationship involves looking at negative as well as at positive job affect. More specifically, as part of the main analysis presented in Chapter 5, I explore the negative affect-prosocial behaviour relation as well as the link between positive affect and prosocial behaviour. The aim here is to help to shed some light on the puzzle about the effects of positive and negative affect on PSOB in the prosocial literature. More generally, it is hoped that the clearer and more systematic operationalisation of affect pursued in the present study will benefit our understanding of the relationship among all three variables of interest, namely positive affect, negative affect, and PSOB.

In Chapter 6 I then explore the job affect-prosocial organisational behaviour relationship further through the inclusion of job attitudes in the analysis. More specifically, the PSOB and OCB literature has, as already noted, frequently used proxy measures of affect, mainly in the form of job attitudes, instead of pure affect measures as predictor variables. As a result, the research findings, where significant effects have been observed, have been subject to alternative cognitive interpretations. Therefore, as an important part of the analysis, I also examine whether mood states have an impact on PSOB above and beyond the impact of key job attitudes, such as job satisfaction and organisational commitment, which have been prominently and heavily researched in the general organisational literature. It is also hoped that the results of this analysis will help to provide a

more comprehensive picture of the antecedents of PSOB which, clearly, is not likely to be solely a function of employees' current mood states.

As noted above, the systematic investigation of the job affect-PSOB link requires a proper conceptualisation and operationalisation of the job affect construct. It also requires, however, a clear understanding of the nature of PSOB within organisational settings. Two issues in particular deserve consideration in this respect: (a) the specific forms of PSOB which should be examined in given settings, and (b) the particular organisational and/or occupational contexts where the investigation of PSOB and of its link to job affect is likely to prove most fruitful and worthwhile in the first place. Each of these issues is discussed in turn below.

Relevant occupational settings

There may be particular occupational settings where studies of the affect-prosocial behaviour relationship are better positioned than in other settings. First, PSOB may not be equally important everywhere. In an assembly line, for instance, organisational efficiency and effectiveness are, to an important extent, determined by external factors such as technology and machine pacing. Organisational productivity and outcomes, therefore, are more directly dependent on standardised rules and procedures. In this context, individual workers' initiative and voluntary behaviour may play a limited role in relation to organisational effectiveness. Other behavioural outcomes such as turnover and absenteeism may have more important implications for the organisations, and have been intensely studied accordingly (e.g., Price & Mueller, 1981, 1986b).

In other occupational contexts, on the other hand, PSOB may be very important and more valued. In some settings, organisational outcomes are, to a significant extent, affected by individuals' initiative, and therefore employees' spontaneity

and cooperativeness are prerequisite for organisational success. This is the case, for instance, in situations where there are high levels of task interdependence and complexity, and where customer contact is an important part of work. The nursing occupation is one of these settings. As noted by Thompson (1967), occupational settings characterised by high levels of reciprocal interdependence[6] draw on various areas of expertise to solve work problems - e.g., treat a patient, solve a crime, service a client - but the combination and sequence of operations cannot be specified in advance. It is in this type of situation where work cannot effectively be managed and coordinated simply through the use of standard rules, procedures, and plans, therefore, that various forms of prosocial behaviour and of "spontaneous give and take" become particularly important (Organ, 1990).

In addition to the fact that PSOB may be more valued in particular occupational settings, the role of affect itself in relation to PSOB may also be more important and relevant in some contexts than others. In line with the proposition advanced in Chapter 1, it may be argued that it is in affective occupations such as nursing that employees' affective states play a more important role in terms of PSOB. Because employees working in affective occupations are subject to more frequent affective incidents, and therefore undergo richer affective experiences, the role of affect in these settings is likely to be more influential and pervasive than in non-affective occupational contexts.

Forms of PSOB

Prosocial organisational behaviour itself is multidimensional (e.g., Brief & Motowidlo, 1986; George & Brief, 1992; Van Dyne, Cummings, & McLean Parks, 1995). Among the variety of different sub-categories of prosocial

[6] Thompson (1967) categorised three different types of technologies; mediating technologies, long-linked technologies, and intensive technologies, and he assumed that each type of technology created different types of interdependence among people; pooled interdependence, sequential interdependence, and reciprocal interdependence.

organisational behaviour, two forms of PSOB are of interest in the present research. The first is a typical helping or altruistic behaviour which most of the prosocial literature has focused on. For example, individuals who work together often assist one another with job-related or personal matters. They pitch in and help those who have been absent, assist those experiencing especially heavy work loads, and protect or enhance their organisation's resources. This type of PSOB can be either in-role or extra-role. This will vary depending on the circumstances and the reasons why individuals engage in the action. Whether in-role or extra-role, however, the emphasis on helping or general altruistic behaviour highlights the fact that this represents a form of affiliative action (Van Dyne, Cummings, & McLean Parks, 1995). As noted by Van Dyne et al., affiliative behaviour includes a variety of prosocial and extra-role behaviours with an emphasis on helping and cooperative actions that are noncontroversial[7]. Affiliative behaviours of this kind are the most widely studied forms of prosocial and extra-role behaviours in the literature and are, hence, of central importance in the present research. For ease of presentation I refer to this first form of prosocial behaviour as PSOB-Altruism, or PSOB-Alt, for short.

The second form of prosocial behaviour, of particular significance in service occupations such as nursing, involves providing services and help to people outside the organisation such as customers or patients. Generally termed customer-oriented behaviour (Peccei & Rosenthal, 1998) or customer-service behaviour (George, 1991; George & Bettenhausen, 1990), this form of PSOB refers to the actual propensity of individuals to engage in behaviour designed to satisfy customers (Peccei & Rosenthal, 1997), and is central to the achievement of service quality in general (Parasuraman, Zeithal, & Berry, 1985). This customer-oriented behaviour can also take a variety of forms depending on the specific nature of the service. For instance, it might involve the display of

[7] Affiliative behaviour is contrasted by Van Dyne et al. (1995) to so-called challenging behaviour which includes, for instance, voice behaviours and is characterised by the constructive expression of challenge with an intent to improve.

enthusiasm and concern; seeking out customer comments and preferences; or generating one's own suggestions for improving the speed and reliability of service (Peccei & Rosenthal, 1997). One of the core forms of this type of PSOB is continuous-improvement behaviour. It is a consciously proactive behaviour, a readiness on the part of employees to strive for continuous improvement. In contrast to the affiliative or altruistic form of PSOB discussed above, where the major beneficiary targets are other members of the organisation or the organisation itself, this continuous-improvement type of PSOB has the customer, client or patient as the major beneficiary, although the organisation can also benefit from the behaviour. This continuous-improvement type of PSOB, or PSOB-CI for short, comes closer to Van Dyne et al.'s (1995) notion of "challenging" type of prosocial and extra-role behaviour, in contrast to the altruistic form of PSOB which represents "affiliative" type of behaviour.

To summarise, the second main aim of the study is to investigate the affect-prosocial behaviour relationship in a particular occupational and organisational context, using relevant, theoretically justified and focused indicators or measures of both the predictors (i.e., job affects) and the criteria (i.e., PSOBs). As an occupational setting, nursing was chosen because it is an affective occupation with a relatively high-skilled workforce. Involving as they do the provision of front-line health care service to patients, and requiring relatively high-levels of skills, nursing tasks may greatly benefit from individuals' engagement in prosocial organisational behaviours. Also, as an affective occupation, nursing may provide one of the most appropriate contexts in which to investigate the nature of affective experiences at work and their behavioural consequences in terms of PSOBs.

2.3.3 Antecedents of job affect

In addition to the investigation of PSOB as a consequence of affect at work, the literature has acknowledged that the exploration of the antecedents of job affect also represents an important area of inquiry requiring further work (George, 1990). Compared to the two research issues outlined above, namely, the investigation of the consequences of affect and the inquiry into the structure of affect, research on the antecedents of affect is relatively scarce. This may be due to the fact that the practical as well as the theoretical value of looking at job affect is not yet well established in the organisational literature. Arguably, however, because of its links with and implications for employee well-being (see, for example, Warr, 1987, 1990), job affect is an important phenomenon to investigate in its own right. These links and implications are discussed in some detail in Chapter 7. It is worth noting though that the importance of looking at job affect becomes all the greater to the extent that it can be shown to have a significant impact on various forms of prosocial behaviour in organisations. In this context, therefore, it seemed both worthwhile and important to try to gain a better understanding of the antecedents of job affect and systematically to explore some of its key potential determinants at the workplace. This is the third and final aim of the thesis.

In terms of the antecedents of job affect, recognition has been primarily given to the impact of personality traits or dispositions (e.g., Brief, Burke, George, Robinson, & Webster, 1988; George, 1990; George & Brief, 1992; Staw, Bell, & Clausen, 1986; Weiss & Cropanzano, 1996). Positive affectivity (PA) and Negative affectivity (NA), for instance, have been found to be positively associated with positive and negative affective experiences, respectively (Brief, Burke, George, Robinson, & Webster, 1988; George; 1990). In the psychology literature, a growing body of evidence also suggests that positive and negative affective experiences are associated with various personality traits. For example, positive affect tends to be associated with personality dispositions like sociability,

extraversion and social boldness, and negative affect has been shown to be correlated with various personality traits such as neuroticism, impulsiveness, and aggressiveness (Costa & McCrae, 1980).

The situational or environmental determinants of affect at work have rarely been explored in the organisational literature. Things happen to people at the workplace and people often experience affective reactions to these events. The main reason why environmental or situational antecedents have not been explicitly explored may be because moods or affects are known to be caused by mild positive or negative events, and it may be almost impossible to specify a hypothesised list of such mild positive and negative events at the workplace. It has been suggested, however, that several job-related and work role-related factors which have frequently been identified as antecedents of job attitudes and/or work stress would also operate as antecedents of affect at work (e.g., Warr, 1987; Weiss & Cropanzano, 1996). Although affects are supposed to be generated by mild positive or negative daily incidents, it can be argued that more stable environmental features are also likely to influence affect primarily by making occurrence of certain affective events more or less likely at the workplace (Weiss & Cropanzano, 1996).

In sum, the third and final aim of the thesis is to explore the antecedents of job affect. Based on a person-environmental framework and findings from the job attitudes and stress literature, I propose and test a series of hypothesised antecedents, including situational as well as dispositional factors. Some of the proposed situational and dispositional antecedents of job affect can also be expected to have an impact on prosocial behaviours at work. A further aim here, therefore, is to examine the impact of these proposed antecedents on PSOB and explore the extent to which their impact, if any, is mediated by job affect amongst the sample of nurses covered in the research. The detailed literature review on the antecedents of job affect and the findings from the empirical analysis are presented in Chapter 7.

2.4 Summary

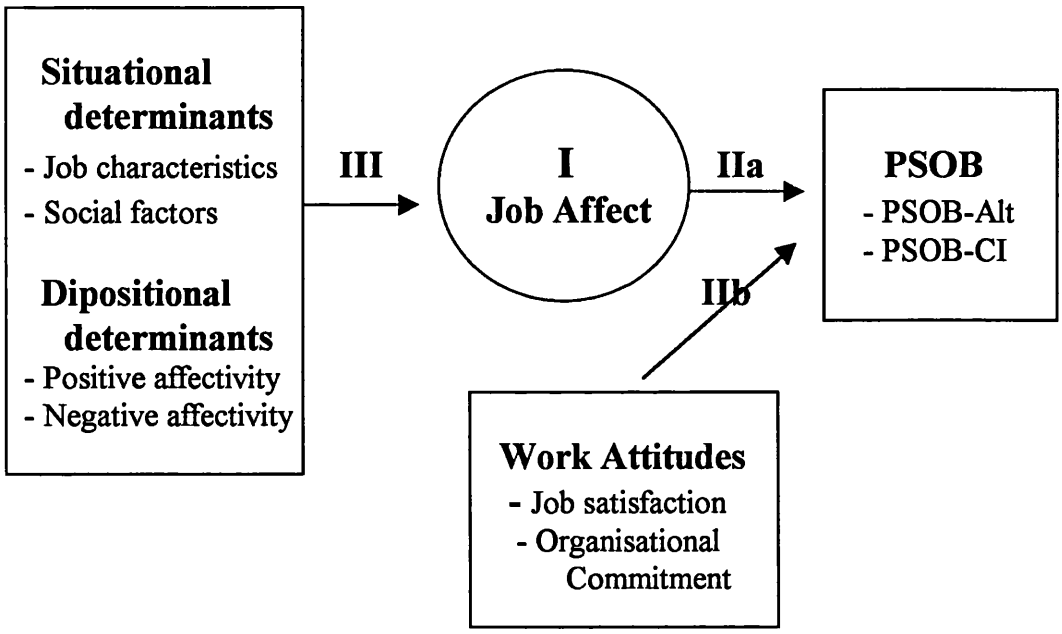
In this chapter, the main issues relating to the study of affect at work were described. In the recent organisational literature, an increasing volume of research addresses issues about affect at work, with the main focus of interest being on the positive behavioural consequences of job affect, and its links to various forms of prosocial organisational behaviour. However, many writers have not properly differentiated job affect from related constructs such as job attitudes, affective dispositions and positive emotions. Nor have the nature and structure of job affect and the underlying mechanisms linking affect to prosocial behaviour at the workplace been systematically explored in the recent literature. Based on a study of nurses working in the NHS, the first aim of the thesis, therefore, is to better understand the nature of affect. To this end, the structure of affect will be theoretically and empirically explored focusing in particular on how individuals' different affective experiences at work relate to one another, and on how the resulting affect structure can best be described.

The second aim is to explore and empirically test the hypothesised relationship between job affect and prosocial organisational behaviour based on the sample of nurses covered in the study. To this end I first develop appropriately focused indicators of job affect, both positive and negative, and then relate them to different measures of PSOB relevant to the affective occupational context of nursing. Specifically, because prosocial organisational behaviour is itself a multidimensional concept, appropriately focused measures relevant to the target occupational settings are required. Accordingly, in the thesis, two different forms of PSOB, altruistic behaviour and continuous-improvement behaviour, are examined as potential consequences of affect at work. The investigation of the job affect-PSOB relationship is then further developed and enriched by formally including the key job attitudes of job satisfaction and organisational commitment as the competing predictors for PSOB in the analysis.

The third and final aim of the thesis is to explore the potential antecedents of affect at work. Whereas dispositional determinants are relatively well recognised as antecedents of affect, situational determinants are not. Building on the theoretical and empirical literature on the antecedent of affect as well as of job attitudes and stress, a series of situational factors, including social and job-related ones, are proposed as potential determinants of job affect. The proposed antecedents, both dispositional and situational, are then empirically tested using the sample of nurses covered in the study. Additionally, the proposed antecedents of job affect are examined as potential predictors for PSOB, mainly to observe the role of job affect as a mediator between the antecedents and prosocial behaviour at work.

Figure 2.1 summarises the three main aims of the thesis and serves as a point of reference for the detailed chapter plan outlined. In Chapter 3, the methods chapter, the research setting and the data-collection procedures are described. The characteristics of the sample are also described. In Chapter 4, the first research aim is explored (numbered "I" in Figure 2.1). Namely, the structure of affect is theoretically discussed and empirically tested with the nursing data. In Chapter 5, the affect-prosocial organisational behaviour relationship is examined ("IIa" in Figure 2.1). Specifically, based on the results of Chapter 4, positive and negative affect, operationalised as enthusiastic and slightly depressed moods, respectively, are proposed and empirically tested as determinants of two main forms of prosocial organisational behaviour, altruism and continuous improvement. The affect-prosocial behaviour relationship is further explored in Chapter 6. In this chapter, two key job attitude variables, namely job satisfaction and organisational commitment, are added to the analysis ("IIb") with a view to determining whether job affect continues to explain a significant proportion of the variance in PSOB above and beyond that explained by these two job attitudes. Finally, the antecedents of job affect are explored in Chapter 7 ("III"). The links between these antecedents and the two forms of PSOB are also

examined in this chapter focusing, in particular, on the extent to which these links are mediated by job affect (III and IIa in Figure 2.1). In Chapter 8, the main findings of the research are summarised and discussed, along with the limitations of the study and suggestions for future research.



*PSOB : ProSocal Organisational Behaviour
PSOB-Alt : ProSocial Organisational Behaviour-Altruism
PSOB-CI : ProSocial Organisational Behaviour-Continuous Improvement

Figure 2.1 *Pictorial presentation of the research plan*

Chapter 3 Research setting and Methodology

Chapter 3 Research setting and Methodology

This chapter is divided into four sections. In the first section, I describe the broader research context where the present study was undertaken. In the second section, the data collection procedures and the main research methodology are described. As the main research method involves a questionnaire survey, the content of the questionnaire is also outlined. Then, based on the data collected from the survey, the characteristics of the sample are described. Finally, several methodological issues relating to the present research strategy are discussed.

3.1 Research Setting

The National Health Service (NHS) is Europe's biggest employer (Department of Health, 1998) employing over 1 million people, which comprise five per cent of the UK workforce (Borrill, Wall, West, Hardy, Shapiro, Carter, Golya, & Haynes, 1996). According to a recent survey (Smith & Seccombe, 1998), the majority (around 70%) of registered nurses in the UK work in the NHS. Nurses also constitute the single largest occupational group within the entire NHS, accounting for approximately 40 per cent of the workforce (Smith & Seccombe, 1998).

Through the 1990s national policy-makers in health, as in other public services, have sought to devolve more and more responsibility for decision-making to a level closer to where the work was done, closer to the patients. The introduction of NHS Trusts reflects this emphasis on devolved independent decision-making as well as increased responsibility at local level. Following the introduction of 57 "first wave" Trusts in 1991 (Seccombe & Ball, 1993), over 350 independent NHS Trusts were established by 1996. Compared to non-Trust NHS nurses, the vast majority of NHS Trust nurses work in hospital units (Seccombe & Ball,

1993). The research site for the present study is one of the hospital Trust units in London operating within the North Thames NHS Region.

In January 1996 the British Medical Association (BMA) and Royal College of Nursing (RCN) were approached to get support for the research and facilitate access to likely research sites. Following preliminary discussions, a senior BMA research officer and an RCN union official recommended and provided introductions to five London-based Trusts as potential sites for the research. All five Trusts were visited and, after discussions with senior management in each Trust, permission for the study was obtained from two of them in May 1996, both belonging to the same Health Authority. In the first of these two Trusts, an Acute hospital-based Trust located in East London, full research access was obtained; while within the second Trust, a mixed hospital- and community-based Trust also located in East London, only limited access was agreed. I therefore decided to use the second Trust as a pilot study site, and the first as the main location for the research.

3.2 Data collection

The pilot study

A small-scale pilot study was conducted in June and July 1996 before the main data collection began. The pilot study was designed to gather preliminary information about nursing work itself, and to pre-test the survey instrument which would be used for the main data collection. The pilot study site was located within the same Health Authority where the main study was planned. Fifteen nurses from five different specialities with varying clinical grades were interviewed during their working hours. Each respondent was individually interviewed for about one and a half to two hours. The aim of the first eight interviews was to collect broad information and gain a further qualitative understanding of nursing work in general. The interviews were semi-structured

with five different sections. Each interviewee was asked: a) to provide a general description of their daily work; b) more specific questions about how their work was organised, in terms of autonomy and control, work demands, and so on; c) about the nature of the relationship with other nursing staff, supervisors, other professionals, and the management; d) about the nature of the relationship with patients and their families, and finally; e) about their general attitudes towards their work, their occupation, and the Trust.

The information obtained from these interviews was used to refine the main survey items included in the structured questionnaire which was used as the main research instrument in the study. The questionnaire was pre-tested with seven of the nurses who participated in the pilot study. The pre-test sessions were designed as face-to-face semi-interviews; the respondents were first allowed to complete the questionnaire and then interviewed. The main objective of the pre-test was not to check scale reliabilities and validities, but rather to: a) ensure that the item wordings were understandable and appropriate for the particular nursing occupational context; b) estimate the actual completion time, and; c) benefit from any additional feedback or suggestion from the respondents.

The main survey

The main study was conducted between September and December 1996 in a relatively large Acute hospital employing about 1400 staff, including just over 500 nursing staff at the time of the research. This hospital is one of the thirty-two largest Acute hospitals which provide 24-hour emergency services in inner London. A separate, smaller mental hospital was also a part of the Trust. But the research access was negotiated only with the larger part of the Trust, and therefore the mental hospital was excluded from the research.

The entire qualified nursing staff population in the hospital (n=507) was included in the survey which served as the main research instrument for the

study. The study itself, including the survey, was explicitly endorsed by the local Health Authority and supported by the Nursing Director, as well as by the trade unions at the Trust. A key concern was to achieve a good response rate in the survey. For this reason, during the two weeks I spent at the hospital familiarising myself with the organisation, I approached and informally interviewed as many individual nurses as possible across the hospital in order to publicise the research and gain their confidence. In addition, information about the research was displayed on noticeboard further to encourage nurses' participation in the survey. All communications about the research contained my name, e-mail address and telephone number, and potential respondents were encouraged to make contact if they had any queries about the survey or its aims.

The survey questionnaire itself was distributed to all 507 qualified nursing staff working in the hospital. Up-to-date names and work addresses of all qualified nursing staff within the hospital were obtained from the Human Resource department a week before the delivery of the questionnaire. The questionnaires were sent to the individual respondents' work addresses with a covering letter assuring confidentiality and anonymity to respondents, and indicating that the research was endorsed by the local Health Authority and supported by the Nursing Director of the hospital and the trade unions. A postage-paid self-addressed envelope was enclosed in each questionnaire, and respondents were instructed to send back the completed questionnaire directly to the researcher at the London School of Economics within two weeks of receipt. After two weeks a reminder letter was displayed on the noticeboard in each Ward.

The content of the questionnaire

The questionnaire is divided into four main sections covering information relating to: (i) biographical factors (e.g., job title, clinical grade, speciality); (ii) work-related factors (e.g., job control, variety, work demands); (iii) job affect and well-being (e.g., job affect, mental and physical health); and (iv) work-

related attitudes and behaviours (e.g., organisational commitment, job satisfaction, prosocial behaviours). A copy of the survey instrument can be found in Appendix B.

In the biographical section, respondents were asked to provide: (a) details of their employment – i.e. job title, speciality, clinical grade, length of time in current post, number of years as an employee with the Trust, length of service as a qualified nurse, type of work contract and details of hours worked, shift pattern and nursing care system they worked in; and (b) personal details – i.e. gender, marital status, age.

The second section of the questionnaire includes work-related factors which are likely to affect nurses' affective experiences within the NHS setting. Based on a thorough search of the literature, several key work-related factors were identified. These were operationalised by developing measures based on the following established self-report scales: job control and cognitive demands (Wall, Jackson, & Mullarkey, 1995); workload demands (Caplan, Cobb, French, Harrison, & Pinneau, 1980); task variety (adapted from the Job Diagnostic Survey, Hackman and Oldham, 1975); and supervisory support and peer support at work (adapted from Caplan, et al., 1980). The wording and content of the items in each scale were amended where necessary to ensure relevance to the nursing context. Personality disposition measures of positive and negative affectivity (Price & Mueller, 1986a) which are likely to influence nurses' current affective experiences were also included. The work-related factors and personality disposition measures included in the survey are briefly described in Table 3.1. Factor analyses and reliability analyses confirmed the psychometric adequacy of the scales. The details of the psychometric properties of each scale used in the research are reported in Chapter 7 where the scales are used.

The third part of the questionnaire includes job affect and well-being scales. The job affect scales were adapted and revised from three sources, Burke, Brief, George, Roberson, & Webster (1989), Warr (1987, 1990) and Watson &

Tellegen (1985). The well-being scales included the twelve-item version of the General Health Questionnaire (GHQ-12: Goldberg, 1972), and the Somatic Symptoms scale of Caplan, Cobb, French, Harrison, & Pinneau (1980). The GHQ-12 was originally designed by Goldberg (1972) as a self-administered screening test for detecting minor psychiatric disorder in the general population. It covers feelings of strain, depression, inability to cope, anxiety-based insomnia, lack of confidence and other psychological problems. Research suggests that the results from the GHQ-12 generally parallel those of more specific measures of well-being such as job-related anxiety, depression and job satisfaction, which were also included in the present research (Borrill, Wall, West, Hardy, Shapiro, Carter, Golya, & Haynes, 1996). The GHQ-12 was included, therefore, primarily to serve as a criterion for the job affect scales developed for the present research. Similarly, the Somatic Symptoms scale was also included primarily to provide a criterion for the new measures of job affect. The relationship among these variables is discussed in detail in Chapter 4.

The final part of the questionnaire includes scales for the following work-related attitudes and prosocial behaviours: organisational commitment (Cook & Wall, 1980), overall job satisfaction (Price & Mueller, 1986a), altruistic forms of prosocial organisational behaviour (PSOB-Alt: adapted from Organ, 1988a), and continuous-improvement forms of prosocial organisational behaviour (PSOB-CI: adapted from Peccei & Rosenthal, 1997). These scales are described briefly in Table 3.1, and the details of the psychometric properties of each are reported in Chapters 5 and 6 where the scales are used.

Table 3.1

Description of scales used in the research

Scale name	No. of items	Coefficient alpha	Scale description
Job affects	20 (5 for each sub-scale)	.84 - .91	The extent to which nurses experience positive and negative moods in their workplace
Prosocial organisational behaviours			
PSOB-Alt	3	.72	The extent to which nurses engage in generalised helping behaviours
PSOB-CI	3	.85	The extent to which nurses engage in thoughts and suggestions for the improvement of patient care
Job attitudes			
Job satisfaction	4	.81	The extent to which nurses are satisfied with their job
Organisational commitment	6	.82	The extent to which nurses are committed to their Trust
Job characteristics factors			
Job control	6	.91	The extent to which nurses can choose how they carry out their work
Cognitive demands (attentional/problem-solving)	4/4	.82/.75	The extent to which nurses require to use the cognitive effort to carry out their job
Task variety	3	.68	The extent to which nurses' tasks and duties are repetitive
Workload demands	4	.82	The extent to which nurses have the time and resources to carry out their job

Table 3.1 (continued)

Scale name	No. of items	Coefficient alpha	Scale description
Social factors			
Supervisor support	4	.89	The extent to which nurses receive support and encouragement from their immediate superior
Co-worker support	4	.88	The extent to which nurses receive practical and emotional support from their peers
Personality dispositions			
Positive affectivity	4	.69	Individual's predisposition to experience external events in a positive way
Negative affectiviey	4	.73	Individual's predisposition to experience external events in a negative way

Response rate

A total of 224 completed questionnaires was returned out of the 507 that were distributed, yielding a 44.2 per cent response rate. The sample covers a broad range of specialities among nursing respondents (e.g., surgical, medical, A&E, intensive care, etc.), as well as diverse categories of clinical grade (D, E, F, G, H, I, senior nurse manager). Although the response rate of 44.2% is relatively high, whether the respondents who returned the questionnaires constitute a representative sample from the entire nursing population of the hospital is an open issue. Two different types of data obtained from the organisation were used to check the representativeness of the sample, namely information about the distribution of clinical grades of the qualified nursing population within the

hospital, and information about the proportion of qualified nursing staff working across different "directorates" in the organisation. The hospital classified all nursing staff in terms of five directorates: Accident & Emergency, Surgery, Medicine, Reproduction Health, and Corporate Management. For instance, within the Medicine directorate nurses worked in one of eight Wards, while nurses in the Surgery directorate worked within the Theatre or Intensive Care Unit or one of four other Wards, and nurses in other directorates worked in one of several sub-units.

Table 3.2 compares the numbers and the proportions of questionnaires that were distributed to and returned from each of the five directorates. The percentages of distributed and returned questionnaires by directorate did not seem to be drastically different. In other words, the proportion of respondents across the different directorates was almost identical to the proportion of the entire population across the directorates (e.g., Surgery directorate, population: 25.2% versus sample: 24.8%). The biggest gap was observed between the proportions for the Medicine directorate, 19.3% for the population and 22.5% for the respondent sample, yet the difference was only 3.2%. Similar results were obtained when the percentages of distributed and returned questionnaires were compared in terms of clinical grade (Table 3.3). In terms of clinical grade, though, the higher grades (G and above) seemed slightly over-represented (population: 19.5% versus sample: 26.0%), whereas the lowest grade D seemed relatively under-represented (population: 23.7% versus sample: 18.8%). Taken as whole, however, the above results are quite reassuring concerning the potential representativeness of the sample.

Table 3.2

Numbers and percentages of questionnaires distributed and returned by directorate

Directorate	Distributed (Population)	Returned (Sample)
Medicine	98 (19.3%)	49 (22.5%)
Surgery	128 (25.2%)	54 (24.8%)
A&E	65 (12.8%)	24 (11.0%)
Reproduction Health	189 (37.3%)	75 (34.4%)
Corporate management	27 (5.3%)	16 (7.3%)
		(missing=6)
Total	507	224 (valid=218)

Table 3.3

Numbers and percentages of questionnaires distributed and returned by clinical grade

Clinical Grade	Distributed (Population)	Returned (Sample)
D	120 (23.7%)	39 (18.8%)
E	123 (24.3%)	43 (20.7%)
F	182 (36.5%)	72 (34.6%)
G+	99 (19.5%)	56 (26.0%)
		(missing=16)
Total	507	224 (valid=208)

3.3 Description of the sample

The respondents' average age was 33.4 (s.d. = 8.7), 91% were female, and the average occupational tenure, measured in terms of the length of time since respondents had formally qualified as nurses, was 10.5 years (s.d. = 8.35). The average length of service with the Trust was 4.37 years (s.d.=4.42), and the average length of time in current post (in years) was 4.0 (s.d.= 5.25). Compared to figures from some of the latest large-scale national survey reports currently available, for instance Smith and Seccombe's (1998) random survey sample of 3,366 UK registered nurses, it would appear that the nurses in the present sample were younger than those in the NHS as a whole (the average age of NHS nurses was 38.5 years). The frequency distribution of the nurses across age-groups is shown in Table 3.4.

Table 3.4

Frequency distribution of nurses across age groups

Age group	N	%
– 25	39	17.7
26 – 35	118	53.6
36 – 45	36	16.4
46 – 55	21	9.5
56+	6	2.7
	(missing=4)	
Total	224 (valid=220)	

In terms of clinical grade, 19% of the nurses in the present sample had a "D" grade which is the lowest within the clinical ladder. The percentages in grades "E," "F," and "G and above" were 21%, 35% and 26% respectively (see Table 3.5). The comparable clinical grade distribution from Smith and Seccombe's (1998) survey (D=25%, E=37%, F=13%, G=23%) suggests that higher grades (F and G) were over-represented in the present sample. This reflects the nature of the hospital and the fact that the present sample included a large proportion of midwives who mainly belonged to the higher "F" grade.

Table 3.5

Frequency distribution of nurses across clinical grades

Clinical Grade	N	%
D	39	18.8
E	43	20.7
F	72	34.6
G+	56	26.0
	(missing=16)	
Total	224 (valid=208)	

In terms of functional grade or job title (see Table 3.6), three main categories represented 85% of the sample: staff nurse (39%), staff midwife (19%) and sister/senior nurse/manager (29%) (Table 3.6). When the functional and clinical grade distributions were compared, the vast majority (92%) of staff nurses fell within the D (45%) or E (47%) grades, 91% of staff midwives were in the F grade, and Ward sisters were mainly classified as either F (39%) or G (49%).

Table 3.6

Frequency distribution of nurses across functional grades (job titles)

Functional Grade	N	%
Staff Nurse	86	38.7
Staff Midwife	43	19.4
Sister/Senior Nurse/Manager	64	28.8
Other	28	12.6
	(missing=2)	
Total	224 (valid=222)	

Nursing models

In terms of the way nursing work is organised, a great deal has been written about the efficacy of various care delivery models (Boumans & Landeweerd, 1992; Landeweerd & Boumans, 1994). In general, the focus has been on comparing and contrasting one model of nursing organisation with another and the models most frequently compared are "team nursing" versus other types ("primary nursing" in particular) of nursing systems (Landeweerd & Boumans, 1994). Within a "team nursing" organisation, nurses work together in small groups, each group being led by one nurse. The team is responsible for a group of patients throughout their stay in hospital. On the other hand, within a "primary nursing" system, a qualified nurse has 24 hour responsibility for the care of a group of patients throughout their stay in hospital. This nurse is supported by an associate nurse and health care assistants. Under a "patient allocation" system each nurse looks after the needs of an allocated group of patients for the duration of the shift. Where "task allocation" is applied, on the other hand, each nurse is responsible for doing a specified set of tasks, for all patients on the ward.

Team nursing has been frequently compared to the "autonomous work group" concept in the standard job redesign literature (Landeweerd & Boumans, 1994). In this type of care model, team members work closely together and have a greater level of responsibility than under the other three types of care models. Hence, individual team members are more interdependent with one another while carrying out their tasks and therefore good working relationships with other team members are deemed to be particularly important.

Table 3.7 shows the proportion of nurses in the sample working under different nursing models. Among the four main nursing care models, "Team nursing" is by far the most prevalent (64%), followed by "Patient allocation" (15%), "Primary nursing" (5%), and "Task allocation" (3%), respectively.

Table 3.7

Frequency distribution of nurses working in different nursing care models

Nursing model	N	%
Team Nursing	141	64.4
Patient Allocation	33	15.1
Primary Nursing	10	4.6
Task Allocation	6	2.7
Other	29	12.9
	(missing=1)	
Total	224 (valid=223)	

Other characteristics of the sample

The means and standard deviations of all the main study variables are shown in Table 3.8. While these scores will be discussed in greater detail in later chapters where the variables are used, it is worthwhile to comment briefly on some of the variables here to get an overview and better understanding of the characteristics of the present sample. Three variables, in particular, are of interest in this respect: a) general mental health measured by the GHQ-12, b) job satisfaction, and c) organisational commitment.

The mean scores for job satisfaction and organisational commitment did not appear particularly positive. On a 7-point scale, the mean job satisfaction score for the present sample was 4.91 (s.d.=1.25). This does not, however, seem unusual, compared to other larger national surveys of nurses. Other studies have frequently reported that, due to various reasons such as low pay or staff shortages, nurses are not particularly satisfied with their job (e.g., Buchan & Seccombe, 1991; Seccombe & Ball, 1993; Smith & Seccombe, 1998). The mean score for organisational commitment was even lower at 4.03 (s.d.=1.32), barely reaching the midpoint on a similar 7-point measuring scale. Whether this is an unusually low score for nurses though, is difficult to say since most studies targeted at nurses do not measure their level of organisational commitment. Compared to other occupational samples, however, the score of the present sample appears rather low given that workers' mean organisational commitment scores have frequently been reported in UK studies to be as high as 5.0 or above on a 7-point scale (e.g., Fenton-O'Creek, Winfrow, Lydka, & Morris, 1997; Warr, Cook, & Wall, 1979)

Table 3.8

Means and standard deviations of the main study variables

Variable	*Mean*	*s.d.*
GHQ-12*	12.44	5.76
Job satisfaction	4.91	1.25
Organisational commitment	4.03	1.32
Job affect-enthusiasm	2.99	1.02
Job affect-comfort	2.55	0.92
Job affect-anxiety	2.37	0.98
Job affect-depression	1.91	0.89
PSOB-Alt	5.11	1.14
PSOB-CI	5.58	1.03
Job control	5.05	1.31
Attentional demands	5.91	0.99
Problem-solving demands	4.98	1.15
Task variety	5.20	1.11
Workload demands	4.69	1.34
Supervisory support	3.93	1.58
Colleague support	4.42	1.44
Positive affectivity	4.62	1.10
Negative affectiviey	3.89	1.39

Note. * The GHQ-12 scores range from 0 to 36 with higher scores indicating poorer mental health. Job affects were measured on a 5-point scale. All other variables were measured on a 7-point scale.

The GHQ-12 scores were first calculated by using the Likert-method[8], yielding 36 as the highest score indicating poorest mental health. The mean score of the present sample was 12.44 (s.d.=5.8) and does not seem particularly positive. For instance, in their validation studies with three different samples comprising employed workers (n_1=659), school-leavers (n_2=647), and the unemployed (n_3=92), Banks, Clegg, Jackson, Kemp, Stafford, and Wall (1980) reported GHQ-12 scores ranging from 7.86 (for a sub-sample of male school-leavers) to 15.61 (for a sub-sample of unemployed males). Among their sub-samples, the score for employed females was 8.53 and for unemployed females 14.25. In other words, the score of 12.44 for the present sample is far higher (i.e. poorer mental health) than that of the employed female sample of Banks et al. (1990), but is lower than that of their unemployed female sub-sample.

When the GHQ scores for the present sample of nurses were calculated using the GHQ-method, the original scoring method designed to identify probable "cases" of minor psychiatric disorder (Banks, et al., 1980), the resulting figures still seem rather high. The threshold used for case classification has varied in practice, and a conservative choice was made in the present study using "scores above 3" (referred to as 3/4) as the cut-off point. As a result, 34.4% of the nurses in the present sample fell above the cut-off point. This figure, compared to a reported figure of 28.5% from Borill et al.'s (1996) sample of 4,087 NHS Trust nurses, suggests that the general mental health of the present sample is slightly poorer.

[8] There are two different scoring schemes for the GHQ: the GHQ-method and the Likert-method. The scores based on the GHQ-method are calculated by counting the number of items which fall in the higher two response categories, yielding GHQ score ranges from 0 to 12. On the other hand, the Likert-method assigns 0, 1, 2, and 3 for each response category and then adds the values of the twelve items to calculate an overall GHQ score, yielding score ranges from 0 to 36.

Control variables

Several background or biographical factors may be closely related to the main research variables in the present study. These are therefore introduced as control variables throughout the analyses. Some of them may themselves be potentially important explanatory variables for job affects, attitudes and behaviours. However, they are only introduced in the analyses for control purposes since they are not the central interest of the present study. The zero-order correlations between the proposed control variables and the main research variables are reported in Table 3.9.

Table 3.9

Zero-order correlations between the control and the major study variables

Study variables \ Control variables	Age	Tenure (Post)	Clinical Grade[+]	Gender[++]	Social Desirability
Positive affect (enthusiasm)	.07	-.03	.26**	-.00	.17*
Negative affect (depression)	-.20*	-.11	-.24**	.09	-.26**
PSOB-Alt	.09	.06	.12	-.02	-.01
PSOB-CI	.25**	.21**	.23**	-.02	.18**
Job satisfaction	.13	.05	.20**	-.04	.25**
Organisational commitment	.30**	.19**	.33**	-.06	.28**
Job control	.14*	.13*	.31**	-.10	.21**
Cognitive demands	.01	.00	.12	.03	-.13
Workload demands	.13	.10	.20**	.01	-.04
Task variety	.07	.08	.19**	-.09	.12
Supervisor support	-.04	-.12	.10	-.01	.12
Co-worker support	-.02	-.05	-.03	.00	.00
Positive affectivity	.14*	.03	.10	-.10	.19**
Negative affectivity	-.22**	-.13*	-.06	-.01	-.20*

Note. ** $p < .01$, * $p < .05$. [+] Ordinal variable (Spearman's rho measures are reported), [++] dummy coded (high value representing female group). *PSOB-Alt* : Prosocial organisational behaviour-altruism, *PSOB-CI*: Prosocial organisational behaviour-continuous improvement.

For instance, clinical grade is significantly related to a number of the main research variables such as positive and negative job affect, PSOB-CI, job attitudes, job characteristics and affective dispositions. Age as well as tenure (in current post) are also significantly related to some of the core study variables including PSOB-CI, organisational commitment, job control and negative affectivity. In addition to the biographical variables, a four-item "social desirability" scale selected from Robinson and Shaver's (1973) scale handbook and originally developed by Crowne and Marlowe (1964), is included in the analyses for control purposes. Since all the variables used in the present study are based on self-report measures, respondents' motivational bias, specifically individuals' tendency to respond to the survey questions in a *socially desirable* way, might affect their responses. The social desirability (or SD for short) scale is, therefore, introduced partly to minimise this potential bias in the study. The scale consists of four items. Each item was presented with a forced-choice dichotomous format to respondents who were asked to indicate whether each statement describes them or not. The items included were: i) There have been times when I was quite jealous of the good fortune of others; ii) I sometimes think when people have a misfortune they only got what they deserved; iii) I can remember 'playing sick' to get out of something; iv) I am always courteous, even to people who are disagreeable. The social desirability score was calculated by counting the number of items respondents responded to in a *socially desirable* way.

Table 3.9 show that the SD measure is significantly correlated with some of the main study variables including, for example, job affects, PSOB-CI, and some of the job attitude measures. Although significant, none of these correlations is particularly strong suggesting that social desirability effects may not, in any case, be all that marked in the present study.

3.4 Discussion

With respect to the research methodology adopted in the present study, and in particular in terms of the research design and the measurement strategy used, there are several issues that arise and that need to be addressed. First, the core variable which the present study looks at is a very complex phenomenon, *affect*. There are good reasons for arguing that such a complex phenomenon should be explored with more in-depth, qualitative methods rather than with a structured questionnaire-based survey methodology. No doubt it is worthwhile to explore individual nurses' affective experiences in such a qualitative way. However, the major aim of the present study is a better understanding of *the structure* of job affect, and this requires a rather large sample for the analytical strategy. Hence, the adoption of a more structured, quantitative method seemed appropriate in the present case. This is also the most common method that other researchers have used for the study of affect structure (e.g., Burke, Brief, George, Roberson, & Webster, 1989; Russell, 1979, 1980; Watson, Clark, & Tellegen, 1988; Watson & Tellegen, 1985; Warr, 1987, 1990).

Second, the present study uses a fairly restricted sample, a sample from a single occupation in one organisational unit. Therefore, the genaralisability of the findings might be open to question. For the purpose of generalisation it would clearly be best to use a random sampling strategy on a larger population of respondents and, for instance, cover a large sample selected from different occupations across several organisational units. However, the present study is intentionally focused on a particular occupation, nursing. This is because it was thought that nursing as a so-called affective occupation, involving relatively highly-skilled jobs, would best serve the main aims of the present research. Ideally a larger study covering a larger sample of nurses working in several NHS units would have been preferable. But limitations of time, access and resources made this impossible. Having said this, however, it should be emphasised that the NHS Trust unit examined in the present study does not

appear to have been particularly unique or atypical of the NHS. As an Acute unit it represented the most common type of hospital unit in the NHS and was one of the thirty-two biggest hospitals in inner London providing 24-hour Accident & Emergency service. In addition, the response rate to the survey was reasonably good (44.2%), and the final sample size was sufficiently big to carry out complex analyses (n=224). Finally, there also seems to be no strong reason to suspect that the nurses who responded to the survey were strikingly different from the non-respondents, although how the non-responses might in fact have affected the results is impossible to say.

Third, the present study includes some forms of causal analyses based, for example, on multiple regression. With cross-sectional data causality testing might be subjected to serious criticisms. On the other hand, it should be noted that non-cross sectional, longitudinal studies do not necessarily provide safe grounds for causal reasoning. It is also well known that causal inferences in the social sciences, unlike in the physical sciences, depend and have to rely more strongly on the underlying theoretical reasoning advanced in support of particular propositions than on empirical tests of temporal ordering (Karpinski, 1990; Yin, 1994).

Fourth, the present study is a self-report study as well as being a cross-sectional one. It is known that there are contamination effects linked to the use of self-report measures (Spector, 1987b). For instance, self-report measures are known to be subject to motivational biases such as social desirability (SD). Social desirability is the tendency for a respondent to choose a socially desirable response, regardless of the veracity of that response (Spector, 1987b). The problems surrounding the SD issue are of particular concern in the measurement of affective and perceptive responses. On the other hand, as noted by Howard (1994), the question arises as to what measurement strategy should be used instead of a self-report, and whether alternative measurement strategies are less fallible than self-reports. For instance, alternative strategies such as behavioural, significant other, or expert-judge assessments all have their own weaknesses,

and the validity of these alternatives may not be superior to self-reports (Howard, 1994). In many cases, in fact, the construct validity of self-reports has been found to be superior to the validity of other measurement approaches (e.g., Cole, Howard, & Maxwell, 1981; Cole, Lazarick, & Howard, 1987; Howard, Maxwell, Weiner, Boynton, & Rooney, 1980). Moreover, as is known, some well-developed instruments are relatively robust to biases such as social desirability (e.g., Howard, 1994).

Finally, in relation to the self-report issue, common method variance is a frequent problem identified with respect to research where data are collected by questionnaire methods and where affective and perceptual measurements constitute the main research variables. The problem here concerns variance in measurement attributable to the particular instrumentation used rather than to the construct of interest (Spector, 1987b). This potentially affects the validity of self-report studies because the common sources of bias associated with the measurement instruments, such as acquiescence and social desirability, will be correlated and may produce spurious results where the real relationships may not exist or be very weak. However, as noted by Spector (1987b), careful research design such as using valid, multiple-item instruments can help to minimise the potential problems. Careful statistical analysis and manipulation can also contribute to minimise the problem. For instance, acquiescence, response set, and/or SD may be directly tested for in the data set or statistically controlled. It might not, in any case, be so easy to argue that all the findings observed in self-report studies, the non-significant findings as well as the significant ones, are solely due to methodological artifacts. Without a doubt, however, the interpretation of self report studies, including the present research, requires considerable caution.

I will return to some of the above problems and issues at various points in the thesis as well as in the concluding chapter. Having described the research setting and methodology I will now move on the core of the thesis and begin by looking at the structure of affect.

Chapter 4 The structure of affect

Chapter 4 The structure of affect

The examination of the structure of affect involves studying particular affects *in relation to* other affects. For instance, if one feels happy, what is the likelihood of also feeling sad, and what about feeling comfort? Are certain affective states compatible whereas others are not? Does any change of experience in a particular affect lead to a change in other affective experiences? Recently, a great deal of discussion has focused on the structure of affect (e.g., Bradburn, 1969; Burke, Brief, George, Roberson, & Webster, 1989; Costa & McCrae, 1980; Diener & Emmons, 1984; Plutchik, 1980; Russell, 1978, 1979, 1980; Watson & Tellegen, 1985; Warr, 1987, 1990; Warr, Barter, & Brownbridge, 1983; Zevon & Tellegen, 1982). Some of these authors' interests are rooted in the mainstream psychological study of *moods* and/or *emotions* (Russell, 1978, 1979, 1980; Pluchik, 1980), or *personality dispositions*[9] (Costa & McCrae, 1980; Watson & Tellegen, 1985; Zevon & Tellegen, 1982). Others' are linked to more practical concerns regarding the measurement of *psychological well-being* or *happiness* (Bradburn, 1969; Diener, 1984; Warr, 1987, 1990), or the evaluation of *job affect* and *job attitudes* (Burke, Brief, George, Roberson, & Webster, 1989; Warr, 1990).

In this chapter, the *structure of affect* is explored. At the beginning of the review section, studies of psychological well-being which opened up the debate on the independence of positive and negative affect are introduced. Secondly, two-dimensional approaches to the analysis of affect structure, which include Russell's circumplex model, Warr's affective well-being model, and Watson & Tellegen's PA-NA model are described. In the measurement section, the three major affect scales used in the literature are critically evaluated, and the affect terms used in the present study are described. In the next section, the main

[9] Positive affectivity and negative affectivity have been proposed by Tellegen (1985) as stable personality dispositions. The two constructs are assumed to be mutually exclusive and independent of each other, for instance, an individual can have high scores both on positive and negative affectivity.

model of affect used in the present study, namely a unipolar four-factor model, is proposed and then tested using data from the sample of NHS nurses who participated in the present study. The results of confirmatory factor analyses are presented for the proposed four-factor model and for a competing two-factor model. This is followed by a series of validation tests for the proposed four-factor model. The implications of the results are discussed at the end of the chapter.

4.1 Independence of positive and negative well-being

Bradburn's (1969) study of "*The structure of psychological well-being*" heralded a new era in structural approaches towards *affect*. In his pioneering study, Bradburn offered empirical evidence that well-being is not a unitary construct but is composed of two separate feelings: positive and negative affect. He examined individual's psychological well-being with a ten-item scale, five items measuring positive affect and five for negative affect. Respondents were asked to indicate whether they had experienced any of the ten feelings in the past few weeks. Traditionally, positive and negative feelings were believed to be negatively correlated, therefore, an increase in the degree of positive affect will automatically accompany a decrease of negative affect and vice versa. Instead of the expected negative association between the two aspects of well-being, Bradburn's results showed very low correlations between positive and negative affect items. In addition, positive and negative affect correlated differently with various external variables. For instance, his measure of negative affect was found to be significantly associated with self-reports of anxiety, poor health, and recent interpersonal difficulties, but the positive measure was not. Similarly, the positive index was significantly associated with higher social contact and participation in new activities which, in turn, were uncorrelated with negative affect.

The findings of Bradburn (1969) provoked a considerable amount of interest among researchers partly due to the counter-intuitivenss of the results. As more studies followed, the overall pattern of findings has usually been replicated by other researchers (Andrew & Withy, 1976; Diener & Emmons, 1984; Diener, Larsen, Levine, & Emmons, 1985; Moriwaki, 1974; Watson, Clark, & Tellegen, 1984; Zevon & Tellegen, 1982). The independence of the two affect dimensions has been supported by studies with diverse samples such as university students (Diener & Emmons, 1984; Zevon & Tellegen, 1982), adults from various occupations (Andrew & Withey, 1976), and respondents from different age groups(Moriwaki, 1974) and cultures (Watson, Clark, & Tellegen, 1984). The relationship has also been confirmed with different methods, for instance, using various time frames for measuring affect ranging from a year to a moment (Diener & Emmons, 1984), different response formats such as frequency-based and intensity-based formats[10] (Diener, Larsen, Levine, & Emmons, 1985), as well as using an idiographic approach (Zevon & Tellegen, 1982).[11]

Besides the confirmation of Bradburn's findings, some researchers attempted to explain why this puzzling relationship, which had never been fully accounted for before, should exist. The major explanations have been frequently related to the antecedents of affect. Specifically, positive and negative affect tend to relate to different antecedents which are themselves independent, so the two affects naturally also become independent. For instance, transient affect is believed to be a function of relatively fixed personality dispositions such as *extraversion* and *neuroticism*, with the former being more strongly correlated with positive affect than with negative affect, and the latter being more strongly correlated with negative than positive affect. In other words, separate sets of personality dispositions are responsible for positive and negative affect, respectively (Costa

[10] The frequency-format uses scale anchors such as 'all the time', ' most of the time', 'rarely', and 'never.' The intensity-format uses anchors such as 'very much', 'moderately', and 'very little'.

[11] Zevon and Tellegen (1982) had 23 subjects fill out the same mood adjective checklist for 60 consecutive days. Based on the responses, they conducted 23 within subject factor analyses. For 21 out of 23 individuals, two strong and independent factors emerged, one characterised by positive affect and the other by negative affect.

& McCrae, 1980; Warr, Barter, & Brownbridge, 1983). The independence of the occurrences of positive and negative life events has also been proposed as an explanation. Given that desirable life events are plausible causes of positive affective experiences and undesirable events are potential causes of negative affect, and the occurrences of desirable and undesirable life events are statistically independent, the two affects are also independent (Warr, Barter, & Brownbridge, 1983).

While the independence of positive and negative affect has been continuously claimed, some caveats have also been raised. For instance, positive and negative affect do not occur together at very high levels of intensity (Diener & Iran-Nejad, 1986), and the two dimensions have been found to be strongly inversely correlated when the experience of affect is reported at very short time intervals (Diener & Emmons, 1984). Methodological problems in measurement process have also been raised. Some researchers (Meddis, 1972; Russell, 1979) have argued, for example, that the methodological problems, including biases associated with self-report studies attenuate the normally high negative correlations between opposite mood terms, and so preclude the emergence of bipolar dimensions. Among the methodology-related arguments, the one that merits particularly serious consideration is that the affect terms included in the studies do not seem to adequately assess positive and negative affect (Diener & Emmons, 1984; Zevon & Tellegen, 1982). Specifically, it has been suggested that the independence of the two affects may be due to the particular items used. Therefore, it might be that only the specific feelings are independent, and that this is not so for affect measured in a broader way. Related to this is the criticism that there is no good domain or content sampling from the entire realm of positive and negative affects. This is an important point which directs attention to key issues about operationalisation and could potentially undermine the entire independence argument unless properly addressed.

4.2 Two-dimensional approaches to affect structure

It seems apparent that the operational definition of positive and negative affect in the psychological well-being research has been vague and unclear. The affect terms used to assess psychological well-being have not, for the most part, been carefully selected; the only criterion for inclusion, particularly in early studies, seeming to be that the terms should represent either positive or negative affective tone. Whereas the conceptualisation of affect in early psychological well-being research was rather naive, the situation was somewhat different in mainstream social psychology. Inspired by Schachter (1964) and Zajonc (1980), many psychologists have incorporated affect variables into their theories and research (e.g., Abelson, Kinder, Peters, & Fiske, 1982; Fiske, 1981) and, as a result, more attention has been paid to the adequate measurement of affect

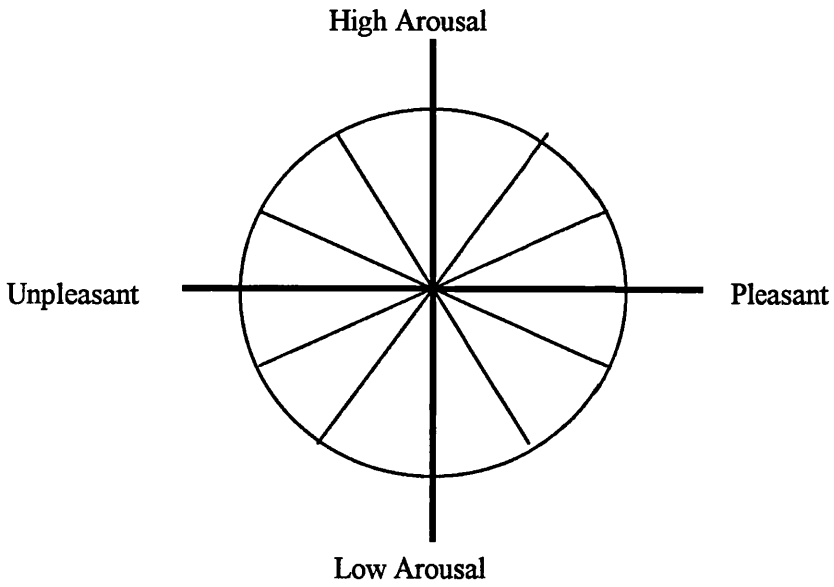
Broadly speaking, several major lines of research on affective structure indicate that individual affective experiences are interrelated and can be understood in terms of two underlying dimensions.[12] Although there is less agreement on what constitute the major two dimensions, it is relatively well established that the dimensions are interpretable as "pleasant-unpleasant" and "high-low arousal" (Russell, 1979). Three research models based on a two-dimensional approach deserve particular attention : 1) Russell's (1979, 1980) *circumplex model,* 2) Watson et al.'s (Watson & Tellegen,1985; Watson, Clark, & Tellegen, 1988) *PA-NA model,* and finally 3) Warr's (1987, 1990) *affective well-being model.* Russell (1979, 1980), for the first time, explicitly proposed two underlying dimensions to systematically represent the entire range of affective experiences, and his two-dimensional conceptualisation of affective space has had enormous influences on later structural studies. Watson and his colleagues' PA-NA model is the major affect structure model in the United States, and their PANAS scale

[12] Note that, as described the previous section, only one dimension was considered in the early psychological well-being research : "positive-negative".

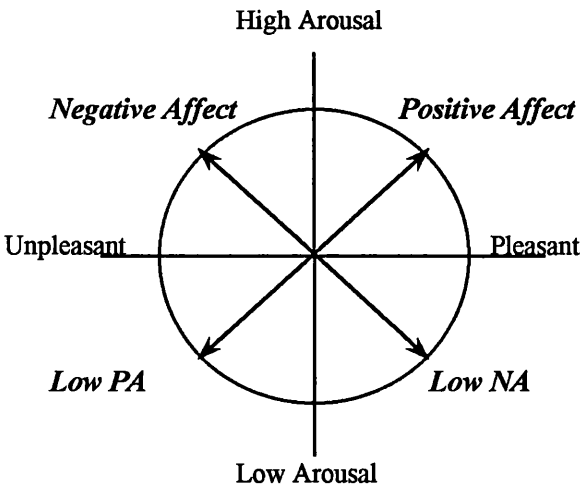
has been continuously used in major psychological studies in the US. While Watson et al.'s model dominates US studies, affect studies in the UK are mainly based on Warr's affective well-being model.

Russell's (1979, 1980) circumplex model

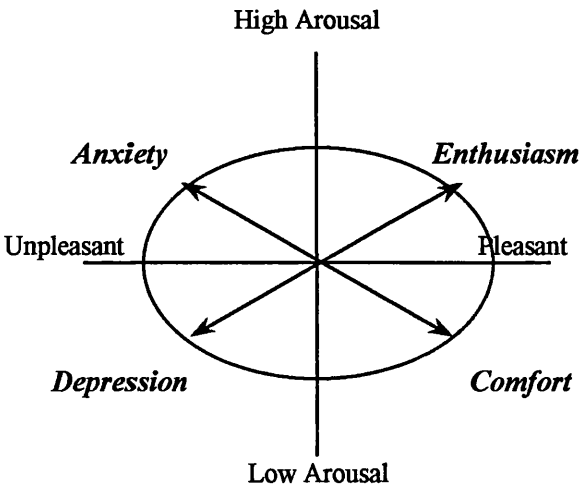
Researchers who have factor analysed self-reported affective states have typically concluded that there are between six and twelve basic affects or emotions, such as anger, fear, joy, love, sadness, surprise and the like (Ekman, 1992; Izard, 1977; Nowlis, 1965; Plutchik, 1994; Shaver, Schwartz, Kirson, & O'Conner, 1987). The assumption that each such affective concept is a separate dimension on its own is included in Tomkins's (1962) and Izard's (1972) theory of discrete emotions and in Ekman's (1993; Ekman & Friesen, 1971) cross-cultural work on facial expressions of emotion. However, the notion has also persisted that affective states are not independent of one another, but are related to each other in a highly systematic fashion. Russell (1979, 1980) proposed that affective states can be described by two underlying bipolar dimensions, namely "pleasure-displeasure," described by such terms as happy, content vs. afraid, sad; and 'degree of arousal,' described by such terms as excited, tense vs. relaxed, sleepy. This two dimensional structure can be best represented by a so-called *circumplex model* (Russell, 1979, 1980, 1983; Russell & Ridgeway, 1983) in which various kinds of affective states are organised in a circular arrangement based on two bipolar dimensions (see Figure 4.1a).



a. A Circumplex Model of Affect (Russell, 1979)



b. Watson & Tellegen (1985)



c. Warr (1987)

Figure 4.1. *Two-dimensional structure of affect.*

This diagram provides a schematic representation of a model which has been empirically substantiated in many different settings (e.g., Russell, 1979, 1980, 1983; Russell & Ridgeway, 1983). The studies include analyses of facial and verbal emotional expressions (e.g., Green & Cliff, 1975; Schlosberg, 1952), judgements of similarities among affect descriptors (e.g., Bush, 1973; Russell, 1980, 1983), and semantic differential ratings of affect terms (e.g., Block, 1957). The precise location of individual affect terms within the framework may vary slightly between studies, but the general structure is widely observed. We may view any affective state in terms of its location on the separate dimensions of pleasure and arousal. High or low levels of arousal may accompany a particular level of pleasure, and a particular level of arousal may be either pleasurable or unpleasurable. The specific quality of affect derives from both dimensions, and may be summarised in terms of location on the two separate dimensions. For instance, depressed feelings are characterised by low scores on each dimension (low level of pleasure and low level of arousal), and anxiety may be described in terms of a low score on the pleasure dimension and a high score on the arousal one (low level of pleasure and high level of arousal).

Watson and Tellegen's (1985) PA-NA model

Whereas some investigators (e.g., Russell) work with the unrotated dimensions (labelled *pleasantness-unpleasantness* and *arousal*), the varimax rotated factors have been used more extensively in the self-rated affect literature (Diener, Larsen, Levine, & Emmons, 1985; Zevon & Tellegen, 1982). Watson and Tellegen (1985) have summarised the relevant evidence and presented a two-factor model. The two factors are usually called *Positive Affect* and *Negative Affect*. They have in fact emerged as highly distinctive dimensions that can be meaningfully represented as orthogonal dimensions in factor analytic studies of affect (see Figure 4.1b). It is important to note that the terms Positive Affect and

Negative Affect used in Watson and Tellegen's (1985) model are different from those in the early psychological well-being studies.[13]

In brief, Positive Affect (PA) reflects the extent to which a person feels enthusiastic, active, and energetic. At the high pole, PA is characterised by such adjectives as "energetic", "enthusiastic" and "excited". People who report high positive affect exhibit a zest for life. At the low end, however, low PA is not the presence of negative affect. The low pole is characterised by the absence of positive affect. NA manifests itself in a different complex of feeling states. People who score high on NA report anger, nervousness, anxiety, and so on. At the low pole, NA does not involve the presence of positive affect. Rather, it involves the absence of negative affect.

Warr's (1987, 1990) affective well-being model

It is important to note that both Russell's (1979) and Watson and Tellegen's (1985) two-factor structure have emerged in non-occupational research. Russell's studies were based on samples such as college students or community adults in order to establish a universal as well as simple structure that encompasses a whole range of affective experiences. Similarly, Watson and Tellegen's PA-NA model has been developed from non-occupational samples with particular emphasis on psychometric properties of the scale items. Also important for Watson and Tellegen's PA-NA model was its link to the area of personality psychology.

As an occupational psychologist, Warr noted that many occupational researchers were deterred by the length and cumbersome language of some of the previous instruments, and were tempted to introduce their own modifications or create

[13] Watson and Tellegen's (1985) model includes an "arousal" dimension in addition to a "pleasantness" dimension, therefore, the terms Positive Affect and Negative Affect reflect both dimensions.

new scales for one-off applications (Warr, 1990). He also noted that such developments prevent the accumulation of comparative data and encourage an over-extensive range of instruments which all purport to tap the same construct. With the emphasis on practicality as well as psychometric acceptability, he hoped to develop straightforward scales that unequivocally tap the construct.

Based on the same two underlying dimensions discussed by Russell (1979), Warr (1987, 1990) proposed a two-factor affective well-being model. Instead of rather confusing terms like Positive Affect and Negative Affect [14], he labelled his two factors, by using the representative affect descriptors, *depression-enthusiasm* and *anxiety-comfort* (see Figure 4.1c). He considers both bipolar factors as important indicators of mental health, or well-being. It is important to note that the *pleasantness* dimension is empirically accorded greater weight than the *arousal* one by Warr, on the grounds that experienced pleasure may differ substantially across situations, and these differences are more likely to be reflected in well-being than variations in arousal. This view is represented in the diagram he uses (Figure 4.1c) which is an elongated shape rather than a circular one. As a result, the two dimensions become slightly associated with each other by intersecting at less than 90 degree, whereas the dimensions in a circular shape are strictly orthogonal and therefore strictly independent from each other. This implies that individuals' affective experiences vary more on the "pleasant-unpleasant" dimension than on the "high-low arousal" dimension, thereby pleasantness may, in fact, be more important for understanding the affective experiences of individuals (Warr, 1987).

[14] It is confusing in the sense that Watson and Tellegen's (1985) positive affect is a diagonal dimension covering two quadrants (in Figure 4.1), and contains negative tone at the low pole (the 3rd quadrant) as well as positive tone at the high pole (the 1st quadrant). Similarly, the negative affect dimension runs from the 2nd quadrant as a high pole through the centre point to the 4th quadrant as a low pole, and therefore, contains both positive and negative tone.

Two-dimensional models: Evaluation

As we have seen, the three models propose different dimensions for describing affective space. Russell's (1979, 1980) circumplex model has *pleasantness* and *degree of arousal* as the two underlying dimensions that allow every single affective state to be represented in a circular manner. This model has been demonstrated to be robust across multiple operations. The two dimensions have been recovered from factor analyses and multi-dimensional scaling techniques. The studies have involved semantic differential ratings of affect terms, similarity ratings among affect words, and respondents' ratings of their own affective states. The two-dimensional solution also shows up when pictures instead of words are used as stimulus materials (Russell, Lewicka, & Nitt, 1989).

Although evidence for both Watson & Tellegen's (1985) PA-NA model and Warr's (1987) affective well-being model has been limited to factor analytic research on verbal scales, the two models have also been supported by numerous studies in a variety of research settings. The relevance of these two models has been shown by demonstrating the factors' differential associations with other variables. Generally speaking, the findings from these studies indicate that the two affect factors relate to different classes of variables. The NA factor or *anxiety-comfort* dimension is related to self-reported stress (Warr, 1987; Watson, Clark, & Carey, 1988), health complaints (Watson & Pennebaker, 1989), and frequency of unpleasant events (Warr, 1987; Warr, Barter, & Brownbridge, 1983; Watson & Clark, 1984). In contrast, the PA factor or *depression-enthusiasm* dimension is related to social activity and frequency of pleasant events (Clark & Watson, 1988; Watson, 1988; Warr, 1987; Warr, Barter, & Brownbridge, 1983). PA and NA have also been shown to link closely to dispositional affect or trait affect (Tellegen, 1985; Watson & Clark, 1984; Watson, Clark, & Tellegen, 1988). NA relates to the personality dimension of *neuroticism* and PA to the dimension of *extraversion*.

However, some conceptual ambiguity regarding the two dimensions of NA and PA has been raised. In brief, most adjectives that load on either NA or PA describe only the high pole (high in terms of 'degree of arousal' dimension) for each dimension. For instance, the Positive Affect and Negative Affect Schedule (or PANAS, Watson, Clark, & Tellegen, 1988) was constructed by using exploratory factor analysis to identify items with high loadings on one dimension and low loadings on the other. Interestingly, this procedure left only items indicative of high positive affect (such as "energetic") or high negative affect (such as "anxious"). In another study, Meyer and Shack (1989) collected self-ratings on a variety of different affect descriptors. These data were factor analysed and subjected to a varimax rotation. Theoretically, several adjectives would seem to have been good markers for low NA, including "relaxed," "calm," "content," and "satisfied." However, none of these items produced clear results, mostly having similar loadings on both NA and PA. In fact "content," "satisfied," "quiet" all had higher loadings on PA than they did on NA. Similar results were obtained for low PA adjectives. Four items seemed to be good candidates for low PA, these were "sluggish," "drowsy," "sleepy," and "quiet." However, all of these items had higher loadings on NA.

Meanwhile, another question regarding the PA-NA model has been raised. Brief, Burke, George, Robinson, and Webster (1988) developed the Job Affect Scale (JAS) which comprises of 20 markers of positive and negative affect. The JAS is a 20-item self-report measure designed to assess positive and negative affect at work over a 1-week period. Although the JAS items were based on Watson and Tellegen's (1985) model, the proposed two-factor structure of the JAS has not been confirmed. Brief et al.'s (1988) exploratory analyses of their JAS data yielded five unrotated common factors with eigenvalues greater than or equal to 1 (Burke, Brief, George, Roberson, & Webster, 1989). Later, Burke, et al. (1989) hypothesised an a priori multifactor affect model as a competing model to the standard JAS Two-Factor Model. Their proposed first-order Four-Factor Model with descriptively unipolar factors provided a better fit across

their three different samples, suggesting that the structure of affect may be somewhat more complex than commonly assumed in two-factor models.

In sum, a two-dimensional understanding of affect structure has been predominantly proposed in the literature. Although there is some disagreement about how the major two dimensions should be defined, the major three structural models (i.e., Russell, 1979, 1980; Watson & Tellegen, 1985; Warr, 1987, 1990) seem uniformly to suggest that affective space is "bipolar." Specifically, they suggest that individual affective dimensions can be described in terms of two poles, one end is presumably pleasant or positive and the opposite end unpleasant or negative. However, some preliminary results, based on the same two-dimensional approach (Burke, et al., 1989), suggest that the affect dimensions may be better described as unipolar than bipolar.

4.3 The measurement of affect

4.3.1 Evaluation of existing scales

Three major affect scales were carefully reviewed and compared before selecting affect terms for the present study. The scales chosen are: 1) Watson, Clark, and Tellegen's (1988) scales (the PANAS: Positive Affect and Negative Affect Schedule); 2) Burke, Brief, George, Roberson, and Webster's (1989) Job Affect Scale (JAS); and 3) Warr's (1990, 1996) affective well-being scales. Each of these scales is briefly reviewed below.

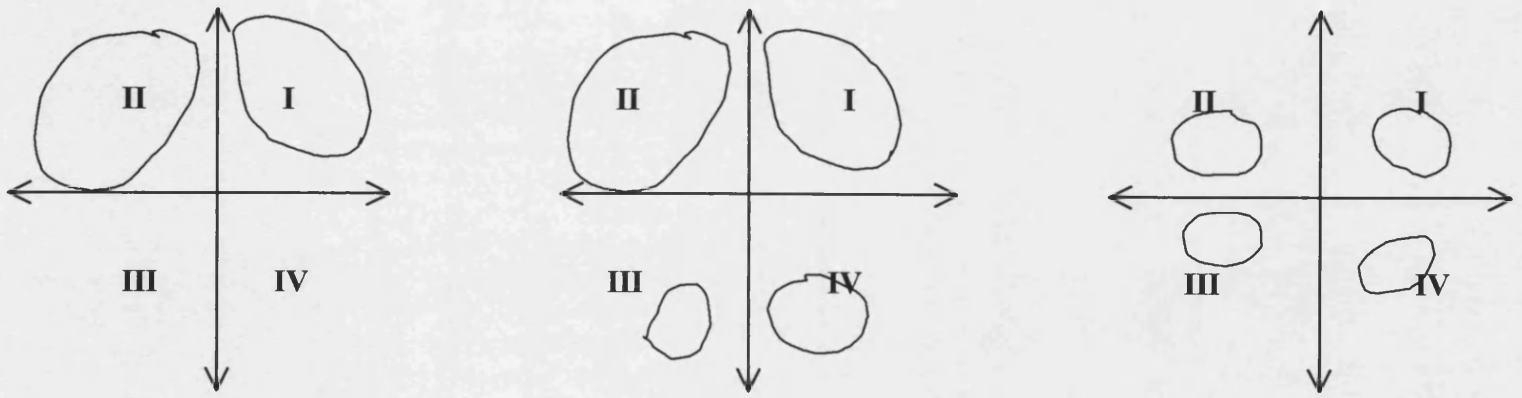
Watson, Clark, and Tellegen (1988) have devised two 10-item scales for positive and negative affect respectively. The negative affect items included are *scared, afraid, upset, distressed, jittery, nervous, ashamed, guilty, irritable,* and *hostile*, while the positive affect scale includes *enthusiastic, interested, determined, excited, inspired, alert, active, strong, proud,* and *attentive*. The

validation data provided by Watson et al. (1988) showed that both scales are internally consistent and have good convergent and discriminant validity. However, the PANAS is limited in that all the items fall into the top two quadrants of affect space (see Figure 4.2a).

Burke, Brief, George, Roberson, and Webster's (1989) Job Affect Scale (JAS) is composed of 20 hypothesised clear markers of positive and negative affect. The JAS items overlap with those of PANAS because JAS is based on the analyses of Watson and Tellegen's (1985) on which the PANAS is also based. However, the JAS includes items representing the bottom two quadrants of affect space (see Figure 4.2b) whereas the PANAS, as we have seen, does not. For the top two quadrants, six items of the JAS represent the 1st quadrant (*active, strong, excited, enthusiastic, elated,* and *peppy)* and six the 2nd quadrant in the figure (*distressed, scornful, hostile, fearful, nervous,* and, *jittery*). The bottom two quadrants are measured by four items each: *calm, relaxed, at rest,* and *placid* for the 4th quadrant, and *sleepy, dull, drowsy,* and *sluggish* for the 3rd. As noted, the JAS had been originally designed to capture a two-factor structure as with the PANAS scale, but ended up representing a four-factor solution.

Warr's (1990, 1996) affective well-being scales are well balanced in terms of the four quadrants of affect space and the coverage of the space is specific. As shown in Figure 4.2c, the coverage of the scales is narrower and more focused within each quadrant than that of either the PANAS or the JAS. Warr's scales are composed of 12 items[15] with each quadrant being tapped by three adjectives. The scales are sufficiently focused to be labelled by representative adjectives such as 'depression-enthusiasm' and 'anxiety-comfort.' The 'depression-enthusiasm' dimension is assessed through the adjectives *'depressed', 'gloomy', 'miserable', 'motivated', 'enthusiastic',* and *'optimistic.'* The 'anxiety-comfort' dimension is tapped by the adjectives *'tense', 'anxious', 'worried', 'calm', 'comfortable',* and *'relaxed.'*

[15] The items are from the modified version according to Warr (1996).



(a) The PANAS (b) The JAS (c) Warr (1987, 1996)

Figure 4.2 *The affect range each model covers*[*]

[*] The location of each affect descriptors in the two-dimensional space (*pleasantness* as a horizontal axis and *the degree of arousal* as a vertical axis) was carefully studied (e.g., Russell, 1978, 1979, 1980) with a variety of methods including the Q-sort technique, semantic differential ratings, multidimensional scaling, and factor analysis, to reveal the locations of a wide range of affect descriptors.

A closer look at the above three scales reveals that while Warr's scale is focused on a few particular types of affect, the PANAS items cover a very broad affect space within the two top positive and negative quadrants. [16] In terms of their locations in affect space in Figure 4.2, Warr's scales have representative locations within each quadrant whereas the PANAS cover almost the whole top two quadrants. In other words, it seems that Watson et al.'s (1988) PANAS is intentionally broad to represent a wide range of positive and negative affective experiences. It is worthwhile to note that Watson et al.'s PANAS can be accommodated very well in the area of personality psychology concerned with the analysis of *positive affectivity* and *negative affectivity* and the Big-Five personality factors.[17] In fact, Watson himself suggested continuity in the measurement of state and trait affect by using the PANAS in various time frames, implying that with longer time frames, (e.g., of one year), the PANAS captures dispositional affectivity rather than affective states.

A broader definition of affect has clear advantages over a narrower definition when it needs to cover the general affective experiences people tend to have in their daily lives. On the other hand, it has disadvantages in generating predictions on the consequences of affect since a broad definition necessarily includes various specific affects that are likely to have different behavioural and/or cognitive consequences. For instance, *afraid* and *upset* are among the PANAS items, both representing negative affect. But a person in a state of *fear* would be more likely to avoid the target object, while being *upset* would more likely lead the individual to be expressive towards the target. The JAS scale faces a similar problem, particularly in terms of the top two quadrants which cover a broad affect range similar to that of the PANAS. On the other hand, Warr's (1990, 1996) scales which only cover a few groups of highly related affects are less subject to such problems and, therefore, enjoy certain advantages over the other two scales.

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[16] Virtually any item representing either a positive or negative emotional/affective state seems to qualify for inclusion in the scale.

[17] The question of whether *positive affectivity* and *negative affectivity* can replace *extroversion* and *neuroticism* remains.

While the PANAS only covers the top two quadrants, the JAS and Warr's scales cover the bottom two quadrants as well as the top ones. It seems that the PANAS deliberately pursues locations only in the top two quadrants in order to end up with a precise two-factor solution.[18] The JAS items for the bottom two quadrants of the affect space are centrally located along the vertical axis (see Figure 4.2b). By being centrally located, the items come to represent neutral states in terms of the pleasantness-unpleasantness dimension.[19] As a result, PA and NA become less independent at the low pole. Warr's scales avoid this problem by locating the low poles relatively close to the horizontal axis.

4.3.2 Selection of affect terms for the present study

As outlined in the literature, it is not possible to reduce all affective experiences to one or two principal dimensions. As noted by Warr (1990), the precise location of the axes within the two-dimensional affect space may be varied according to research needs. The criteria for item selection used in the present study was as follows. Firstly, the items should cover the whole four quadrants of affect space. Secondly, both practicalities in occupational settings and psychometric acceptability should be considered in terms of the operationalisation of the dimensions. With these two criteria in mind, Warr's scales have clear advantages since his scales were explicitly developed for application in occupational settings, and the items cover the whole four quadrants of affective space. However, Warr's scales consist of 12 items while both the PANAS and the JAS have 20 items, and the revised version of Warr's

[18] Alternatively, Watson et al. (1988) seemed to be aware that mainstream emotion research argues that only affects with high arousal qualify as *emotions*. In this case, the question still remains if what the PANAS measures are *emotions*.

[19] By approaching the centre of the horizontal axis, the pleasantness or unpleasantness value becomes close to zero. For a full discussion on the implications of the circumplex model, see Diener & Emmon (1992).

scales (Warr, 1996) has never been confirmed. For the present study, I therefore, selected Warr's 12 items, and added 8 items to the survey questionnaire to reduce the risk as well as to improve scale reliability.

Twenty affect descriptors were selected and included in the questionnaire as described in the previous section. Ten items were selected to tap high and low arousal negative affect: the five high arousal negative terms are *tense, distressed, anxious, worried,* and *nervous,* and the five low arousal negative ones are *gloomy, dull, miserable, depressed,* and *bored.* Another ten items were selected for measuring high and low arousal positive affect: the five high arousal positive descriptors are *motivated, strong, excited, optimistic,* and *enthusiastic,* while the five low arousal positive descriptors are *calm, comfortable, at rest, relaxed,* and *contented.* The nurses in the sample were asked to rate on a 5-point scale the extent to which they had experienced each affective state during the past few weeks. The points of the scale were labelled *very slightly or not at all (1), a little (2), moderately (3), quite a bit (4),* and *very much (5),* respectively. The hypothesised distribution of affect descriptors in terms of the four quadrants is shown schematically in Figure 4.3. The 20 items were analysed using multidimensional scaling, and the results confirmed the hypothetical distribution (see Figure 4.4)

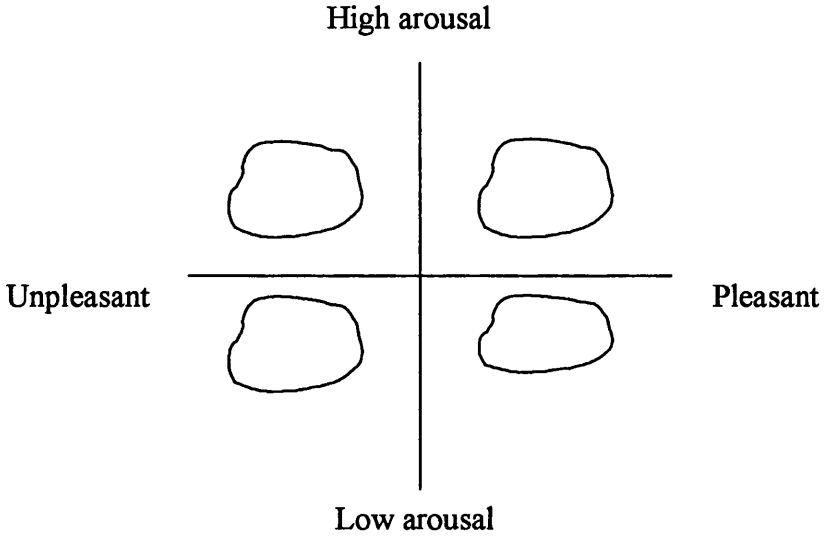

Figure 4.3 *The hypothetical distribution of the 20 affect descriptors*

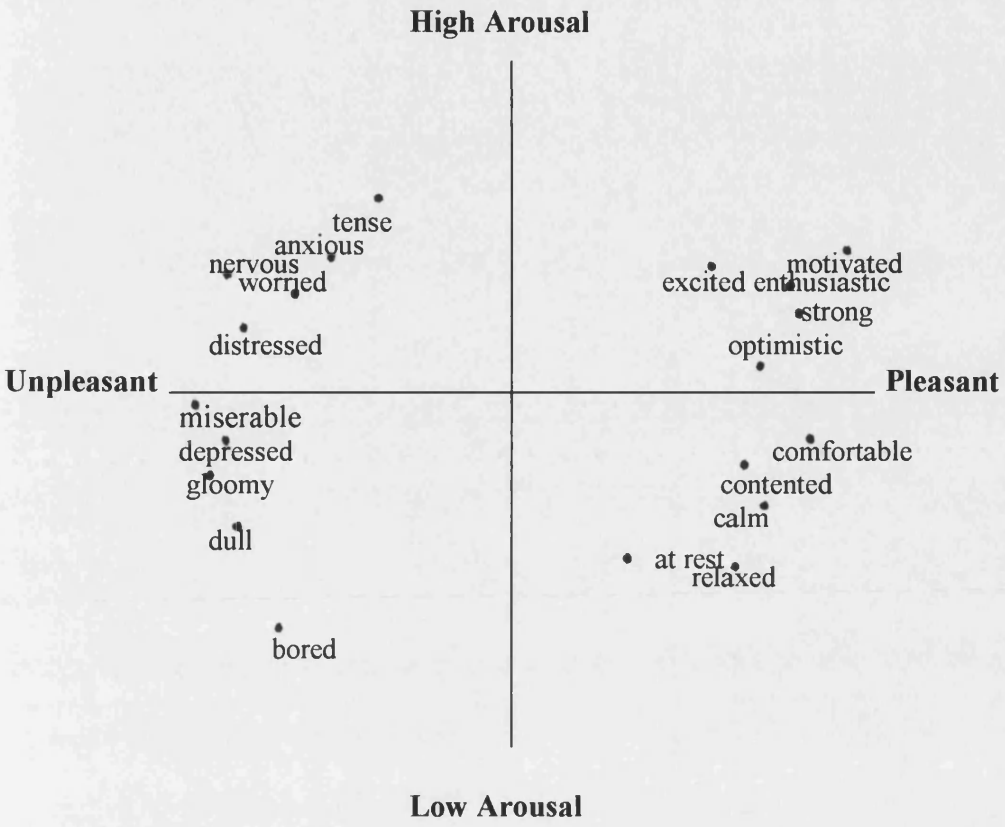

Figure 4.4 *Multidimensional scaling of the 20 affect descriptors*

4.4 Competing affect structures : Confirmatory analyses

Regarding the structure of affect, as noted, a bipolar two-factor model has been advocated by many researchers (Russell, 1979; Warr, 1987; Watson & Tellegen, 1985). According to this bipolar two-factor model, for instance Warr's model, *enthusiasm*-related affect is conceptualised as one factor with the *absence* of enthusiastic affect being reflected by *depressive* moods. Another factor, on the other hand, is represented by *anxiety*-related affective experiences, with the *absence* of anxiety being described in terms of *comfortable* moods. Therefore, within the bipolar model, enthusiastic and depressive moods are assumed to constitute opposite ends of a single bipolar factor, and similarly for anxious and comfortable moods.

However, careful observation tells a different story. Firstly, while the existence of particular job conditions might lead to certain negative affective experiences, the absence of the particular condition does not necessarily imply opposite affective experiences. For instance, in terms of work role characteristics, *role ambiguity* often generates stressful affective experiences (i.e. depression) for employees. However, the removal of this role stressor is not enough to generate, or is unrelated to enthusiasm towards work. In other words, external conditions are not always related to the hypothesised bipolar-affect monotonically from one end, through the neutral point to the other end. Secondly, the effects of positive and negative affect do not always seem symmetrical. For example, both happy moods and sad moods have been found to encourage helping behaviour (Isen & Baron, 1991).

Recently, as noted, a four-factor affect model has been proposed by Burke, Brief, George, Roberson, and Webster (1989). This model, however, has not yet been widely supported. Burke and his colleagues suggested that the structure of affect could be described better by a unipolar four-factor model rather than by a

bipolar two-factor one. Conceptually, the unipolar four factors represent states of psychophysiological arousal or activation (see Burke, et al., 1989). Two of the factors represent negative affective states with either high arousal or lack of physiological arousal. The other two factors capture positive affective states also with either high arousal or lack of physiological arousal. Thayer (1967, 1986) has also suggested four similar, physiologically described factors labelled as "energy", "tension", "tiredness", and "calmness".

Based on Burke et al.'s and Thayer's arguments about the physiological mechanisms of affect and the criticisms of the two-factor conceptualisations outlined above (i.e., both 'happy' and 'sad' affects encourage helping behaviour, non-monotonic effects of role stressors on 'depression' and 'enthusiasm'), I also propose and explore a unipolar four-factor model of affect as an alternative to the more standard bipolar two-factor model. Therefore, the factors I hypothesised are: positive-high (PH), positive-low (PL), negative-high (NH), and negative-low (NL), where the terms positive and negative represent the pleasantness dimension, and the terms high and low represent high arousal and low arousal respectively. This unipolar four-factor model, referred to as the Four-Factor Model for short, offers a competing conceptualisation of affect structure to that of the standard Two-Factor Model reviewed above. The sample of 224 nurses who participated in the present study were used to test these two competing models of affect structure.

Apart from the theoretical implications, the proposed four-factor structure has practical implications in the work place. If the proposed factors are shown to be unipolar and therefore independent from one another, then the distress of workers could be alleviated without necessarily producing work excitement, and also the level of work motivation could be improved without necessarily reducing work tension. Some personnel problems might result from the absence of work motivation, whereas others may result from the presence of excessive work stress, and therefore, different personnel problems can be dealt with accordingly.

Specification of First-Order Factor Models

The two competing models, namely the Four-Factor Model and the Two-Factor Model, can be tested and compared using confirmatory factor analysis (CFA). In confirmatory factor analysis, definite hypotheses may exist about the number of factors and about the particular variables loading on these factors. For these reasons, the number of factors is fixed in advance and the factor loadings of the nonmarker variables are often fixed at zero (Bentler & Bonnet, 1980; Marsh & Hocevar, 1985). The specification of first-order factor models was accomplished by freeing or constraining particular elements in the parameter matrices. Of prime importance in the present study was lambda X (Λ_x), the matrix of factor loadings for the affect items. Table 4.1 illustrates the pattern of parameters in the a priori two-factor model. This table also denotes the items that were hypothesised as indicators of positive and negative affect. All coefficients of 0 or 1 were fixed according to a priori theoretical considerations (i.e., the a priori two factors, positive and negative affect). The factor loadings in Table 4.1 are restricted so that each measured variable loads only on the latent factor it is hypothesised to represent.

An a priori multifactor first-order model is also specified. In the present study, I hypothesised a four-factor solution to account for the variation in the 20 affect items. The a priori simple structure for the Four-Factor Model is presented in Table 4.2. The hypothesised factors in Table 4.2 are clearly identifiable as the high and low poles of positive and negative affect specified in the Two-Factor Model. The first and third factors construe positive and negative affect in highly aroused states, represented by enthusiasm and anxiety, respectively. The second factor denotes a lack of negative physiological arousal and apparent sense of comfort, whereas the fourth factor denotes a lack of positive physiological arousal and represents a state of depression. This model, referred to as the Four-

Factor Model in Table 4.2, offers a competing factor model to the Two-Factor Model.

In sum, two first-order factor models were estimated: a Two-Factor Model and a Four-Factor Model. The goodness of fit of the two models was then examined and compared using the comparative fit index (CFI), the chi-square/*df* ratio, and the root mean square residual (RMSR) as suggested by Bentler (1990). It should be emphasised that within the context of confirmatory factor analysis the present Four-Factor Model or any other multifactor model will not necessarily provide as good or better fit than the Two-Factor Model. While a multifactor model is more complex, the issues of specification, identification, estimation, and hypothesis testing remain for each model (see Long, 1983, for a discussion). Even if a researcher imposes constraints in a multifactor model, it is possible that the sample data are inconsistent with these imposed constraints. The data, however, may confirm or be consistent with a less complex model.

Table 4.1

Hypothetical pattern of coefficients in factor loading matrix (Lambda X) for the Two-Factor Model

	Affect Factor	
Affect Item	depression-enthusiasm	anxiety-comfort
1. enthusiastic	LX	0
2. optimistic	LX	0
3. motivated	LX	0
4. excited	LX	0
5. strong	LX	0
6. comfortable	0	LX
7. contented	0	LX
8. calm	0	LX
9. relaxed	0	LX
10. at rest	0	LX
11. worried	0	LX
12. anxious	0	LX
13. distressed	0	LX
14. nervous	0	LX
15. tense	0	LX
16. miserable	LX	0
17. gloomy	LX	0
18. depressed	LX	0
19. dull	LX	0
20. bored	LX	0

Note. LX = lambda, factor loading.

Table 4.2
Hypothetical pattern of coefficients in factor loading matrix (Lambda X) for the Four-Factor Model

Affect Item	Affect Factor			
	Positive-High	Positive-Low	Negative-High	Negative-Low
1. enthusiastic	LX	0	0	0
2. optimistic	LX	0	0	0
3. motivated	LX	0	0	0
4. excited	LX	0	0	0
5. strong	LX	0	0	0
6. comfortable	0	LX	0	0
7. contented	0	LX	0	0
8. calm	0	LX	0	0
9. relaxed	0	LX	0	0
10. at rest	0	LX	0	0
11. worried	0	0	LX	0
12. anxious	0	0	LX	0
13. distressed	0	0	LX	0
14. nervous	0	0	LX	0
15. tense	0	0	LX	0
16. miserable	0	0	0	LX
17. gloomy	0	0	0	LX
18. depressed	0	0	0	LX
19. dull	0	0	0	LX
20. bored	0	0	0	LX

Note. LX = lambda, factor loading.

Results: Fit of the competing affect models

The confirmatory factor analyses (CFA) were conducted using LISREL VIII. The application of LISREL (cf. Joreskog & Sorbom, 1993) allows for a rigorous test of hypothesised a priori factor structures. The advantages of LISREL in testing first-order factor models are well known. Joreskog and Sorbom's (1993) LISREL VIII program provides a means for estimating the relevant parameter matrices (i.e., factor loadings) of factor models. In addition, a chi-square measure of goodness of fit of the model to the sample data is provided. A statistically significant chi-square leads to the rejection of the hypothesised model. However, as Joreskog and Sorbom clearly point out, the necessary assumptions (i.e., all observed variables have a multivariate normal distribution, the analysis is based on the unstandardised sample covariance matrix, and the sample size is relatively large) to consider this a valid test statistic seldom are met in practice. Instead of regarding chi-square as a test statistic, Joreskog and Sorbom recommend that it be interpreted as a goodness (or badness) of fit measure in the sense that large chi-square values correspond to bad fits and small chi-square values to good fits. The most recent version of LISREL (LISREL VIII) provides two other helpful indices for judging the overall fit of a model, the comparative fit index (CFI) and the root mean squared residual (RMSR). The CFI is a measure of the relative amount of variances and covariances jointly accounted for by the model compared to the null model (Bentler, 1990). The CFI, unlike the chi-square statistic, is independent of sample size. The RMSR is scaled from 0 to 1, where 0 represents perfect fit . The analyses were performed on the observed covariance matrix. Both the Two-Factor Model and the Four-Factor Model were tested against the null model. The goodness-of-fit indices (GFIs) are shown in Table 4.3.

Table 4.3
Model fit indices for competing Two-Factor and Four-Factor Models of affect

Competing model	χ^2	*df*	χ^2/ *df*	CFI	RMSR
Null model	3031.97	190		NA	NA
Two-Factor Model (bipolar)	1262.96	169	7.47	.62	.15
Four-Factor Model (unipolar)	459.64	164	2.80	.90	.077

Note. NA = not applicable. CFI = comparative fit index. RMSR = root mean squared residual.

The Two-Factor Model, in general, does not provide a good fit to the data. On the basis of the GFI indices, it can be seen that fit is at best moderate. With respect to all three indices (chi-square, RMSR, and CFI), the Four-Factor Model showed a better fit than the Two-Factor Model. Moreover, the CFI index for the Four-Factor Model indicated that the model is satisfactory. A CFI value equal to or larger than 0.90 indicates that the data fit well to the hypothesised model (Bentler, 1990). It means that 90 percent of the total variance is explained by the hypothesised model when compared to the null model. Factor loadings for the Four-Factor Model are given in Table 4.4. As can be seen, all loadings are satisfactory with the possible exception of that for the 'bored' item which falls just below the .40 mark.

Table 4.4
Factor Loadings : Four-Factor Model

Observed variables	Latent variables			
	Positive-High	Positive-Low	Negative-High	Negative-Low
1. enthusiastic	.88			
2. optimistic	.85			
3. motivated	.82			
4. excited	.78			
5. strong	.76			
6. comfortable		.78		
7. contented		.76		
8. calm		.73		
9. relaxed		.73		
10. at rest		.72		
11. worried			.87	
12. anxious			.86	
13. distressed			.71	
14. nervous			.71	
15. tense			.68	
16. miserable				.83
17. gloomy				.86
18. depressed				.78
19. dull				.73
20. bored				.39

4.5 Validation of Four-Factor affect scales

4.5.1 Reliability

Means, standard deviations, intercorrelations, and internal consistency reliabilities (Cronbach's coefficient α) of the four affect scales are presented in Table 4.5. The nurses in the present sample report more positive affect, in terms of both enthusiasm (PH) and comfort (PL), than negative affect, in terms of anxiety (NH) and depression (NL). These results are consistent with those of many previous studies (Watson, Clark, & Tellegen, 1988; Warr, 1990) showing that people tend, on the whole, to report higher levels of positive than negative affect.

The alpha reliabilities for the four scales range from .84 to .91. In each instance the alpha coefficients are high, thus all the scales can be assumed to be psychometrically reliable. The correlations among the four affect scales range from -.19 to .64. All the correlations are significant ($p < 0.01$), and are in the expected directions. The two positive affect scales, PH and PL, and the two negative affect scales, NH and NL, show high and positive correlations, .64 and.61 respectively.

Table 4.5
Means, standard deviations, reliabilities, and intercorrelations among four affect scales

Variable	*Mean*	*s.d.*	1	2	3	4
1. Positive-High (Enthusiasm)	2.99	1.02	**.91**			
2. Positive-Low (Comfort)	2.55	0.92	.64	**.86**		
3. Negative-High (Anxiety)	2.37	0.98	-.19	-.42	**.87**	
4. Negative-Low (Depression)	1.91	0.89	-.51	-.45	.61	**.84**

Note. N = 224. All *ps* < .01. The main diagonal contains Cronbach's internal consistency reliability estimates.

4.5.2 Validity

The findings from the CFA demonstrate that the constructs are factorially distinct, which provides support for one aspect of construct validity. I further explored the scales' validity by examining their relationship to established measures of well-being, namely the GHQ-12 and the somatic symptoms scale; their relationship to trait affectivity scales, including positive affectivity and negative affectivity; and their relationship to cognitive job demands including monitoring and problem-solving demands. The rationale for choosing these variables is discussed below. Table 4.6 shows the correlations between the four affect scales and the various measures of well-being, dispositional affect measures, and cognitive job demands measures.

Table 4.6
Correlations between four affect scales and related variables

	PH (Enthusiasm)	PL (Comfort)	NH (Anxiety)	NL (Depression)
GHQ-12	-.42**	-.46**	.57**	.57**
Somatic symptoms scale	-.17*	-.24**	.42**	.42**
Positive affectivity	.55**	.46**	-.27**	-.42**
Negative affectivity	-.22**	-.30**	.49**	.53**
Monitoring demands	.14*	-.02	.18**	.05
Problem-solving demands	.15*	-.10	.20**	.02

Note. $N = 224$. ** $p < .01$. * $p < .05$.

Relationships with mental health

Warr (1987, 1990) advocated a departure from the measurement of job satisfaction as a central focus for organisational psychology, suggesting instead a new perspective based on the assessment of well-being and mental health in the workplace. His recommendations reflect a growing interest in occupational health and safety, and an increasing awareness that stress-related conditions and psychological disorders are among the most prevalent work-related diseases today. Warr (1987, 1990) has developed a model of job-related affective well-being and mental health to guide research in this area. He argues that affective well-being is a major component of occupational mental health.

Diener's (1984) comprehensive review of the well-being literature concluded that individuals' subjective evaluations of well-being are of prime importance. He also argues that the definition of well-being denotes a preponderance of positive affect over negative affect, and that well-being is not just the absence of negative factors. This implies that positive and negative affective experiences need to be considered separately to account for well-being. The present four affect scales were designed to measure various affective experiences at work. These scales at the same time can be used as measures of affective well-being. Since affective well-being is considered as a major component of occupational mental health (Warr, 1987, 1990), the affective well-being indicators should be related to key indicators of mental health.

The GHQ-12 was used in this study as a general indicator of mental health. The GHQ (General Health Questionnaire) developed by Goldberg (1972) is a self-administerd test for detecting minor psychiatric disorders. Originally validated for clinical use, it has subsequently also been shown to be appropriate for use in work settings (see, for example, Banks, Clegg, Jackson, Kemp, Stafford & Wall, 1980; Clegg & Wall, 1990; Jackson, Stafford, Banks & Warr, 1983; Wall & Clegg, 1981; Wall, Kemp, Jackson & Clegg, 1986).

A strong relationship between the GHQ-12 and all four affect scales was found (Table 4.6). As expected, the GHQ-12 was highly and positively correlated to both the negative-high (.57, $p < .01$) and the negative-low (.57, $p < .01$) affect measures. At the same time, the correlations between the GHQ-12 and the two positive affect scales were negative and high (-.42, $p < .01$, with positive-high, and -.46, $p < .01$ with positive-low).

Relationships with somatic symptoms

The relationships between negative affective experiences and somatic symptoms are rather straightforward. The experience of physiological disturbance as a result of psychological and emotional arousal is universal (Costa, McCrae, & Zonderman, 1987). Sweating, trembling, palpitations, flushing, and nausea are some of the reactions that convince us that the link between mind and body is powerful and immediate. Somatic symptoms were measured with a 10-item scale developed by Caplan, Cobb, French, Harrison, and Pinneau (1980). Respondents were asked how often they experienced any of the somatic symptoms recently. An example of the items is "Do you have spells of dizziness?" Without assuming causality, the two negative affect scales and the somatic symptoms scale are expected to be positively correlated. Based on the accumulated evidence of the stress literature, negative affective experiences along with somatic symptoms are expected to be associated with stressful environments (e.g., Briner, 1997). The outcomes or consequences of stressful environments have been shown to include affective reactions (e.g., depression, anxiety, and irritation), somatic symptoms (e.g., headaches), and physical disease (e.g., heart attacks) (Fox, Dwyer, & Ganster, 1993). Less is known about the relationship between positive affective experiences and somatic symptoms. At best though, non-positive to negative correlations can be expected.

Table 4.6 shows that the correlations between the two negative affect scales and the measure of symptoms are as expected, both positive and significant (.42, $p <$ .01 with negative-high, and .42, $p < .01$ with negative-low). Although weaker, the correlations between the measure of symptoms and the two positive affect scales are also significant but negative (-.17, $p < .05$ with positive-high, and -.24, $p < .01$ with positive-low).

Relationships with personality dispositions

The personality traits of positive affectivity (PA) and negative affectivity (NA) are used further to demonstrate the construct validity of the four affect scales. It is important to note that although intuitively the two concepts of PA and NA may appear to be similar, conceptually and empirically they are distinct. As Watson and Clark (1984) clearly suggested, NA is unrelated to an individual's experience of positive affect. That is, a high-NA level does not necessarily imply a lack of joy, excitement, or enthusiasm. Similar argument can be advanced with respect of the relationship between PA and negative affective experiences. Thus, it also is possible for a person to be high on both PA and NA; such a person would be predisposed to experiencing high positive as well as negative affective states.

As summarised by Tellegen (1985)[20], individuals high on PA view themselves as self-efficacious and tend to experience more positive emotions and moods than people low on PA. Therefore, it is plausible that the measures of positive affect are positively related to a PA disposition. On the other hand, NA reflects a personality disposition to experience negative affective states (Tellegen, 1985; Watson & Tellegen, 1985). People high on NA are generally more likely to experience negative affective states than people low on NA. Thus, it is expected that the measures of negative affect are related to the personality trait NA.

[20] For a detailed discussion, see Chapter 2.

Positive affectivity and negative affectivity were each measured by four items scales (adapted from Watson, Clark, & Carey, 1988), and showed reasonably high reliabilities (α = .69 for PA, and α = .73 for NA). Table 4.6 confirms the expected pattern of relationships between the four affect scales and the PA and NA measures. Thus, PA was positively related to both measures of positive affect, positive-high (.55, $p < .01$) and positive-low (.46, $p < .01$), while it showed a negative and weaker relationship with both measures of negative affect, negative-high (-.27, $p < .01$) and negative-low (-.42, $p < .01$). Similarly, NA was positively related to the two measures of negative affect, negative-high (.49, $p < .01$) and negative-low (.53, $p < .01$). The relationships between NA and the positive affect measures were negative and weaker (positive-high, -.22 and positive-low, -.30) than those between NA and the negative affect measures.

Relationships with measures of cognitive demands

The literature on job stress has generally concluded that prolonged exposure to certain job demands can lead to a variety of pathological outcomes, including mental and physical disorders and reduced productivity. Job demands are defined as psychological stressors, such as requirements for working fast and hard, not having enough time, and dealing with difficult problems. At the same time, these job demands can be thought of as providing "goals," rather than "demands" or "requirements," in recognition of the fact that targets arising from the environment vary in the extent to which they are imposed or voluntarily accepted (Warr, 1987). Goals give rise to plans and therefore structure the pattern of individuals' behaviours. People test the environment by seeking feedback in relation to their progress towards a goal, and discrepancies between the contemporary environment and a target motivate actions to further goals. Goals and plans are thus viewed as being generated through motivational characteristics of people themselves. An environment which makes no demands (or very low demands) upon a person sets up no objectives and encourages no

activities or achievement. Conversely, a setting which requires the pursuit of goals is assumed to generate motivation and lead to task activities.

No matter what the consequences people subjectively experience from these environmental demands, one prediction which holds true for both the above arguments is that high demands produce a state of arousal within a person. When the person has resources to deal with the environmental demands, the heightened level of arousal can be perceived as a "challenge" or "opportunity" which allows a person to exercise his or her skills and abilities. On the other hand, when there is a constraint on the responses of the person, as would occur when individuals' capacity or control is low, the arousal cannot be appropriately channelled into a coping response and thus produces negative physiological and psychological reactions, including "anxiety."

Here we focus on two key dimensions of job demands, namely monitoring demands and problem-solving demands. Monitoring demands refer to the extent which the job requires constant mental attention while carrying out one's tasks, while problem-solving demands refer to the extent to which difficult problem-solving tasks are involved in one's job (Wall, Jackson, Mullarkey, & Parker, 1995). These two dimensions were measured using two four-item scales adapted from Wall et al. (1995) (α = .82 for the monitoring demands scale, and α = .75 for the problem-solving demands scale).

Table 4.6 shows that the two measures of job demands are, as expected, significantly correlated with the two highly aroused affect states. Monitoring demands are significantly and positively correlated with both the positive-high (.14, $p < .05$) and the negative-high (.18, $p < .01$) affect scales. Similarly, problem-solving demands are significantly and positively correlated with both the positive-high (.15, $p < .05$) and the negative-high (.20, $p < .01$) scales. The results clearly reflect the impact of the arousal dimension, with reports of enthusiasm (positive-high) deriving from a pleasant state, and anxiety (negative-high) deriving from an unpleasant state. Whereas environmental job demands

are assumed to increase the individual's level of mental arousal, they are assumed to be unrelated to the degree of pleasantness, and this, essentially, is what the results in Table 4.6 show.

4.6 Summary and Conclusion

The purpose of this chapter was to contribute to the structural debate on affect through the development and testing of a unipolar model of affect structure. The results of confirmatory factor analyses provided support for the proposed Four-Factor Model as opposed to a more standard Two-Factor Model. Specifically, the proposed Four-Factor Model showed good fit to the data whereas the competing Two-Factor Model showed a poor fit. Furthermore, all four affect measures demonstrated high internal consistency (Cronbach's alpha reliability), and the four factors seemed reasonably independent of one another by demonstrating low to moderate intercorrelations among the four scales. The four affect scales examined were strongly correlated with mental health measures, and were differentially associated with personality disposition variables and job characteristics variables, showing convergent and discriminant validity.

The implications of the proposed unipolar factor structure are particularly important in relation to the consequences of affect. It is well known that the effects of affect are complicated. A considerable volume of experimental psychological research on moods indicates that the behavioural consequences of positive moods and negative moods are frequently contradictory, and therefore cannot be easily accommodated in a single theoretical framework. For instance, studies have shown that positive moods increase subjects' altruistic or helping behaviours, while negative moods also lead to increased altruistic behaviours (Isen & Baron, 1991). Having shown that affective experiences are better understood as unipolar factors than as bipolar ones goes some way in helping to resolve some of the apparent problems and contradiction in this area. These

issues, however, are explored more fully in Chapters 5 and 6 where the consequences of affect on various aspects of the work behaviour of nurses are examined in greater detail. Based on this analysis, Chapter 7 then goes back to the determinants of affect and explores the potential antecedents of nurses' different affective states at work.

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Chapter 5 The consequences of job affect

Chapter 5 The consequences of job affect

In the previous chapter, the structure of affect was explored. The literature suggests a two-dimensional understanding of affect structure as the predominant framework. Although there is less agreement on the identification of the major two dimensions within this framework (e.g., Watson, Clark, & Tellegen, 1988; Watson & Tellegen, 1985; Warr, 1987, 1990), a rather strong consensus has been reached that the dimensions are interpretable as "pleasure-displeasure" and "the degree of arousal" (Russell, 1979; Weiss & Cropanzano, 1996). Based on these two *interpretable* dimensions, bipolar two factor structures have been prominently suggested by researchers (Watson & Tellegen, 1985; Warr, 1987, 1990). However, although preliminary, a more complicated factorial structure of affect, i.e. a four-factor unipolar structure, has also been suggested (Burke, Brief, George, Roberson, & Webster, 1989). Adopting the unipolar notion primarily from Burke, et al. (1989), and selecting affect items from existing scales, I proposed and empirically tested a unipolar Four-Factor Model with my sample of nurses. The results from the confirmatory factor analyses supported the hypothesised unipolar four-factor solution. Specifically, the data from the present sample of nurses better fitted the proposed Four-Factor Model than the competing Two-Factor Model. In addition, all four affect scales showed high reliabilities, and each scale was, to some extent, differentially correlated to a variety of variables in the expected way, thereby supporting the notion of a four-fold unipolar factor structure.

In this chapter, building on the findings from Chapter 4, I focus on the second aim of the research; namely, to explore and test the commonly hypothesised relationship between affect and prosocial behaviour in a work setting. As described in Chapter 2, job affect has been frequently proposed as an antecedent of prosocial organisational behaviour in the recent organisational literature. As noted, however, the way this hypothetical relationship between job affect and

prosocial organisational behaviour has been framed in the literature has left much to be desired and has, to date, received only weak empirical support. One way forward, as proposed in Chapter 2, is to develop better focused and operationalised indicators of affect for use as predictors in the hypothesised relationship. This was the aim that Chapter 4 attempted to achieve. According to the findings from Chapter 4, job affects or moods are better understood as unipolar than as bipolar constructs. In brief, "enthusiastic" and "depressive" moods are better described as related but independent factors, rather than as one factor, encompassing a single "enthusiasm-depression" dimension.

This chapter is designed to test the hypothesised relationship between job affect and prosocial organisational behaviour (PSOB) by using the new affect scales developed, tested and validated in Chapter 4 using the sample of over 200 NHS nurses. More specifically, this chapter tests the job affect-PSOB relationship using the unipolarly-conceptualised affect measures (i.e., "enthusiasm" and "depression") instead of using the more standard bipolar measure (i.e., "enthusiasm-depression"). Once the *unipolar* job affect-PSOB relationship is tested, however, alternative analyses using the standard *bipolar* job affect measure are also conducted in order to determine whether the new unipolar conceptualisation of affect, compared to the standard bipolar one, contributes to a better understanding of the hypothesised relationship.

5.1 Job affect and prosocial organisational behaviour

Prosocial behaviours are helping behaviours which are performed to benefit another individual (Krebs, 1970). Acts such as helping, sharing, donating, cooperating, and volunteering are forms of prosocial behaviours. They are positive social acts carried out to produce and maintain the well-being and integrity of others. This type of helping or prosocial behaviour has been extensively investigated in social psychology since the early 1960s (e.g.,

Berkowitz & Daniels, 1963; Campbell, 1965; Latane & Darley, 1970), and the recent organisational literature has begun to include ideas related to prosocial behaviour in studies of behaviour in organisations (Brief & Motowidlo, 1986).

Adapted to the organisational context, prosocial organisational behaviour (PSOB) is defined as behaviour that is performed by organisational members with the intention or expectation that the behaviour will benefit the person, group, or organisation at which it is directed (Brief & Motowidlo, 1986). It encompasses a wide range of behaviours with important implications for organisational functioning which share the central notion of intent to benefit others. Examples include helping other employees, volunteering for things that are not formally required, and making innovative suggestions to improve a department.

The primary reason why PSOB is deemed to be important in organisational settings is that it is not thought possible for organisations formally to prescribe all of the desirable behaviours that are necessary for organisational effectiveness. In other words, PSOB as a concept, directs attention to important forms of behaviour that the notion of standard role performance cannot capture. For instance, Katz (1964) noted that "an organisation which depends solely upon the blueprints of prescribed behaviours is a very fragile system" (p.132). He went on to propose that there are at least three behavioural patterns thought to be necessary for the effective functioning of organisations: a) joining and staying in the organisation; b) meeting or exceeding specific standards of performance; and c) going beyond specified role requirements. The last type of behavioural patterns, "behaviours that go beyond specified role requirements," come closest to the notion of PSOB. These include behaviours such as cooperating with coworkers, taking action when necessary to protect the organisation from unexpected danger, suggesting ways to improve the organisation, deliberate self-development and preparation for higher levels of organisational responsibility, and speaking favourably about the organisation to outsiders (Brief & Motowidlo, 1986). These and similar forms of prosocial behaviour are all deemed vital to

organisational survival, yet they are difficult to prescribe as part of an individual's formal job and role requirements. To the extent that such prosocial behaviours are performed by individuals in organisations, they tend to be performed spontaneously and voluntarily, often with a view to benefiting others within the organisation or promoting the interests of the organisation as a whole.

As explained in Chapter 2, although all organisations can probably benefit from the cooperative, prosocial behaviours of their employees, it may also be that prosocial organisational behaviours are much more crucial for certain types of organisations than for others. For instance, building on Thompson's (1967) theory of organisation structure, Organ (1990) suggested that the effectiveness of certain types of organisations is more dependent upon individual members' spontaneous cooperative actions than on standardised rules and procedures. Work in these types of organisations is usually carried out by a variety of experts who possess high levels of skills, and who need to cooperate with each other and draw on various areas of expertise in the performance of their tasks. As noted by Organ (1990), examples of these kinds of work include "treating a patient", "solving a crime" and "servicing a client." Because of the high levels of both "reciprocal interdependence" and of task complexity and uncertainty involved in these situations, active coordination and cooperation among staff is essential for the effective functioning of the organisation.

Nursing work may well be of this kind. Although relevant skills can be standardised, the precise combination and sequence of skills to be used in specific circumstances cannot always be specified in advance, since the performance of particular types of tasks, by and large, depends on situational requirements, i.e., changing requirements arising from the conditions of patients. Hence, cooperative and voluntary actions instead of standardised rules and procedures may be central to day-to-day nursing operations. There are potentially many forms of prosocial behaviour which may contribute to the effectiveness of individual task performance as well as to overall organisational performance. The

present study focuses on two general forms of PSOB which have been identified as important in terms of nursing as well as in the broader service context. These are outlined below.

5.1.1 Forms of PSOB covered in the present study

Prosocial organisational behaviour can take many different forms. Amongst these, altruistic types of PSOB (or PSOB-Alt, for short) represent the most common form which has been investigated by researchers in the organisational as well as the social psychological literature (Brief & Motowidlo, 1986; George & Brief, 1992; Organ, 1988a; Puffer, 1987; Van Dyne, Cummings, & McLean Parks, 1995). PSOB-Alt is a generalised form of helping behaviour directed at others. For instance, nurses often assist one another with job-related matters. They may pitch in and help other nurses who have been absent, and assist those who have especially heavy workloads. Nurses may also help their supervisors even if they are not formally required to do so. While the helping of co-workers and supervisors is directly targeted at specific individuals in the workplace, some altruistic behaviours can also be directed at the organisations in general. For instance, nurses may go out of their way to protect their organisations' resources, execute role-relevant behaviours at a level that far exceeds minimum requirements, and speak favourably about their workplace to outsiders to protect or enhance their organisation's image.

Some recent organisational literature, in the service context in particular, emphasises the importance of customer-orientation and service quality (e.g., Berry, Parasuraman, & Zeithaml, 1994; Gummesson, 1991; Iacobucci, Grayson, & Ostrom, 1994; Oliver, 1993; Otto & Ritchie, 1995; Taylor, 1995). Attempts have also been made to understand service-orientation parallel to prosocial behaviour (e.g., Morrison, 1997; Peccei & Rosenthal, 1998a). This form of PSOB, represented as customer-oriented behaviour (George, 1991; George &

Bettenhausen, 1990; Peccei & Rosenthal, 1998a) in general and as continuous-improvement behaviour in some of its more specific forms (Peccei & Rosenthal, 1997), is the second aspect of PSOB examined in the present study. This continuous-improvement form of PSOB (or PSOB-CI, for short) is a consciously proactive form of behaviour directed at customers or patients and designed to contribute to the continuous improvement of service quality (Peccei & Rosenthal, 1997). In the nursing context, for example, nurses provide emotional support to patients, help patients learn future self-care, provide caring and individualised attention to the patients' families and friends, engage in creative activities to better serve patients' needs, and make suggestions to improve the quality of care provided to patients.

The focus on continuous improvement in relation to patient care is particularly relevant in the nursing context since it is intended to improve service quality and patient/customer satisfaction, and ultimately, although sometimes not straightforwardly, may contribute to organisational effectiveness too. In the present study, it is conceptualised as a patient-oriented form of prosocial behaviour by nurses in the sense that the major beneficiaries of improved quality care are intended to be the patients themselves. While PSOB-Alt is directed at individuals within the organisation or at the organisation in general, PSOB-CI, refers to prosocial behaviours directed at patients, or at customers in a broader context.

Arguably, the PSOB-Alt form could be said to emphasise actors' intention to respond to immediate current needs, whereas PSOB-CI highlights the prospect of changes in the future. More specifically, altruistic behaviours involve reactions or responses to the current needs of other nurses, supervisors, and/or the organisation as a whole, and responding to such needs further reinforces the *status quo.* In other words, altruistic behaviours represent noncontroversial or affiliative forms of action (Van Dyne, Cummings, & McLean Parks, 1995) arising from perceived present needs, so that their performance ends up by further

reinforcing existing interpersonal and/or person-organisational relationships. In contrast, continuous-improvement behaviours are future-oriented. Although PSOB-CI may arise from, and be caused by perceived current deficits or problems, it is ultimately designed to "change" rather than reinforce the present state. It is also a proactive form of behaviour in the sense that it requires having a blueprint of the changed state created by the potential improvement and trying to act in accordance with that blueprint. Table 5.1 summarises the differences between the two forms of PSOB that are examined in the present study.

Table 5.1

Comparison between PSOB-Alt and PSOB-CI

	PSOB-Alt	PSOB-CI
Targets	organisation and its members (e.g., co-workers, supervisors, organisation in general)	external constituencies (e.g., patients, customers, clients)
Reactive-proactive	reactive or responsive	proactive
Time focus	present-oriented	future-oriented
Purpose	*status quo*-reinforcing (affiliative)	change-provoking (challenging)

5.1.2 PSOB versus standard task performance

The notion of altruistic PSOB (PSOB-Alt) is typically described as covering behaviours that are not formally required, or that go above and beyond formal role descriptions (Organ, 1988a; George & Brief, 1992; Van Dyne, Cumings, & McLean Parks, 1995). PSOB-Alt thus comes close to the notion of extra-role behaviour. This may be less so in the case of PSOB-CI since the nursing job itself

is about patient care, and it may be very difficult to draw a clear distinction between in-role and extra-role behaviour if the activities involved relate to the quality of patient care. Compared to PSOB-Alt forms of behaviours, therefore, PSOB-CI behaviours may be less likely to be perceived as extra-role by nurses.

However, irrespective of whether PSOB is perceived as in-role or extra-role, PSOB is conceptually distinct and distinguishable from the standard notion of task performance (e.g., Podsakoff, MacKenzie, & Hui, 1993). At a conceptual level, standard forms of task performance are ones which are prescribed as well as formally recognised by the reward system. In contrast, the defining characteristic of PSOB, and of related concepts such as OCB, is precisely the fact that it refers to less easily prescribable behaviours that are not explicitly recognised within the organisation's formal appraisal system. For instance, several studies, primarily designed to examine the influence of employees' altruistic or helping behaviours on managerial evaluations, have found that often managers can clearly distinguish subordinates' prosocial behaviours from their standard role performance (e.g., MacKenzie, Podsakoff, & Fetter, 1991, 1993). Hence, these prosocial type of subordinate behaviours, frequently referred to as "non-technical factors" (Podsakoff, Mackenzie, & Hui, 1993), have, along with technical factor or standard role performance, been found to influence significantly managerial performance ratings as well as decisions.

To summarise, in this section I described the prosocial organisational behaviour which is proposed as the consequence of job affect in the present study. Two different forms of PSOB, PSOB-Alt and PSOB-CI were proposed as important aspects of prosocial behaviour for nurses: they are different in terms of several defining characteristics; and they are distinguishable from standard notions of task performance. In the next section, I describe the underlying mechanisms proposed for the relationship between affect and PSOB, mechanisms which have mainly been developed by social psychologists based on experimental studies.

5.2 Explanatory mechanisms for the affect-PSOB relationship

In attempts to identify the antecedents of PSOB, job affect, or mood at work has been suggested as one of the important determinants (e.g., Brief & Motowidlo, 1986; George & Brief, 1992). The rationale for the link between job affect and PSOB comes from the extensive literature in social psychology. A substantial body of evidence in social psychology suggests that positive affect facilitates helping and related actions (George, 1991; Isen & Baron, 1991). People who are induced to be in positive affect by, for instance, succeeding at a task (Berkowitz & Conner, 1966; Isen, 1970), finding a coin in the return slot of a phone booth (Isen & Levin, 1972; Levine & Isen, 1975), being given free stationery (Isen, Clark, & Schwartz, 1976), or enjoying a sunny day (Cunningham, 1979) are more likely to help others who were not the source of the affect-enhancing experience.

Although most of the empirical evidence accumulated for the affect-prosocial behaviour relationship is based on experiments in the social psychology literature, and on studies that were not generally conducted in work settings, there appear to be no strong grounds for questioning its generalisability to organisations. Some of these studies were conducted in laboratory settings, and some were conducted in natural settings. In organisational settings, although the number of studies are still limited, positive affect has been found to be significantly and positively associated with the performance of both extra-role and role-prescribed prosocial behaviours (George, 1991). In relevant reviews of this work, positive affect has been frequently proposed as a direct precursor of prosocial organisational behaviour (Brief & Motowidlo, 1986; Isen & Baron, 1991), organisational spontaneity behaviours (George & Brief, 1992), and organisational citizenship behaviour (Organ, 1988a; Weiss & Cropanzano, 1996).

5.2.1 Feel good-do good

Several explanations have been proposed to make sense of this "feel good, do good" phenomenon. First, Isen, Shalker, Clark and Karp (1978) have suggested that being in a good mood may bias our memories about positive and negative aspects of various activities, including helping. They suggest that when we are in a good mood we are more likely to recall and attend to positive rather than negative aspects of our experience, and to have a more positive outlook on life. Applied to helping, this logic suggests that being in a good mood makes us more likely to remember and attend to the positive, rewarding features of helping, and less likely to attend to the negative features, such as the costs involved. Consistent with this suggestion, Clark and Isen (1982) found that when people are in a good mood, they are more likely to recall the positive aspects of their past experiences involving helping, as well as to be more optimistic about their ability to help. In addition to the proposed memory bias, being in a positive mood may also influence our perceptions or evaluations about others in a more positive way (Clark & Isen, 1982). In support of this argument, Mehrabian and Russell (1975) found that people in a positive mood were more attracted to others, and therefore, were more willing to offer help to those whom they liked.

A second explanation of the positive relationship between positive affect and helping is that a person in a positive affect seeks to maintain this affect (Carlson, Charlin, & Miller, 1988; Clark & Isen, 1982; Isen & Levin, 1972; Levin & Isen, 1975). To maintain the positive affect, the person must eliminate from his or her environment unpleasant and discomforting events, including the suffering of others. The person must also avoid the depressing effect of guilt. Pursuing either or both of these strategies for maintaining positive affect could lead to increased prosocial or helping behaviours.

In a third explanation, the relative nature of affective states is emphasised. Rosenhan, Salovey, and Hargis (1981) and Thompson, Cowan, and Rosenhan (1980) have proposed an explanation of the affect-helping relationship based on "comparative efficacy." They suggest that when people have an opportunity to help another person, they compare their current affective state with the state of the person whom they could help, and if they perceive an imbalance between the two states, they act in a manner that minimises this imbalance. More specifically, people compare their own affective state with the affective state of the person needing help. If the prospective helper is experiencing more joy or less sadness than the person needing help, then he or she is likely to offer help. Rosenhan et al. (1981) assume that the individual values comparative equality between self and others in affective states. If such equality does not exist, a negative discrepancy is perceived, and the goal of returning to equality is established. This logic predicts that people are more likely to help the other person when they experience positive affect, since they are likely to be in a more positive affective state than the person who needs help.

Based on the evidence from studies conducted in laboratory and natural settings designed to test various proposed mechanisms, one could hypothesise that positive affective experiences at work would lead to increased prosocial behaviours in work settings as well. Therefore, I propose

> ***Hypothesis 1:*** There will be a positive relationship between positive affect and prosocial organisational behaviour.
>
> ***Hypothesis 1a***: There will be a significant and positive relationship between the positive affect experienced by nurses and their altruistic *prosocial organisational behaviour (PSOB-Alt)*.
>
> ***Hypothesis 1b***: There will be a significant and positive relationship between the positive affect experienced by nurses and their *continuous-improvement prosocial organisational behaviour (PSOB-CI)*.

5.2.2 Sad-and-empathic

Intuitively, one might assume that the consequences of negative affect are opposite to those of positive affect. In the literature, the effects of positive and negative affect are not, however, always found to be symmetric. It has been frequently found that being in a negative affective state can also increase helping behaviour when compared to a neutral condition (Carlson & Miller, 1987; Morris, 1992). The psychology literature on affect does not support the view that it is only positive affect that has beneficial consequences.

The evidence concerning the relationship between negative affect and helping is, however, considerably more equivocal. For instance, Rosenhan and his colleagues (1981) have argued, from the perspective of their accumulated data, that only positive affective states lead to more helping. They have typically found negative affect to impair helping responses to various degrees. Thus, the form of the affect-helping relationship suggested by Rosenhan and his colleagues is essentially a linear one, with positive affect promoting helping the most and negative affect the least. On the other hand, Cialdini and Fultz (1990), for instance, have argued from the results of their and other studies that a U-shaped relationship exists between affective states and altruistic behaviours with elation-like positive states and depression-like negative states leading to high levels of altruistic action and neutral affective states leading to the least such activity.

The body of findings supporting the notion that negative affect induction procedures facilitate helping is varied and impressive. Greater helping has resulted from empathy based on negative affects (Cialdini, Baumann, & Kenrick, 1981), cognitive discomfort (Kidd & Berkowitz, 1976), and observation of another's harm (Cialdini, Darby, & Vincent, 1973). According to Cialdini's *negative-state relief model* (Cialdini, Baumann, & Kenrick, 1981), unpleasant affective states motivate us to seek positive affect to wipe out the negative

feelings. Those of us who have internalised prosocial standards know that we can feel good about ourselves when we help someone in need. Therefore, when we are feeling bad, we are more likely to help, as long as helping will lead to self-rewards that will relieve our negative affect.

In a slightly different perspective, the *empathy-altruism hypothesis* has been suggested by Batson (1987, 1991). He argued that there is at least the possibility that one person can hold another's welfare as a terminal value and, if that welfare is threatened, have a goal of increasing it (i.e. that the person can be altruistically motivated). The existence of this goal should evoke emotional reactions of sympathy, compassion, and the like, which in turn intensify the altruistic motivation to pursue this goal. One way to achieve the altruistic goal is by providing help, and therefore the sympathy generated by negative affect should be associated with increased helping. A substantial body of research exists to indicate that temporary states of sadness or sorrow reliably increase helping especially when the sadness is caused by another's plight (Thompson, et al., 1980).

In summary, apart from the beneficial effects of positive affect, there is plenty of evidence which supports the idea of a negative affect-helping relationship. Therefore I also propose,

> ***Hypothesis 2:*** There will be a positive relationship between negative affect and prosocial organisational behaviour.
>
> ***Hypothesis 2a:*** There will be a significant and positive relationship between the negative affect experienced by nurses and their *altruistic prosocial organisational behaviour (PSOB-Alt).*
>
> ***Hypothesis 2b:*** There will be a significant and positive relationship between the negative affect experienced by nurses and their *continuous-improvement prosocial organisational behaviour (PSOB-CI).*

5.3 Measurement

Prosocial Organisationl Behaviour

As noted, two aspects of self-rated PSOB were measured in the research: altruism (PSOB-Alt) and continuous-improvement (PSOB-CI). PSOB-Alt was measured by three items which were adapted from Organ (1988a). Nurses were asked to indicate the extent to which they agreed with each item on a 7-point Likert scale labelled from *strongly disagree (1),* to *strongly agree (7)* with *neither agree nor disagree (4)* as the neutral point. The three items presented in the survey were: i) I often do more than is required of me in my job; ii) I often volunteer for things that are not required as part of my job, iii) I often help my immediate superior by doing things that are not really part of my job.

PSOB-CI was also measured by three items which were adapted from Peccei and Rosenthal (1997), and modified appropriately to the nursing context. The items were: i) I am always working to improve the quality of care I give to patients; ii) I give a lot of thought to ways of improving patient care in my team/group; iii) I often make suggestions about how to improve patient care in my team/group. The items were presented with a 7-point Likert-type scale labelled from *strongly disagree (1),* to *strongly agree (7)* with *neither agree nor disagree (4)* as the neutral point.

Work Performance

As noted above, whether PSOB is in-role or extra-role, there seems to be rather strong agreement in the literature that prosocial or citizenship types of behaviours are distinguishable from standard notions of work-role performance.

Standard work performance is what is captured by formal performance appraisal systems, whereas PSOB is not. Although there is debate about whether formal performance appraisal outcomes reflect genuine levels of employee work performance, this does not necessarily affect the validity of the proposition that the aspects of behaviour captured by PSOB are different from those captured by standard notions of work performance. In the survey, therefore, I included items that were designed to tap the perceived level of work-role performance of nurses, mainly in order to determine whether PSOB is, as suggested by many studies, distinguishable from the standard notion of role performance.

Unfortunately, objective data on individual nurses' performance rating, were not available. Nor are there any valid self-report performance measures currently available in the literature. Although far from ideal, therefore, for the purpose of the research I created my own three-item self-report performance scale. The major aim of the new scale was to best approximate the objective performance appraisal outcomes the nurses currently received at the workplace. Therefore, respondents were asked to indicate their own *relative* performance levels with reference to two concrete comparison criteria, specifically, in comparison with peers' performance, and in comparison with their own ideal performance standards. The final item was designed to capture the respondents' perception of their supervisors' judgements of their performance, rather than their own performance judgements. Specifically, self-rated work performance (SWP) was measured by means of the following three items: i) My work performance is much better than that of others in my work unit; ii) I am not doing very well on my job considering my ideal standard (R); iii) I have no doubt that my superior regards me as the best performer on my job. The same 7-point Likert-type scale as for PSOB was used for SWP.

Job Affect

Building on the suggestions mainly of Burke, et al. (1989), and also in line with the findings of Chapter 4 which favoured a unipolar affect structure as opposed to a bipolar one, positive and negative job affect were operationalised as two separate factors. In the prosocial literature in social psychology, positive affect as an antecedent of helping has been frequently operationalised as a *positively elated* affective state, whereas negative affect as a *slightly depressed* affective state (e.g., Ciadini & Kenrick, 1976; Cialdini, Schaller, Houlihan, Arps, Fultz, & Beaman, 1987; Isen & Baron, 1991). Therefore, the enthusiastic mood or positive-high (PH, for short) scale presented in Chapter 4 is used to tap nurses' positive affective state, while the depressive mood or negative-low (NL, for short) scale is used to measure their negative affective state.

As described in Chapter 4, positive affect (PH) or enthusiasm is tapped by five items: *motivated, strong, excited, optimistic*, and *enthusiastic*. Negative affect (NL), or depression is also tapped by five items: *gloomy, dull, miserable, depressed*, and *bored*. Nurses were asked to rate on a 5-point scale the extent to which they had experienced each affective state during the past few weeks. The points of the scale were labelled *very slightly or not at all (1), a little (2), moderately (3), quite a bit (4)*, and *very much (5)*, respectively.

Statistical Analyses

Before conducting the main analyses, factor analysis was performed using the six PSOB items (three items each representing PSOB-Alt and PSOB-CI respectively) and the three items designed to measure standard work performance. This analysis was conducted primarily to determine whether the PSOB scales do indeed measure distinctive behavioural aspects of work which are separable from or cannot be captured by the formally prescribed nursing work performance represented by the three self-rated work performance (SWP) items.

Table 5.2
Factor analysis of Prosocial Organisational Behaviour (PSOB-Alt and PSOB-CI) and Self-rated Work Performance (SWP) indicators

	Factor 1	Factor 2	Factor 3
PSOB-CI2: I give a lot of thought to ways of improving patient care in my team/group.	.86		
PSOB-CI3: I often make suggestions about how to improve patient care in my team/group.	.83		
PSOB-CI1: I am always working to improve the quality of care I give to patient.	.75		
PSOB-Alt2: I often volunteer for things that are not required as part of my job		.80	
PSOB-Alt3: I often help my immediate superior by doing things that are not really part of my job.		.75	
PSOB-Alt1: I often do more than is required of me in my job.	(.43)	.53	
SWP2: I have no doubt that my superior regards me as the best performer on my job.			.88
SWP1: My work performance is much better than others in my work unit.			.71
SWP3: I am not doing very well on my job considering my ideal standard. (R)	(.44)		.49
Eigen Values	**3.84**	**1.27**	**1.04**
KMO Measure of Sampling Adequacy **.79**			
Total Percent Variance Explained **68.4 %**			

Note. N = 224. *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement, *SWP* : Self-rated Work Performance. Factor loadings of less than .40 are not presented.

The results from the factor analysis are presented in Table 5.2. Three varimax-rotated factors emerged, and the three-factor structure explained 68.4 % of the total variance. Each item loaded properly on the predicted factor with factor loadings ranging from .49 to .88. One of the self-rated work performance items (SWP3) and one of the PSOB-Alt items (PSOB-Alt1) also loaded moderately highly on the PSOB-CI factor (.44 for SWP3 and .43 for PSOB-Alt1, respectively). Overall, however, the results suggest not only that the two forms of PSOB included in the present study are separate and distinct constructs in

their own right, but also that they are separable and distinct from standard aspects of work performance.[21] Confirmatory factor analysis was also conducted with these nine indicators, and the results also confirmed that the data fitted well to the proposed three-factor structure (CFI=.93). The results are shown in Appendix A.4.

The main research hypotheses concerning the proposed positive relationship between job affect and prosocial organisational behaviour were tested using OLS (Ordinary Least Squared) multiple regression. Specifically, the two forms of prosocial organisational behaviour, PSOB-Alt and PSOB-CI, were individually regressed on the two measures of job affect, namely positive affect (enthusiasm) and negative affect (depression). In each case several background variables were included in the main regression analyses for control purposes. These mainly biographical variables may also, as noted in Chapter 3, be important explanatory variables in their own right in terms of nurses' prosocial behaviours. However, in order to focus on the main research questions the present study was designed to tackle, they were used and treated purely as control variables in the equations. The background variables included are age (in years), gender (female/male, dummy coded), clinical grade (D/E/F/G/H/I, dummy coded), and the length of time in the current post (in years).[22]

In addition to these biographical variables, *social desirability* scores were also included in the equations. The social desirability scale was designed by Crowne and Marlowe (1964) in an attempt to locate individuals who describe themselves

[21] An additional factor analysis was conducted using, instead of the three SWP items, seven key nursing tasks dimensions adapted from Fox, Dwyer, & Ganster (1993) and confirmed during the pilot interviews with the nurses. Although these seven items were measured in terms of "job competency" rather than "job performance", perceived job competency can reasonably be expected, particularly amongst semi- to high-skilled workers, to be strongly related to their level of job performance, therefore, to serve as a proxy for job performance. The analysis showed that the seven key nursing tasks evaluated in terms of job competency emerged as a clear separate factor, while the two forms of PSOB also emerged as two separate factors. The results are presented in Appendix A.3.

[22] Occupational tenure (year as a qualified nurse) was not included as a control variable because its correlation with age was too high (r=.89).

in favourable, socially desirable terms in order to achieve the approval of others. In the present study, as described in Chapter 3, social desirability was measured with four items selected from Robinson and Shaver's (1973) measurement handbook, and the relevant scores were then included in the analysis as a control variable.

5.4 Results

The means, standard deviations, reliabilities, and intercorrelations among the study variables are reported in Table 5.3. As for the dependent variables, the mean scores of PSOB-Alt and PSOB-CI were high (5.11 and 5.58, respectively). This may be because engagement in prosocial acts may well be considered as socially desirable. However, the correlations between the measures of social desirability and both PSOB-Alt and PSOB-CI were not, in fact, particularly pronounced (r=-.01 for PSOB-Alt, r=.18, $p < .05$ for PSOB-CI, respectively). It should also be noted that, although high, the mean scores for the two forms of PSOB did not reach the very top of the scale and that both measures displayed a reasonable amount of variance (s.d.=1.14 for PSOB-Alt, s.d.=1.03 for PSOB-CI). However, slightly surprisingly, the SWP score was not very high (4.43, s.d.=1.12). People did not seem to exaggerate their perceived level of work performance. This is reflected in the low correlation between SWP and the social desirability scale (r= .08). This may be partly due to the fact that respondents were asked to indicate their performance levels in comparison with specific reference criteria, including the performance of peers and their ideal standard of performance. The scale was also intended to capture respondents' perception of their supervisors' judgements on their performance, instead of their own performance judgements. Hence, it is likely that rather than responding in terms of their own subjective judgements, nurses responded to the items with reference to the formal appraisal outcomes they received at the workplace, which may, overall, more closely approximate their official performance ratings.

The intercorrelations between PSOB-Alt, PSOB-CI, and SWP are also of interest. The two measures of PSOB are quite strongly related to each other (r=.56), while their relationship with SWP is significant but less marked (r=.29 for PSOB-Alt, r=.41 for PSOB-CI, respectively). This is consistent with the assumption outlined above that the PSOB scales represent different aspects of work behaviour from those captured by the SWP scale. Full intercorrelations for all variables, including control variables are shown in Appendix A.1. In addition, among the two measures of PSOB, SWP correlates more strongly with PSOB-CI (r=.41) than with PSOB-Alt (r=.29). This is consistent with the intuition that PSOB-CI, compared to PSOB-Alt, may be perceived by nurses to be a step closer to in-role behaviour, because PSOB-CI taps concerns about the quality of patient care whereas PSOB-Alt taps generalised altruistic forms of behaviours which go beyond role requirements.

Table 5.3

Means, standard deviations, reliabilities, and intercorrelations among study variables

Variable	*Mean*	*s.d.*	1	2	3	4	5
1. Positive Affect	2.99	1.02	**.91**				
2. Negative Affect	1.91	0.89	-.51**	**.84**			
3. PSOB-Alt	5.11	1.14	.12	.12	**.72**		
4. PSOB-CI	5.58	1.03	.18**	-.04	.56**	**.85**	
5. SWP	4.43	1.12	.37**	-.21**	.29**	.41**	**.59**

Note. N = 224. * p<.05. ** p<.01. The main diagonal contains Cronbach's internal consistency reliability estimates. *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement, *SWP* : Self-rated Work Performance.

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Relationship between job affect and PSOB

To test the research hypotheses, concerning the relationship between job affects and PSOB, the two dependent variables (PSOB-Alt and PSOB-CI) were separately regressed on the two unipolar job affects, positive affect and negative affect. The results from the multiple regression analyses are presented in Table 5.4. The first hypothesis, positing a positive relationship between positive affect and PSOB was supported. Positive affect had a strong and significant effect on both PSOB-Alt (beta = .25, $p< .01$) and PSOB-CI (beta=.21, $p < .01$). The second hypothesis, positing a positive relationship between negative affect and PSOB, was also supported.[23]

Table 5.4
Multiple regressions of PSOB-Alt and PSOB-CI on unipolar job affects (positive affect and negative affect)

Predictor	PSOB-Alt	PSOB-CI
Step 1:		
Control Variables[a]		
ΔR^2	.04	.13**
Adjusted R^2	-.01	.09*
Step 2:		
Positive affect (Enthusiasm)	.25**	.21**
Negative affect (Depression)	.30**	.18*
ΔR^2	.07**	.04*
Adjusted R^2	.06*	.12**
Total R^2	.11*	.17**

Note. N=211. * $p<.05$ ** $p<.01$. Figures reported for the positive and negative job affect variables in the table are standardised beta coefficients. [a] Control variables included were age, gender, clinical grade, post tenure, and social desirability. *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement.

[23] Additional multiple regression analyses including the remaining two unipolar affect measures, PL (comfort) and NH (anxiety), were conducted. The results are presented in Appendix A.6. When included along with PH and NL, PL and NH did not emerge as significant predictors of either forms of PSOB, while PH and NL were positively and significantly related to both forms of PSOB.

Negative job affect had a positive and significant impact on both PSOB-Alt (beta = .30, $p<.01$) and PSOB-CI (beta = .18, $p<.05$). In the case of PSOB-CI the set of control variables also explained a significant proportion of variance. The proportion of variance in PSOB-CI explained by the five control factors was even greater, in fact, than that explained by the job affects (ΔR^2 =.13 for the control variables, compared to ΔR^2=.04 for the positive and negative job affects). The standardised betas for each of the control variables both in the first and the second step are reported in Appendix A.5.

Alternative operationalisations of job affect: comparisons

Given that the new unipolar measures of job affect explained a significant proportion of the variance in both PSOB-Alt and PSOB-CI, it is interesting to see whether the standard bipolar measure of job affect performs equally well on the same data. To this end, additional multiple regression analyses were conducted using the standard bipolar affect measure instead of the new unipolar measures as a predictor in the equations. The bipolar affect score was calculated by combining the positive affect (enthusiasm) items and the reverse-coded negative affect (depression) items into a single scale. As a result, higher values on this bipolar scale indicate a more enthusiastic mood, with lower scores indicate a less enthusiastic or more depressive mood. The two forms of PSOB, PSOB-Alt and PSOB-CI were then regressed on this bipolar job affect, along with the usual set of control variables. The results show that bipolar affect failed to explain a significant amount of variance in either PSOB-Alt or PSOB-CI (Table 5.5). According to the results obtained here, it seems apparent that the unipolar conceptualisation of job affects has some definite advantages over the standard bipolar conceptualisation.

Table 5.5
Multiple regressions of PSOB-Alt and PSOB-CI on bipolar job affect

Predictor	PSOB-Alt	PSOB-CI
Step 1:		
Control Variables		
ΔR^2	.04	.13**
Adjusted R^2	-.01	.09**
Step 2:		
Bipolar Affect[b] (Depression-Enthusiasm)	-.03	.03
ΔR^2	.00	.00
Adjusted R^2	-.01	.09
Total R^2	.04	.13

Note. N=211. * $p<.05$ ** $p<.01$. Figures reported for the bipolar job affect variable in the table are standardised beta coefficients. [a] Control variables included were age, gender, clinical grade, post tenure, and social desirability. [b] The bipolar affect score was calculated by averaging the Enthusiasm (PH) score and the reversed Depression (NL) score. *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement.

In addition to comparing the unipolar job affect conceptualisation with the standard bipolar one, positive and negative affect can be operationalised in either "focused" or "global" terms. The traditional prosocial literature does not particularly endeavour to define affect in a focused way. For instance, although positive affect has been typically defined as being in a "positively elated" mood, studies often do not clearly exclude "non-elated" types of positive affect such as being contented or comfortable. Similarly, negative mood in the prosocial literature has most frequently been defined as being "slightly depressed or sad", yet other seemingly very different types of negative affect such as "guilt", "disgust", "embarrassment" and "distress" might also be examined. Therefore, it would also be interesting to see whether such more "global" negative and positive affect operationalisation, as opposed to the more "focused" operationalisation which is usually found in the literature, would equally explain

the proposed PSOB variables. To this end, additional analyses were conducted in which the two forms of prosocial organisational behaviour, PSOB-Alt and PSOB-CI, were separately regressed, this time, on global positive affect and global negative affect. The global scores were calculated by introducing the two additional unipolar affects from the Four-Factor Model presented and discussed in Chapter 4. More specifically, global positive affect was calculated by averaging the two positive unipolar affect scales, namely positive affect-high arousal (PH or enthusiasm) and positive affect-low arousal (PL or comfort). Similarly, global negative affect was calculated by combining the two negative unipolar affect scales, namely negative affect-high arousal (NH or anxiety) and negative affect-low arousal (NL or depression). The results of the additional regression analyses are shown in Table 5.6.

Table 5.6
Multiple regressions of PSOB-Alt and PSOB-CI on global unipolar affects

Predictor	PSOB-Alt	PSOB-CI
Step 1:		
Control Variables[a]		
ΔR^2	.04	.13**
Adjusted R^2	-.01	.09**
Step 2:		
Positive Affect (Global)[b]	.21**	.16*
Negative Affect (Global)	.30**	.13
ΔR^2	.07**	.02
Adjusted R^2	.06*	.11**
Total R^2	.11*	.15**

Note. N=211. * $p<.05$ ** $p<.01$. Figures reported for the positive and negative job affect variables in the table are standardised beta coefficients. [a] Control variables included were age, gender, clinical grade, post tenure, and social desirability. [b] The global unipolar affect variables were calculated as follows: *Positive Affect (Global)* : averaged score of PH (Enthusiasm) and PL (Comfort), *Negative Affect (Global)* : averaged score of NH (Anxiety) and NL (Depression). *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement.

As can be seen, the two global affect measures explained a significant proportion of the variance in PSOB-Alt. Global positive affect had a strong and significant positive effect on PSOB-Alt (beta=.21, $p < .01$), as did global negative affect (beta=.30, $p < .01$). In the case of PSOB-CI, however, whereas the global positive affect variable had a significant positive impact on PSOB-CI (beta= .16, $p < .05$), the impact of the global negative affect variable was not found to be significant. Compared to the focused affect measures, the global measures explained an equally high proportion of the variance in PSOB-Alt. In other words, the global measures performed as well as the focused measures in terms of PSOB-Alt. They did not, however, perform as well in relation to PSOB-CI. The global measures did not explain a significant proportion of the variance in PSOB-CI.

5.5 Discussion

The aim of this chapter was to test the hypothesised relationship between job affect and prosocial organisational behaviour. The job affect predictor was conceptualised as unipolar rather than in the more usual bipolar terms. Based on the unipolar conceptualisation of job affect, two research hypotheses were tested; namely that prosocial organisational behaviour is positively related to both positive and negative job affect. In line with the unipolar Four-Factor Model proposed and empirically supported in Chapter 4, positive job affect was operationalised as an "enthusiastic" mood at work, while negative job affect was operationalised as a "depressed" mood at work. Two forms of prosocial organisational behaviour important to the nursing context were proposed as the consequences of job affect: altruistic form of PSOB and continuous-improvement form of PSOB. Overall, the results of the analysis supported the two research hypotheses proposed in this chapter. The results indicated significant

relationships both between positive job affect and PSOBs and between negative job affect and PSOBs.

More specifically, the first of the two research hypotheses, the so-called "feel good-do good" hypothesis positing a positive relationship between positive job affect and different forms of PSOB, found clear support within this present sample of nurses. Prosocial behaviours are helping behaviours; they are performed to benefit or help another individual and/or the organisation. While PSOB-Alt is a form of prosocial behaviour directed at the members of organisation or the organisation at large, PSOB-CI is a form of prosocial organisational behaviour directed at patients. The extent to which nurses engaged in both forms of prosocial organisational behaviour seemed to be significantly and positively related to their positive mood. Being in a good mood may, in fact, colour their view of the outside world in a more positive way and, in turn, may lead them to perceive the various aspects surrounding prosocial behaviours more positively. They may remember more positive aspects of their past experiences involving prosocial behaviours and perceive the engagement in prosocial acts as less costly, and/or they may tend to like others more and therefore be more willing to help those whom they like. Or, as the literature in this area suggests, nurses in positive moods may be motivated to maintain these pleasant moods by engaging in prosocial behaviours which would continue to make them feel good.

The second hypothesis, concerning a positive relationship between negative job affect and prosocial organisational behaviour, was also supported by the data. Negative job affect, in terms of depressed moods, was also shown to relate positively to both forms of prosocial organisational behaviour, PSOB-Alt and PAOB-CI. In the context of nursing, negative or depressed moods may frequently be created by the nature of the job itself. Nursing staff are continuously witnessing the suffering of patients, and these experiences may lead them to feel depressed. These experiences of depressed mood may lead nurses to be more sympathetic to others in general, which in turn would increase their

likelihood of engaging in altruistic or helping behaviours (PSOB-Alt). Or, alternatively, nurses in negative moods may be motivated to relieve these unpleasant moods by engaging in prosocial behaviours which might lessen their depressed moods.

The experience of negative job affect seemed also to increase nurses' level of engagement in continuous-improvement prosocial behaviour (PSOB-CI). Prosocial actions in terms of new suggestions for improved patient care may come from the awareness of the discrepancy between the current and the desired state. The experienced discrepancy may cause nurses to experience negative affect which, in turn, may lead them to engage in continuous-improvement prosocial behaviour. In addition, or alternatively, negative affective states, caused by various other factors at the workplace, may induce nurses to look for the causes of undesirable current states and make suggestions for change.

With respect to broader conceptualisation issues, the unipolar conceptualisation of job affect seemed to provide a better, or more fruitful, basis for examining the link between affect and prosocial behaviour at the workplace, than the more standard bipolar conceptualisation. The results showed that whereas the unipolar conceptualisation of job affect provided clear support for the hypothesised relationship between job affect and prosocial organisational behaviour, the bipolar conceptualisation did not. As to the focused-versus-global operationalisation of affect, however, it would seem premature, at this stage, to conclude that the focused measures of job affect are distinctively superior to the global ones. The global unipolar affect measures produced almost identical results to those of the focused unipolar measures in terms of PSOB-Alt. PSOB-CI though was explained better by the focused measures than by the global ones. It seems clear, however, that the benefits of focused operationalisation are greater for negative job affect than for positive job affect. The global measures of negative job affect did not significantly explain the variance in PSOB-CI, whereas the focused measure of negative job affect did. The issues surrounding the

advantages and disadvantages of different conceptualisations as well as of different operationalisations of job affect will be discussed in greater detail in the concluding chapter.

In sum, it appears that prosocial organisational behaviours that are not necessarily specified by job descriptions are significantly influenced by job affect. Given the importance of job affect for understanding prosocial organisational behaviours, researchers should focus on the causes of job affect. A variety of situational factors probably influence the extent to which an individual experiences positive and negative affect at work. For example, characteristics of one's job, the extent to which one's job entails social interaction, the physical surroundings at work, as well as recent life events may all be significant determinants of job affect. This issue will be examined in Chapter 7.

Clearly, the results presented above are not without their limitations. For example, because of the non-experimental nature of the data, the direction of causality cannot be unambiguously determined. In fact, it may be the case that, over time, positive affect and prosocial behaviour are reciprocally determined. That is, being in a positive affect may make people more helpful (PSOB-Alt), and the engagement in helping behaviour may, in turn, reinforce the experience of positive affect. Alternatively, the provision of patient care (PSOB-CI) and its resultant effect on improved quality of patient care might itself put nurses in a positive affect; and this positive affect then might feed back to influence subsequent levels of patient care.

These and other limitations notwithstanding, the results of this study suggest that individual's affective experiences at work are important for understanding the occurrence of prosocial organisational behaviours. In the next chapter, I will further explore the job affect-PSOB relationship by extending the analysis to include the key job attitudes of job satisfaction and organisational commitment as the competing predictors for PSOB.

Chapter 6 Job affect, work attitudes and prosocial organisational behaviour

Chapter 6 Job affect, work attitudes and prosocial organisational behaviour

In the previous chapter, prosocial organisational behaviour (PSOB) was proposed to be influenced by job affect. The empirical analyses showed that both positive affect (enthusiasm) and negative affect (depression) explained a significant proportion of the variance in nurses' general altruistic type of behaviour (PSOB-Alt) and in their continuous improvement behaviour (PSOB-CI). People in a positive mood in the workplace tend to engage more in altruistic as well as continuous improvement behaviours. The results confirm the findings in the general prosocial literature that positive moods promote prosocial behaviour. Negative affect, operationalised as "a slightly depressed mood," also seems to promote nurses' prosocial behaviour, of both the altruistic and the continuous-improvement type. In the prosocial literature, however, negative moods sometimes have been found to decrease prosocial behaviour and sometimes to increase it. The inconsistent findings are mainly due, I would argue, to the inappropriate operationalisation of negative affect. The risks involved in using a broad definition, or inappropriate operationalisation, of negative affect were partly demonstrated in the final part of Chapter 5 where a focused measure of negative affect (depression) was found to perform significantly better in the analysis than a more global measure of negative affect (see Table 5.6 in comparison with Table 5.4). In sum, the unipolar four-factor conceptualisation seems to yield some distinctive benefits for the study of job affect, at least, in relation to PSOB.

But how important are the affective states people experience in the workplace as determinants of prosocial organisational behaviours, compared to other potential determinants of PSOB? Job affect, in fact, is not likely to be the only factor influencing individuals' propensity to engage in prosocial behaviours at work. In particular, the organisational literature suggests that employees' positive work attitudes will also lead to prosocial, cooperative, or citizenship behaviours (e.g.,

Barnard, 1938; Brief & Motowidlo, 1986; Smith, Organ, & Near, 1983). Work attitudes represent an employee's predisposition to respond favourably or unfavourably to people or objects in the work environment (Steers, Porter, & Bigley, 1996). Because work attitudes reflect employees' beliefs and feelings about their work, they may influence the extent to which employees engage in prosocial actions towards others and the organisation while carrying out their work roles.

Two forms of work attitudes, job satisfaction and organisational commitment, have been prominently proposed as determinants of PSOB (e.g., Moorman, Niehoff, & Organ, 1993; Organ & Ryan, 1995; O'Reilly & Chatman, 1986; Organ & Konovsky, 1989; Williams & Anderson, 1991). Both the job satisfaction and organisational commitment constructs have attracted much attention from researchers in the areas of organisational psychology and behaviour for decades. It has been proposed that both constructs are important in relation to various aspects of individual and organisational outcomes, including individual-level job performance (e.g., Mowday, Porter & Steers, 1982; Meyer & Allen, 1997) and employee absenteeism and turnover (e.g., Price & Mueller, 1986b; Agho, Price, & Mueller, 1993). While positive links between work attitudes and absenteeism and turnover have consistently been found, a significant amount of empirical evidence also exist that there is no consistent, positive relationship between job attitudes and individual job performance (Iaffaldano & Muchinsky, 1985; Organ, 1977). It has been proposed, however, that a positive relationship does exist between job attitudes and prosocial or citizenship behaviours (Organ, 1988b). The general basis for the link between the two mainly lies in the fact that PSOB is voluntary and discretionary behaviour. In comparison to traditional forms of job performance, which are determined by a series of external constraints in addition to personal willingness, the performance of PSOB, by and large, depends on individual's willingness to engage in such prosocial behaviours. Job attitudes, therefore, should explain PSOB better than they do traditional job performance.

In this chapter, I will explore whether the effects of job affect on PSOB shown in Chapter 5 remain significant when work attitudes which have been proposed prominently as predictors of PSOB, are added to the equations. Specifically, the aim is to examine the relative importance of job affect, compared to both job satisfaction and organisational commitment, as a predictor of nurses' prosocial behaviour at work. Beyond this, the aim is to use the sample of nurses to test whether job affect has a significant added impact on prosocial behaviours at work, above and beyond the impact which job satisfaction and organisational commitment may have on PSOB. In other words, does a consideration of job affect significantly add to our capacity to explain prosocial organisational behaviours, above and beyond what we might already be able to explain by reference to more traditional arguments from work attitudes? To address this question this chapter extends the analysis presented in Chapter 5 to include both job satisfaction and organisational commitment as core predictors of nurses' altruistic (PSOB-Alt) as well as continuous improvement (PSOB-CI) type behaviours at work.

6.1 Job satisfaction, organisational commitment, and PSOB

Job satisfaction

Job satisfaction, defined as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p.1300: Locke, 1976), has, for many years, been heavily researched in the areas of organisational psychology and behaviour. Job satisfaction is believed to be determined by various personal and contextual factors. Personal factors such as positive and negative affectivity dispositions, and contextual factors including among others job autonomy and control, interpersonal relations with co-workers and supervisors, physical working conditions, job security and pay levels, have regularly been found to be predictors of employee job satisfaction. One of the

popular practical as well as theoretical concerns in this area has been whether satisfied workers are high performers on the job.

The theoretical underpinnings of the relationship between job satisfaction and employee work performance can be drawn from social exchange perspectives (e.g., Adams, 1965; Blau, 1964: Homans, 1961). In line with social exchange theory, Organ (1977) argued that performance may be viewed as an appropriate form of reciprocation to the organisation in exchange for whatever satisfaction is afforded an employee on his or her job. He suggested that people who are satisfied with their jobs as a result of various of the above conditions, will increase their effort on the job through mechanisms of social reciprocity. Based on social exchange principles, increased effort on the job might be seen as a way to reciprocate rewards from colleagues, supervisors, and/or the organisations as a whole. Others (e.g., Blau, 1964; Gouldner, 1960; Homans, 1961; Lerner, 1975) have also suggested that social exchange, equity, or norms of reciprocity may guide prosocial actions. Given the constraints on traditional forms of job performance, such as technology and individual ability, employees may more likely reciprocate with behaviours under their control, i.e. discretionary prosocial or citizenship behaviours (Organ, 1988a). Furthermore, to the extent that PSOB is perceived as extra-role, employees may more likely withhold such behaviour as compared to traditional output to avoid sanctions (Organ, 1988a).

Empirical evidence supports the hypothetical relationship between job satisfaction and various forms of prosocial behaviour at work (e.g., Bateman & Organ, 1983; Moorman, Niehoff, & Organ, 1993; Organ & Konovsky, 1989; Smith, Organ, & Near, 1983; Williams & Anderson, 1991). For example, Smith, Organ, and Near (1983) found that job satisfaction correlated .31 ($p < .01$) with the altruism component of organisational citizenship behaviour and .21 ($p < .01$) with the generalised compliance component. Bateman and Organ (1983) reported a correlation of .41 ($p < .01$) between job satisfaction and supervisory ratings of overall citizenship behaviour which tapped a variety of behaviours such as compliance, altruism, dependability, cooperation, and punctuality.

Based on the social exchange interpretations of job satisfaction, I propose that a higher level of employee job satisfaction will lead to increased prosocial organisational behaviour. To the extent that this is the case, the main question in terms of job affect then is whether it continues to have an impact on PSOB and, when included in the analysis, helps to explain a significant added proportion of the variance in prosocial behaviour above and beyond that explained by job satisfaction. More formally, therefore, the core proposition to be tested here is that the affective states people experience at work have a significant positive effect on PSOB which is separate and additional to any effects that may derive from their level of job satisfaction.

Organisational Commitment

Organisational commitment has also been proposed to influence prosocial organisational behaviour (e.g., Brief & Motowidlo, 1986; O'Reilly & Chatman, 1986; Smith, Organ, & Near, 1983; Williams & Anderson, 1991). There is little consensus however, about how commitment is defined and measured, although the construct of organisational commitment has long occupied a prominent place in the areas of organisational psychology and behaviour. For instance, Porter, Steers, Mowday, and Boulian (1974) defined organisational commitment as "the relative strength of an individual's identification with and involvement in a particular organization (p. 604)". In their view, commitment is characterised by a person's (a) belief in and acceptance of the organisation's goals and values, (b) willingness to exert effort on behalf of the organisation, and (c) desire to maintain membership. Buchanan (1974) saw commitment as a "partisan, affective attachment to the goals and values of an organisation, to one's role in relations to the goals and values, and to the organisation for its own sake, apart from its purely instrumental worth (p.533)". Others have differentiated a type of attachment based on calculative involvement or an exchange of behaviour for specific extrinsic rewards from a moral attachment where involvement is

predicated on a congruence of values (Etzioni, 1961; Gould, 1979; Meyer & Allen, 1991).

Although numerous differences in the approach to commitment research exist, a central theme that continues to appear in much of the work in this area is the idea of the individual's psychological attachment to an organisation – the psychological bond linking the individual and the organisation. The importance of having organisational members who have strong psychological attachment to the organisation has been emphasised by several researchers in studies of prosocial, citizenship, and/or extrarole behaviour (e.g., Katz, 1964; Meyer & Allen, 1991; O'Reilly & Chatman, 1986; Organ & Ryan, 1995; Smith, Organ, & Near, 1983). Employees with strong psychological attachment or high commitment to the organisation will have greater motivation to contribute meaningfully to the organisation than less committed employees. Meyer and Allen (1991), for instance, propose that affectively committed employees direct their attention to aspects of their work performance that are believed to be valuable to the organisation.

To explain the relations between organisational commitment and prosocial organisational behaviour, the process of *identification* can be suggested as an important mechanism (e.g., Bowlby, 1982). Organisational identification has long been recognised as a critical construct in the literature on organisational behaviour, affecting both the satisfaction of the individual and the effectiveness of the organisation (Brown, 1969; Hall, Schneider, & Nygren, 1970; O'Reilly & Chatman, 1986). Social identity theory (SIT), developed by Tajfel (1978, 1981; Tajfel & Turner, 1985) and Turner (1975, 1984), offers a social psychological perspective to understand the antecedents and consequences of social identification in organisations. According to SIT, people tend to classify themselves and others into various social categories, such as organisational membership, gender, and age cohorts (Tajfel & Turner, 1985). Social classification then leads to the perception of oneness with or belongingness to some human aggregate, e.g., an organisation, or a work group (Ashforth &

Mael, 1989). As a result of the perception of oneness, the SIT literature suggests that social identification affects the outcomes conventionally associated with group formation, including intragroup cohesion, cooperation, and altruism (Turner, 1984). In addition, the perception of oneness may well lead to a redefinition of one's work role within the organisation (Morrison, 1994). For instance, employees high in affective commitment perceive their roles more broadly, and thus are more likely to engage in prosocial organisational behaviours such as helping others (Morrison, 1994). Similarly, O'Reilly and Chatman (1986) presented evidence that a high level of commitment was, in fact, related to manifestations of prosocial behaviour such as voluntary participation and contributions beyond those narrowly defined by work roles.

Based on the social identification interpretations of organisational commitment, I also propose that organisational commitment will be positively related to prosocial organisational behaviour. The main question in terms of job affect here is whether job affect continues to have an impact on PSOB and, when included in the analysis, helps to explain a significant added proportion of the variance in prosocial behaviour, above and beyond that explained by organisational commitment. Therefore, the core proposition to be tested here is that job affects have a significant positive effect on PSOB which is separate and additional to any effects that may derive from nurses' individual level of organisational commitment.

6.2 Methods

6.2.1 Measurement

Job satisfaction

A four-item overall job satisfaction scale (Price & Mueller, 1986a) was used. The items are: i) I find enjoyment in my job; ii) Most days I am enthusiastic about my job; iii) I am often bored with my job (R); and iv) I feel dissatisfied with my job (R). The subjects were asked to rate on a 7-point scale the extent to which they agreed or disagreed with each statement. The scale is labelled from *strongly disagree* (1), *neither agree nor disagree* (4) to *strongly agree* (7). Items iii) and iv) were reverse-coded, and the mean score of the four items was then taken to represent the level of job satisfaction of each individual. The Cronbach's α for the four items was .81.

Organisational commitment.

A six-item version of Cook and Wall's (1980) organisational commitment scale was used, with two items tapping each of the three organisational commitment components of identification, involvement and loyalty: i) I am proud to be able to tell people that I work for this Trust; ii) I feel myself to be part of this Trust; iii) In my work I like to feel I am making some effort, not just for myself but for the Trust as well; iv) I am willing to put myself out to help the Trust; v) I sometimes feel like leaving this Trust for good (R); and vi) The offer of a bit more money with another employer would make me seriously think of leaving this Trust (R). The same 7-point Likert type scale was used as for job satisfaction, and the organisational commitment score was calculated by taking the mean score of the six items with items v) and vi) being reverse-coded. The Cronbach's α for the six items was .82.

Job affects

The same positive affect (enthusiasm) and negative affect (depression) scales used in Chapter 5 were employed.

Prosocial organisational behaviours

The two aspects of self-rated PSOB, general altruistic behaviour (PSOB-Alt) and continuous improvement (PSOB-CI) used in Chapter 5 were also used in this analysis.

Control variables

As in previous analyses, age, gender, clinical grade, post-tenure, and the social desirability scale were included in the regression equations for control purposes.

6.2.2 Statistical Analyses

Hierarchical regression analysis was used to test the propositions outlined above relating to work attitudes, job affects and prosocial organisational behaviour. Separate regression equations were estimated for each of the two types of PSOB (PSOB-Alt and PSOB-CI) using, in each case, job affects, work attitudes and the set of control variables as predictors. The job affect variables used in the analysis include both positive and negative affect, while the work attitude variables include job satisfaction and organisational commitment.

In the first step, the usual set of control variables were included in the regression equations. The impact of work attitudes on the PSOBs was then tested based on changes in the proportion of explained variance in PSOB once the two work attitude variables were added in the second step. Specifically, the impact of work attitudes on the two forms of PSOB was tested based on changes in the level of explained variation in PSOB-Alt and PSOB-CI respectively, before and after job satisfaction and organisational commitment were simultaneously added to the set of control variables in the equations. The two work attitude variables

were entered together in the analysis because the main purpose of this chapter is to determine the added impact of the job affect variables on PSOB rather than to isolate the relative importance of the two work attitudes as such. And also, although there is a fair amount of debate in the literature about which of the two, job satisfaction or organisational commitment, is the strongest predictor of PSOB (e.g., Moorman, Niehoff, & Organ, 1993; Organ & Ryan, 1995; William & Anderson, 1991), the empirical evidence, does not, as yet, favour a particular position. For example, William and Anderson (1991) found that when job satisfaction was controlled, no relationship between organisational commitment and citizenship behaviour existed; on the other hand, when organisational commitment was controlled, job satisfaction still explained significant variance in citizenship behaviour. Moorman, Niehoff, and Organ (1993) obtained similar results. However, Organ and Ryan (1995) found job satisfaction and organisational commitment to have roughly comparable effects on prosocial behaviour. Therefore the two work attitudes variables were entered together in the second step of the present analyses.

In the third and final step of the analysis, positive and negative job affects were added to the regression equations. In doing so, it is possible to see whether the job affect variables, after controlling for job satisfaction and organisational commitment, still have a significant impact on PSOB, as they did in Chapter 5, and whether they add significantly to the overall proportion of the variance explained in the dependent variable.

6.3 Results

The means, standard deviations, reliabililties, and intercorrelations among the scales are reported in Table 6.1. The mean scores for job satisfaction and organisational commitment appear low. On a 7-point scale, the mean job satisfaction score for the present sample was 4.91 (s.d.=1.25). As noted in Chapter 3, this does not seem unusual, compared to other larger national surveys of nurses, since other studies have frequently reported that nurses, overall, are not particularly satisfied with their job, due to a variety of reasons (e.g. Buchan & Seccombe, 1991; Seccombe & Ball, 1993; Smith & Seccombe, 1998). The mean score for organisational commitment was even lower at 4.03 (s.d.=1.32). Also as noted in Chapter 3, the score of the present sample appears rather low given that workers' mean organisational commitment scores have frequently been reported in UK studies to be as high as 5.0 or above on a 7-point scale (e.g., Fenton-O'Creek, Winfrow, Lydka, & Morris, 1997; Warr, Cook, & Wall, 1979)

Table 6.1
Means, standard deviations, reliabilities, and intercorrelations among study variables

Variable	*Mean*	*s.d.*	1	2	3	4	5	6
1. Positive Affect	2.99	1.02	**.91**					
2. Negative Affect	1.91	0.89	-.51**	**.84**				
3. Job Satisfaction	4.91	1.25	.62**	-.55**	**.81**			
4. OC	4.03	1.32	.45**	-.36**	.51**	**.82**		
5. PSOB-Alt	5.11	1.14	.12	.12	.09	.18**	**.72**	
6. PSOB-CI	5.58	1.03	.18**	-.04	.22**	.34**	.56**	**.85**

Note. $N = 224$. * $p<.05$. ** $p<.01$. The main diagonal contains Cronbach's internal consistency reliability estimates. *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement, *OC* : Organisational Commitment

Both the job satisfaction and organisational commitment measures are highly correlated with job affects. The job satisfaction scale shows particularly high correlations with both the positive and negative affect scales (.62, and -.55, respectively). This is not surprising because the items tapping the job satisfaction construct contain a strong affective component. Both the organisational commitment and job satisfaction scales show high scale reliabilities (internal consistency α= .81 for job satisfaction, and .82 for organisational commitment).

Table 6.2 shows the results of the two main hierarchical regression analyses. Job satisfaction had no significant impact on PSOB-Alt, nor on PSOB-CI. Organisational commitment, on the other hand, had a significant impact on PSOB-CI, but only a marginal one on PSOB-Alt (beta = .16, $p < .10$). In the following step, when both positive and negative affect were entered in the equation, negative affect exhibited a positive and significant impact on both PSOB-Alt (beta = .34, $p < .01$) and PSOB-CI (beta = .23, $p < .01$). In contrast, positive affect had only a marginally significant effect on PSOB-Alt (beta = .16, $p < .10$). In the previous analyses in Chapter 5 where the job attitudes variables were not included in the regressions, positive affect emerged as a significant predictor of both PSOB-Alt and PSOB-CI (see Table 5.4). In other words, the impact of negative affect on the two forms of PSOB survived even after controlling for the influence of the two job attitudes on PSOBs. However, the impact of positive affect on the PSOBs disappeared once job satisfaction and organisational commitment were included in the regression equations.

Table 6.2
Hierarchical regression analyses of PSOBs on job attitudes and job affects

Predictor	PSOB-Alt	PSOB-CI
Step 1		
Control Variables		
ΔR^2	.04	.13**
Adjusted R^2	-.01	.09**
Step 2		
Job Satisfaction	.01	.05
Organisational Commitment	.16	.24**
ΔR^2	.02	.05**
Adjusted R^2	.00	.14**
Step 3		
Job Satisfaction	.09	.12
Organisational Commitment	.14	.23**
Positive Affect (Enthusiasm)	.16	.08
Negative Affect (Depression)	.34**	.23**
ΔR^2	.07**	.03*
Adjusted R^2	.07**	.16**
Total R^2	.13**	.21**

Note. N=211. * $p<.05$ ** $p<.01$. Figures in the table are standardised beta coefficients. Age, gender, clinical grade, tenure, and social desirability were controlled and not shown. *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement.

One interpretation of these results is related to the nature of the job attitude constructs used in the analysis. Work attitude constructs such as job satisfaction and organisational commitment, like attitude constructs more generally, consist of at least two components, an affective and a cognitive one. Therefore,

individuals' affective experiences in the workplace can necessarily be expected to contribute to the formation of their work-related attitudes, i.e., job satisfaction and organisational commitment. This potential overlap between affective experiences and work attitudes may confound the results of analyses which, like the present one, look at job affects and attitudes together with a view to isolating the relative impact of each on key outcome variables such as PSOB. There are at least two ways to tackle the issue. First, one could suggest a mediation model by proposing, for instance, work attitude as mediating the relations between job affect and PSOB. Theoretically, however, this would suggest that relatively transient, or state-like job affects influence job attitudes which are believed to take a while to be formed and to be relatively stable over time. Although not impossible to justify (e.g., Weiss & Cropanzano, 1996), this is not a particularly convincing or appealing line of argument, nor is it one that is of central concern to the present study.

Alternatively, it is equally or more interesting to see, without proposing a particular causal direction between job affects and job attitudes, what happens when the non-affective part, or cognitive component, of work attitudes is used as a predictor for PSOB, along with job affects. This relates to the debate about 'affective-vs-cognitive' explanations of prosocial and/or citizenship behaviour (e.g., George, 1991; Moorman, Niehoff, & Organ, 1993; Organ & Konovsky, 1989). For instance, job satisfaction has been prominently proposed as an antecedent of prosocial/citizenship behaviour, primarily because it contains both affective and cognitive component, with some researchers tending to give primacy to a cognitive explanation (e.g., Fahr, Podsakoff, & Organ, 1990; Moorman, Niehoff, & Organ, 1993; Organ & Konovsky, 1989), and others tending to emphasise the more affective aspect as the underlying mechanism of the relationship (e.g., George, 1991). Although the number of studies supportive of the cognitive argument seem to outweigh those supportive of the affective one, the 'cognitive-affective' debate on the relationship between job attitudes and prosocial behaviours remains open. This is mainly because the job attitude measures on which the cognitive argument is based, seldom are purely *cognitive*

in nature, although it has been argued that cognitive appraisals dominate in satisfaction measures (Brief & Roberson, 1989).

To be able to answer the question of whether the cognitive aspect of work attitudes is the real underpinning mechanism for explaining PSOB, additional regression analyses were conducted. First, the two job attitudes variables, namely job satisfaction and organisational commitment, were separately regressed on positive and negative affect. The residual scores from the two regressions were then used to create two new purely 'cognitive' measures of job satisfaction and organisational commitment respectively. In practice, in fact, these residuals measure individual levels of job satisfaction and commitment in the sample stripped of, or uncontaminated by, any affective influences or components linked to the job affect variables. The new variables were labelled cognitive job satisfaction and cognitive organisational commitment, respectively. A new set of hierarchical regressions were then conducted similar to the previous one, but this time using the new measures of cognitive job satisfaction and organisational commitment in the analysis. The results are shown in Table 6.3.

Table 6.3
Hierarchical regression analyses of PSOBs on cognitive job attitudes and job affects

Predictor	PSOB-Alt	PSOB-CI
Step 1		
Control Variables		
ΔR^2	.04	.13**
Adjusted R^2	-.01	.09**
Step 2		
Job Satisfaction (Cognition)	.07	.09
Organisational Commitment (Cognition)	.14	.21**
ΔR^2	.03	.05**
Adjusted R^2	.01	.14**
Step 3		
Job Satisfaction(Cognition)	.06	.08
Organisational Commitment (Cognition)	.13	.20**
Positive Affect (Enthusiasm)	.26**	.21**
Negative Affect (Depression)	.28**	.15*
ΔR^2	.07**	.03*
Adjusted R^2	.07**	.16**
Total R^2	.13**	.21**

Note. N=211. * $p<.05$ ** $p<.01$. Figures in the table are standardised beta coefficients. Age, gender, clinical grade, tenure, and social desirability were controlled and not shown. *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement.

In terms of the impact of the work attitudes on the PSOBs, the results are very much the same as those shown in Table 6.2 where the original measures of satisfaction and commitment were used. In brief, the new measure of job satisfaction, or cognitive job satisfaction, was not significant in relation to either PSOB-Alt or PSOB-CI. And also, while the new measure of organisational

commitment, or cognitive organisational commitment, was not a significant predictor of PSOB-Alt, it was significant for PSOB-CI. When the two job affect variables were added to the regression equations, the impact of the cognitive job satisfaction and organisational commitment variables on the PSOBs remained unchanged. In sum, cognitive job satisfaction did not have a significant impact on either of the two forms of PSOB regardless of whether or not the job affect variables were included in the regressions. The impact of cognitive organisational commitment, was significant for PSOB-CI in the absence of the job affects (beta = .21, $p < .01$), and remained so when the job affects were added to the analysis (beta = .20, $p < .01$). For PSOB-Alt, cognitive organisational commitment was not a significant predictor to start with and remained so when the job affect variables were added to the equation.

In terms of the impact of the positive and negative job affect variables on the two forms of PSOB, the new analyses yielded significantly different results. In the new analyses with the new measures of job attitudes, both positive and negative affect emerged as positive and statistically significant predictors of both PSOB-Alt and PSOB-CI. The major change which occurred here, compared to the previous analyses where the original measures of work attitudes were used, is that positive affect became a significant predictor of the PSOBs, which was not the case in the previous analysis (see Table 6.2). In the new analyses, in fact, positive affect emerged as a strong positive predictor of PSOB-Alt (beta = .26, $p < .01$), and for PSOB-CI it proved to be the most important predictor (beta = .21, $p < 01$).

6.4 Discussion

To summarise the main findings, job affects explained a significant proportion of the variance in PSOB in the sample, above and beyond the variance already accounted for by job attitudes. Positive affect was found to be a significant predictor of both PSOB-CI and PSOB-Alt after the two job attitudes, job satisfaction and organisational commitment, were controlled. Negative affect was also found to be positively and significantly related to both forms of PSOB after controlling for job attitudes.

Organisational commitment was also found to be an important determinant of both altruistic and continuous improvement forms of PSOB in this study. It was a statistically significant predictor of PSOB-Alt, and for PSOB-CI it proved to be a strong positive predictor (Table 6.2). The explanatory power was sustained when the cognitive measure of commitment (residual OC) instead of the original measure was used in the analysis (Table 6.3). These results suggest that the mechanism underlying the link between organisational commitment and PSOBs may, in fact, well be a cognitive one.

In contrast, job satisfaction did not explain a significant proportion of the variance in either PSOB-Alt or PSOB-CI (Table 6.2). The results did not change when the cognitive measure of job satisfaction was used in the analysis (Table 6.3). One potential explanation for these results, although one must necessarily be very cautious, may be connected with some of the mechanisms which are assumed to link the various independent variables examined in the study and the PSOBs. The major underlying mechanism suggested for the relation between job satisfaction and PSOB has been predominantly a "social exchange", or "reciprocity" one. The two forms of prosocial organisational behaviours examined in this study may not, however, be easily subject to "exchange" or be highly sensitive to a logic of "reciprocity." They may more closely represent an affective reaction or be a natural result of organisational identification, than a straightforward outcome of exchange relations or reciprocity considerations.

Finally, compared to continuous improvement behaviours, altruistic behaviours seem more likely to be determined by affective states than by job attitudes. This is understandable since PSOB-CIs are likely to be relatively carefully thought out forms of behaviour (e.g., Peccei & Rosenthal, 1998), requiring premeditated plans and suggestions, and perhaps ways of implementing these suggestions, and so on. In other words, these are likely to be future-oriented, proactive, and innovative form of behaviours. On the other hand, PSOB-Alts may not involve or require such well-planned courses of action - one can give help on the spot whenever one feels there is a "need" for it. In other words, altruistic behaviours of this kind can be regarded as more spontaneous, reactive, and 'here-and-now' form of behaviours. This is probably why PSOB-Alt is better explained by nurses' current affective states while PSOB-CI is equally or better predicted by their job attitudes, and, in particular, by their level of organisational commitment. It might be reasonable to suggest in fact that PSOB-Alt behaviours are mainly affect-driven whereas PSOB-CI behaviours are attitude-driven as well as affect-driven.

Chapter 7 The antecedents of job affect

Chapter 7 The antecedents of job affect

The previous two chapters have shown that nurses' affective states at the workplace are closely linked to their prosocial organisational behaviours (PSOB). Two forms of PSOB, continuous-improvement (CI) and altruism (Alt) were significantly explained by positive job affect (measured by enthusiastic moods) and negative job affect (measured by depressive moods); and the effects remained significant after controlling for two job attitude variables, job satisfaction and organisational commitment. The relationship between job affect and prosocial organisational behaviour, however, failed to emerge when job affect was construed as a bipolar variable and operationalised in terms of "depression-enthusiasm." Bipolar affect had no significant effect on either PSOB-Alt or PSOB-CI. The results demonstrate that some work-related behaviours such as PSOB-Alt and PSOB-CI are best analysed in terms of unipolar affect. They also suggest that a more rigorous operationalisation is necessary for testing the relationship between job affect and prosocial organisational behaviour. The operationalisation of positive and negative affect used in Chapters 5 and 6 relied on the unipolar Four-Factor structure I had confirmed in Chapter 4.

Here, it is worthwhile to consider the implications of the unipolar job affect structure in contrast to those of the bipolar one. The bipolar model assumes that affects can be described on a continuum ranging from negative feelings through neutral to positive feelings. By implication, the bipolar model suggests only quantitative but no qualitative differences between any two points on the continuum (including the neutral point, which represents neither positive nor negative affect). In contrast, the unipolar model places a special meaning on the neutral point. The unipolar model assumes that individual affective experiences can best be described in terms of neutral, to weak, to strong feelings. The neutral point itself is regarded as the starting point of every single affective

experience. In other words, the opposite state of intensely depressive moods is *not* an enthusiastic feeling but a non-depressive, or neutral state. Similarly, a neutral, or non-enthusiastic affective state also represents the opposite state of strong enthusiasm.

Nevertheless, the unipolar model does not entirely preclude the possibility of interrelationships among affective states, for instance, the fact that depressive moods and enthusiastic moods are negatively correlated. The unipolar model assumes, however, that, although negatively interrelated, they are independent enough to be treated as separate factors. On the other hand, the bipolar model assumes these two affects to be completely interdependent with each other such that knowledge of one affective state would tell us about the other. For instance, an increase in the degree of depressive moods would *automatically* accompany a decrease in the degree of enthusiastic moods. Hence, the bipolar model does not require two separate factors but a single factor. The unipolar model questions this. The disagreement between the two models seems reconcilable at first glance, particularly as it relates to *the degree* of independence/interdependence of affective states. The gap between the two models, however, grows wider once the discussion moves to the implications of unipolar-vs.-bipolar factors, i.e., once one begins to consider the antecedents and the consequences of different affective states. The aspects related to the consequences of job affect have already been demonstrated in Chapters 5 and 6. The other area of enquiry to which the unipolar model can contribute, namely, a better understanding of the *antecedents of job affect,* now needs to be explored.

This chapter has two aims. The first, represented by the title of the chapter, is to explore the antecedents of job affect within the context of nursing covered in the research. The antecedents will be explored in terms of the four unipolar job affects confirmed in Chapter 4. Although only two unipolar job affects, enthusiasm and depression, were suggested and shown as important predictors of PSOB in Chapters 5 and 6, each of the four unipolar factors represents an important aspect of individuals' work-related affective experiences. Therefore,

in relation to the exploration of the antecedents of job affect, all four unipolar job affects will be separately explored.

The second aim of this chapter is to demonstrate the usefulness of the unipolar factor conceptualisation with respect to the antecedents of job affect. This will be achieved as follows. While the antecedents of the four unipolar affects are being explored, two bipolar factors will also be separately examined using the same set of antecedents proposed for the unipolar factors. In so doing, different sets of significant determinants for the unipolar and bipolar factors, if any, will be revealed. The usefulness of the unipolar factors will be partly confirmed by showing that there are important antecedent of job affect which are detectable only by the unipolar conceptualisation, and not by the bipolar one.

In addition, in the final part of the chapter, the analysis is extended to look at the impact of the antecedents of job affect on the two forms of PSOB with a view to determining whether the job affect variables actually mediate the relationship between the antecedents and prosocial behaviours at work. The previous two chapters, in fact, demonstrated that job-related enthusiasm and depression are significant predictors of both forms of prosocial behaviour, PSOB-Alt and PSOB-CI. Whether these two dimensions of job affect also mediate the relationship between the antecedents and the PSOBs, therefore, is an interesting issue to explore. Hence, after the antecedents of job affects are examined, additional mediation analyses are conducted.

7.1 Affect generating conditions

In his extensive review of studies of affect, Morris (1989) stated that there had been at least four different positions regarding the sources of affects/moods. Position 1 states that affects are the results of mildly positive or mildly negative external events. This is the position, which guides most of the laboratory research on the effects of affects. Indeed, experimental studies have demonstrated the efficacy of manipulating affect by showing brief videos, providing subjects with cookies, playing pleasant or unpleasant music, inducing success on experimental tasks, and so forth. Affects can also result from the offset of emotional reactions (Position 2), the recollection of emotional events (Position 3), and the inhibition of a full blown emotional response (Position 4). Positions 2, 3, and 4 assume close links between affective and emotional experiences. As discussed in Chapter 2, emotional experiences and affective experiences can better be understood separately, and each tends to be determined by different sets of events, emotional events and affective events, respectively. Nevertheless, to the extent that Positions 2, 3, and 4 are true, emotional events could be transformed into affective events as time passes.

When examining the direct sources of affect, Position 1 noted by Morris (1989) attracts special attention. Within the context of work settings, individuals encounter many mildly positive and mildly negative events. One may feel excited and enthusiastic while performing challenging tasks. One may feel distressed and nervous to meet tight work deadlines. One may feel pleased and comfortable by kind words from colleagues. Or one may feel depressed and miserable by having nobody to discuss one's problems with. Nevertheless, the difficulty lies in making a list of every single mildly positive or mildly negative event that could possibly happen in the work place. It may be useful to think more broadly instead, of working conditions which provide individual employees with greater or fewer opportunities to experience positive or negative affect. In this respect, there are a potentially large number of situational factors which affect the extent to which individuals are likely to experience positive and

negative affects, ranging from aspects of organisational culture to the social and task structure to the physical environment (Baron, 1990; George & Brief, 1992; Harding, 1982; Isen & Baron, 1991; Warr, 1987, 1990). For instance, Warr (1987) proposed nine broad environmental factors as potential causes of employee affective well-being : opportunity for control, opportunity for skill use, variety, externally generated goals or workload, environmental clarity, availability of money, physical security, valued social position, and opportunity for interpersonal contact. Here, while acknowledging the wide range of potential determinants of affect, I focus on a more limited set of key situational antecedents linked to the nature of jobs and to the quality of social support received at the workplace.

The two sets of situational antecedents, the nature of jobs and social support, have received a considerable amount of attention by researchers and practitioners alike, since they are exemplars and key aspects of two core sub-systems within work organisations. The nature of jobs concerns how work is organised, and therefore relates to the design of the *technical system* of the organisation, while the quality of social support is linked to interpersonal relations at work and, hence, reflects the design of the *social system* of the organisation.

In other words, these two broad sets of situational antecedents focus attention on core aspects of work organisations. They are also particularly important and relevant in the context of nursing. First, nursing tasks are reasonably highly-skilled and non-routine. Hence, the way work is organised, or the technical system, is of primary concern. For instance, research has shown that the different types of nursing care systems, i.e. team nursing, primary nursing, patient allocation, and task allocation, have important implications in terms of both individual nurses' work motivation and performance (Boumans & Landeweerd, 1992; Landeweerd & Boumans, 1994). Second, nursing tasks also include an important social component. Nurses deal with people all the time, and their primary responsibilities involve providing emotional as well as technical

care to their patients (Cooper & Mitchell, 1990). Recognised also as *emotional labour* (Hochschild, 1983) nursing tasks require a lot of emotional resources, which can be easily affected by day-to-day interpersonal encounters with co-workers and superiors. Good workplace relations can therefore positively influence nurses' emotional reservoir and, hence, their capacity to deliver quality patient care. For example, head nurse's leadership style as well as peer support, have been recognised as important causes not only of nursing staffs' stress experiences, but also of the smooth functioning of entire Ward units (Fox, Dwyer, & Ganster, 1993).

Besides a set of situational antecedents, it is also essential to consider certain personality dispositions, which can themselves influence the level of an individual's job affect. A growing amount of evidence suggests that personality predisposes individuals to experience varying degrees of positive and negative affect across situations (e.g., Costa & McCrae, 1980). In particular, recent research has examined the nature and consequences of two main 'affective dispositions', typically referred to as the personality traits of 'negative affectivity' and 'positive affectivity' (Warr, 1996). The positive affectivity (PA) and negative affectivity (NA) traits appear to be key determinants of the extent to which individuals experience positive and negative affective states (Costa & McCrae, 1980; Tellegen, 1985; Watson & Clark, 1984). Therefore, job affect is best viewed as being determined by both personality and situational factors. Figure 7.1 depicts the relationships between job affect, situational factors and dispositional factors.

This schematic figure represents the simplest model. A more complex model would recognise additional relationships among the antecedents variables (e.g., relationships between dispositional factors and job design factors, relationships between dispositional and social factors), yielding some mediated and/or moderated relationships between the antecedents and job affects. However, given that the links proposed here are entirely exploratory, and that a more

complex model specification requires more rigorous empirical as well as theoretical justifications, I only focus on the simplest model.

In sum, job affects are hypothesised to be affected by broadly three different sets of antecedents, job characteristics, social factors, and affective dispositions. The four unipolar job affects, enthusiasm (PH), comfort (PL), anxiety (NH), and depression (NL) will each be explored with the same three sets of proposed antecedents. Each set of proposed antecedent variables is discussed below, in relation to the four job affect outcomes involved.

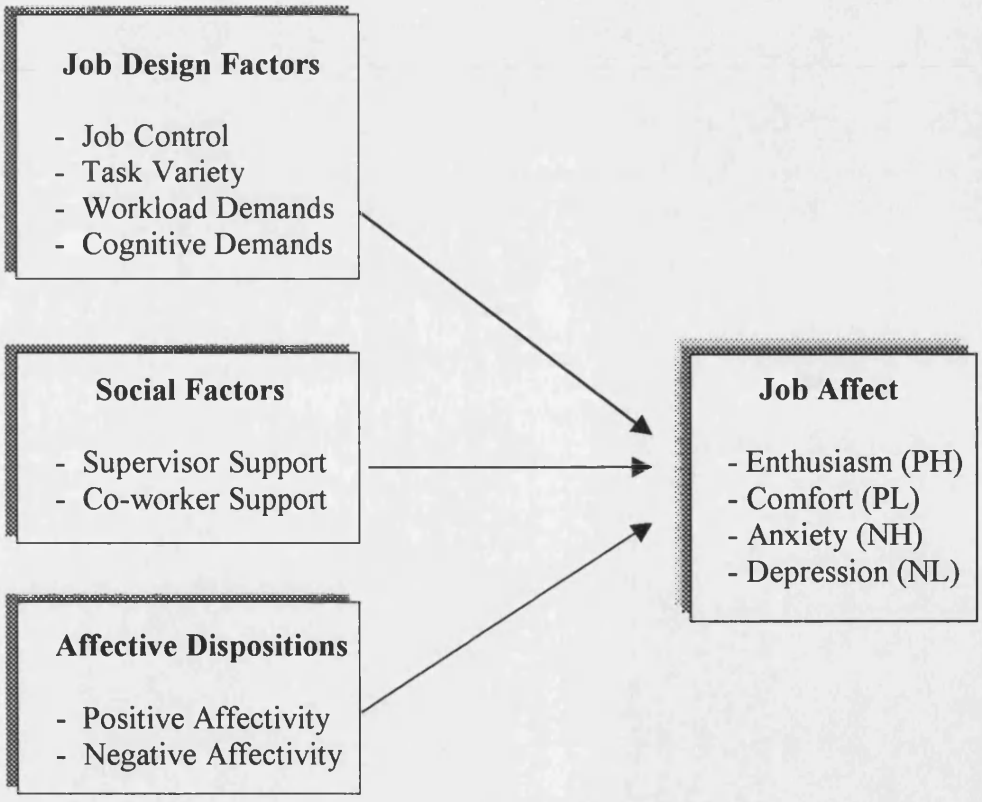

Figure 7.1 *The proposed antecedents of job affect*

7.1.1 Job characteristics

Based on work on the impact of job features on affective well-being (e.g., Warr, 1987, 1990), and in line with the literature on job redesign (e.g., Hackman & Oldham, 1975, 1980), job stress (e.g., Caplan, Cobb, French, Harrison, & Pinneau, 1980; Cooper & Marshall, 1980; Cooper & Payne, 1988; Hurrell, Murphy, Sauter, & Cooper, 1988; Sauter, Hurrell, & Cooper. 1989), and the demands-control model of job characteristics (Karasek, 1979, 1990; Dwyer & Ganster, 1991; Fox, Dwyer, & Ganster, 1993; Jackson, Wall, Martin, & Davids, 1993; Wall, Jackson, & Mullarkey, 1995; Wall, Jackson, Mullarkey, & Parker, 1996), affective experiences at work or job affects are hypothesised to be affected by workload demands, cognitive demands, job control, and variety.

Workload demands and cognitive demands

Job conditions which are related to negative affects (e.g., depression, tension, or anxiety) have been heavily investigated within the area of job stress (e.g., Caplan, Cobb, French, Harrison, & Pinneau, 1980; House & Rizzo, 1972). Researchers usually design studies to demonstrate the relationship between various working conditions and individual workers' psychological and/or physical well-being. Job-related anxiety and depression are believed to be among the most important affective consequences from the stressful working conditions. Among the several stressful job conditions, "heavy workloads" has been the most frequently studied factor within the area of job stress (e.g., Caplan et al., 1980; House & Rizzo, 1972; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). Workload is defined as the amount of work which has to be carried out in a limited time, and is sometimes referred to as "role overload," "time pressure," or "job demands." Although referred to by different names, the concept

commonly taps aspects such as "too many things to do" on the job, and "not enough time to do" one's job. Heavy workloads and time pressures at work have been found to be positively related to negative affective experiences (Fox, Dwyer, & Ganster, 1993; Ganster, Fusilier, & Mayes, 1986; Kuappinen-Toropainen et al., 1983; Landsbergis, 1988; Spector, 1987a).

It is worthwhile to note that there are at least two different aspects of job demands; "quantitative workload (or simply, workload)" and "qualitative demands (or cognitive demands)." Qualitative demands are defined as the difficulty of given tasks, while quantitative workload refers to the amount of work which has to be completed in a limited time (cf. Warr, 1987). Recently, as part of new measures of job characteristics, "monitoring demands" and "problem-solving demands" have been suggested by Wall and his colleagues (Jackson, Wall, Martin, & Davids, 1993; Wall, Jackson, & Mullarkey, 1995; Wall, Jackson, Mullarkey, & Parker, 1996). Although quantitative workload and cognitive demands tend to be positively interrelated in practice, these two features are conceptually distinct. In his review, Warr (1987) proposed that both quantitative and qualitative job demands have a negative impact on employee affective well-being.

While the quantitative aspects of job demands have long been investigated in the literature, and their affective consequences are rather well established, qualitative or cognitive demands have less frequently been examined and the results are sometimes conflicting. Some empirical studies show that the consequences of qualitative demands are similar to those of quantitative workload. For instance, high attentional demands, as a measure of cognitive demands, have been found to be associated with psychological disorders (Martin & Wall, 1989).

On the other hand, motivation studies looking at job difficulty predict that the level of motivation increases with an increase in job difficulty up to a certain point, and then declines (cf. Warr, 1987). Therefore, moderately difficult goals or demands would produce a sense of challenge rather than psychological disorders. Although the proposed curvilinear relationship between job difficulty and motivation implies a potentially positive impact of job demands on positive job affects, the relationship between positive job affects and both quantitative and qualitative job demands has not been directly investigated in the literature. Furthermore, one could also argue that job demands have a negative impact on positive affects by referring to the association between workload and job dissatisfaction. However, based on the fact that job affects are immediate responses to work whereas job attitudes are products of rather remote evaluations of work conditions, it does not seem entirely legitimate to presume that job demands relate negatively to positive job affects because of their negative links to job satisfaction. Therefore, the links between positive job affects and both quantitative and qualitative demands are left open (see Figures 7.2a and 7.2b). For negative job affects, while acknowledging some conflicting predictions about the impact of cognitive demands, it is hypothesised that both workload and cognitive demands are positively related to the negative job affects of anxiety and depression (see Figures 7.2c and 7.2d).

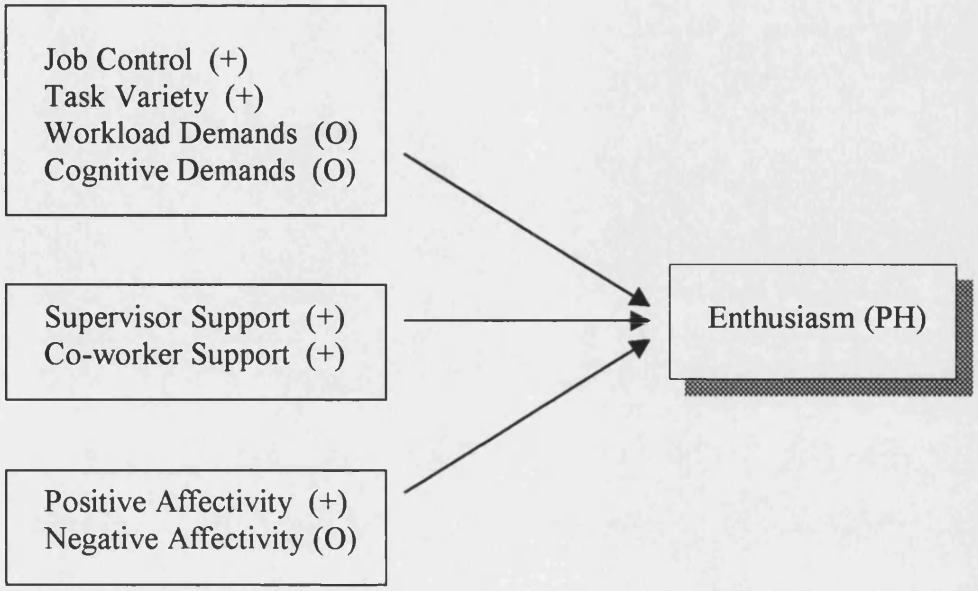

Figure 7.2a *The proposed antecedents of job-related enthusiasm (PH)*

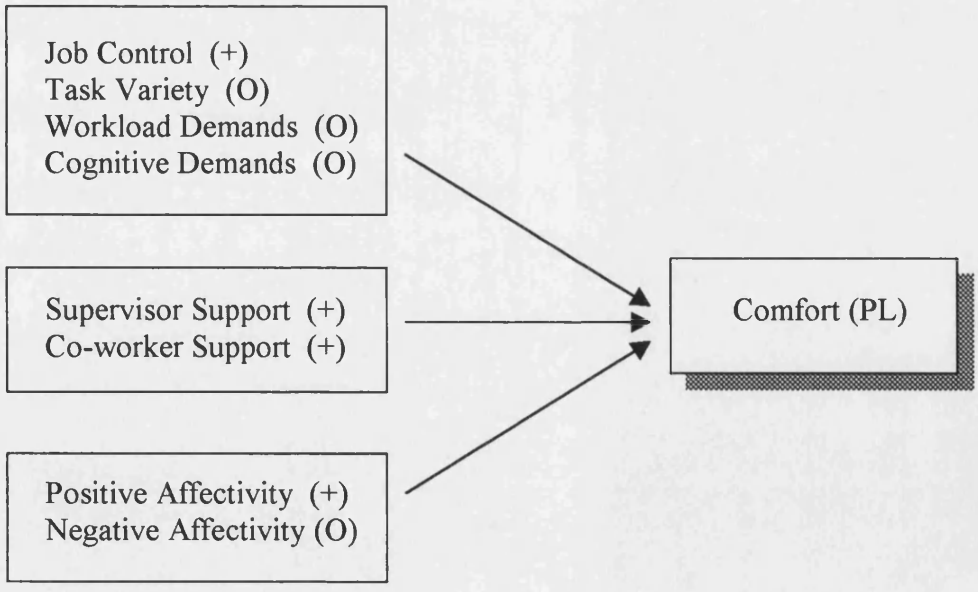

Figure 7.2b *The proposed antecedents of job-related comfort (PL)*

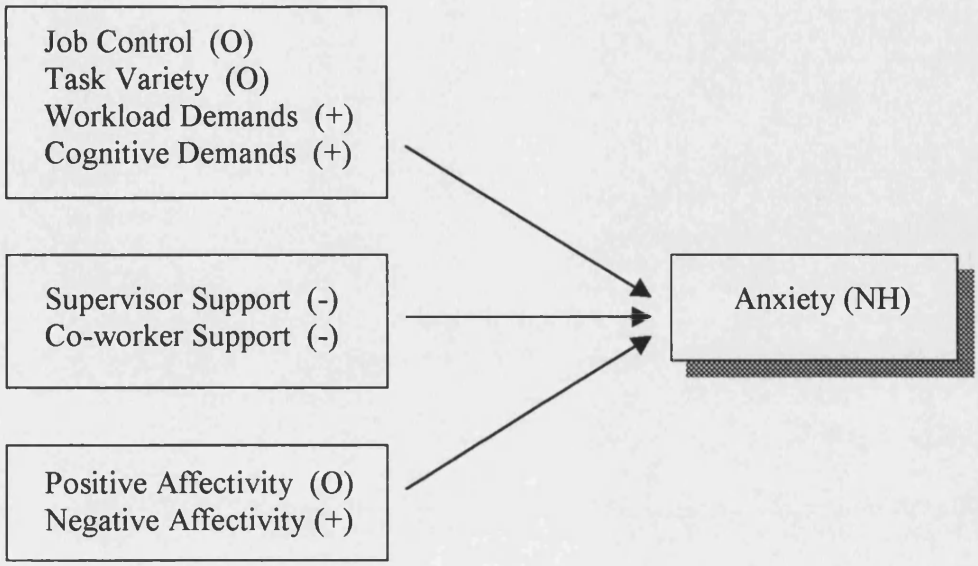

Figure 7.2c *The proposed antecedents of job-related anxiety (NH)*

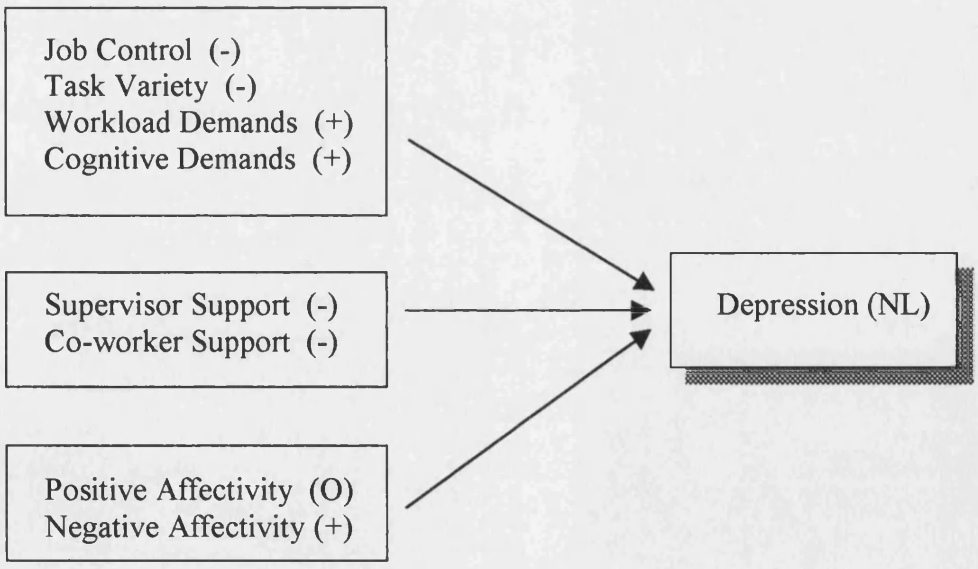

Figure 7.2d *The proposed antecedents of job-related depression (NL)*

Job control and task variety

As mentioned above, while negative affects have been frequently studied within the area of job stress, positive affects have not been directly investigated. The job satisfaction-related research can be regarded as the closest area that deals with positive affective experiences.[24] Positive affective reactions towards the job constitute one aspect of job satisfaction while the other consists of cognitive judgements about the job (see Brief & Roberson, 1989, for a detailed discussion of the two component model of job satisfaction). Job satisfaction has been the major outcome variable to be examined within the job redesign research where several job features have been proposed as the causes of employee job satisfaction (e.g., Hackman & Oldham, 1975, 1980).

The job redesign approach focuses on the nature of work tasks and responsibilities, on how they are grouped together, and especially on the degree of discretion afforded to employees over their execution (Parker & Wall, 1996). Organisations have considerable choice in deciding how jobs are designed, therefore the degree to which individual job holders are given autonomy over work processes can vary. Individual workers could, for example, have little or no control over the scheduling of work and the methods of task operation, or they could be given considerable discretion over these aspects of work. Psychological interest in the processes of job design focuses on how these organisational choices affect the performance and well-being of employees.

The job redesign tradition grows out of the concern for redesigning jobs so that they offer greater intrinsic rewards to the worker. While there have been many schemes for how the job redesign process should proceed (Hackman & Lawler, 1971; Hackman & Oldham, 1976; Herzberg, 1966; Turner & Lawrence, 1965), they all involve increasing the amount of autonomy and variety workers have in performing their job. "Task variety" refers to the range of tasks within a job, or

[24] The conceptual differences between positive job affect and job satisfaction have been emphasised by researchers, e.g., George & Brief (1992), Weiss & Cropanzano (1996).

to what is sometimes referred to as *horizontal job enlargement,* while "autonomy" or "job control" refers primarily to the kind of decision-making discretion and responsibility, which workers are given on the job, or to what is sometimes referred to as *job enrichment.*

For instance, Hackman and Oldham's (1976) Job Characteristics Model (JCM) specified five core features of jobs salient to both attitudes and behaviours: skill variety, task identity, task significance, autonomy, and task feedback. Jobs with higher levels of these characteristics, especially autonomy, were predicted to promote work motivation, work performance, and job satisfaction. Many other researchers within the field of job redesign made similar predictions for the consequences of *enriched job* (e.g., Sims, Szilagyi and Keller, 1976), and substantial supporting evidence for a positive link between enriched jobs and job satisfaction has been found (e.g., Breaugh, 1985; Hackman & Oldham, 1976; O'Brien, 1982; Oldham & Rotchford, 1984; Wall & Clegg, 1981; Wall, Clegg, & Jackson, 1978).

Although interest in the job enrichment tradition has focused mostly on the motivational effects of job redesign, the literature in this area also has general implications for the relationship between enriched jobs, or jobs with high discretion and variety, and employee affective well-being. Based on this literature, I propose that both job control and variety are positively related to positive job affects, namely, job-related enthusiasm and comfort (Figures 7.2a, 7.2b)

In addition, research has often found that jobs characterised by low discretion and low variety are associated with psychological and physical disorders (e.g., Clegg & Wall, 1990; Karasek, 1990; Spector, 1986). It has been reported that repetitive and/or simplified jobs are often related to job boredom and depression among job incumbents (Caplan, Cobb, French, Harrison, & Pinneau, 1980; French, Caplan, & Harrison, 1982; Hackman & Oldham, 1980) both depression and boredom are characterised by a low degree of arousal or activation, resulting

from a *lack of stimuli*. In the work setting, people who perform routine and repetitive tasks are more likely to get bored and depressed, compared to those who do a number of different things. This is what led to the job enlargement idea in the early years of the job redesign movement, hoping that the horizontal expansion of task scope would reduce employee job boredom and depression.

A series of epidemiological studies by Karasek and his Swedish colleagues also addresses the links between low job decision latitude and indicators of psychological and physical health (e.g., Alfredsson, Karasek & Theorell, 1982; Karasek, 1979; Karasek, 1990; Karasek, et al., 1981, 1988). The focus of these studies, known as the "job demands-control (JD-C) model," however, is not simply on the effects of job control, but on job control in relation to job demands. The main prediction of the JD-C model is an interaction effect of control and job demands. It is hypothesised that high job demands accompanied by low control would produce worst negative consequences including negative affective responses and physical illness. Although this model is subject to concerns raised over the operationalisation of job control (cf. Wall, Jackson, Mullarkey, & Parker, 1996), and there seems little supporting evidence for the interaction hypothesis (cf. Fletcher & Jones, 1993; Landsbergis, 1988; Payne & Fletcher, 1983; Perrewe & Ganster, 1989; Warr, 1990), there is consistent evidence that a high level of work control has positive effects on the level of employee adjustment independent of job demands. For instance, work control has beneficial effects on psychological well-being (Perrewe & Ganster, 1989; Spector, 1987a), job satisfaction (Dwyer & Ganster, 1991; McLaney & Humell, 1988; Tetrick & LaRocco, 1987), and indicators of cardiovascular disease (Karasek, Theorell, Schwarz, Schnell, Pieper, & Michela, 1988).

Taken together, I expect that job control and variety will be negatively related to job-related depression (Figure 7.2d). However, there is neither empirical evidence nor a logical expectation of a relationship between job-related anxiety and either job control or variety, therefore I leave these links open (Figure 7.2c).

7.1.2 Social Support

The seminal reviews by Cassel (1976) and Cobb (1976) highlighted the importance of social relationships for health. During the past twenty years since these reviews, the role of social support and its relationship to psychological and physical well-being have been intensively studied in the area of health psychology and its related disciplines. Numerous studies indicate that people with spouses, friends, and family members who provide psychological and material resources are in better health than those with fewer social contacts (e.g., Broadhead et al., 1983; Leavy, 1983). In the work setting, similar relationships have been found between co-worker and/or supervisor support and occupational stress (e.g., House, 1981; LaRocco, House, & French, 1980; LaRocco & Jones, 1978). Although the many correlational results do not by themselves allow causal interpretation, these data in combination with results from animal research, social psychological analogue experiments, and prospective surveys suggest that social support is a causal contributor to well-being (cf. Cohen & Wills, 1985; Uchino, Cacioppo & Kiecolt-Glaser, 1996).

A large volume of leadership literature has also reported similar relationships between leadership style and subordinates' attitudes. Certain leadership styles seem to promote employee morale and positive work attitudes. For instance, it is known that employee satisfaction has been often found to be higher with democratic rather than autocratic leadership styles (Tjosvold, 1984). Intuitively, supervisors can provide at least two forms of support. The terms and functional categories used here are consistent with social support typologies presented in various discussions of support (e.g., Barrera, 1986; Caplan, 1979; House, 1981). First, supervisors can provide esteem support or emotional support, which is information that a person is esteemed and accepted. Supervisors can enhance subordinates' self-esteem by communicating to them that they are valued for their own worth and are accepted despite any difficulties or personal faults. The

second type of support supervisors can provide is informational support or cognitive guidance. This is practical help in defining, understanding, and coping with problematic events. By being a resource for subordinates' work-related problems, supervisors can also provide this type of support. The same arguments apply with respect to co-worker support. Co-workers can provide informational support by discussing problems or giving a helping hand when needed. They can also develop friendship ties amongst themselves and thereby provide a strong source of emotional support, which may not always be possible with supervisors.

The mechanisms through which social support is related to mental health outcomes and to serious physical illness outcomes, however, remain to be clarified. At a general level, one model proposes that support is related to well-being only for persons under stress. This is termed the *buffering model* because it posits that support "buffers" persons from the potentially pathogenic influence of stressful events. For instance, support may prevent or attenuate a stress appraisal response. That is, the perception that others will provide necessary resources may redefine the potential harm posed by a situation. Even though events are appraised as stressful, adequate support may also alleviate the impact of stress appraisal by providing a solution to the problem, or by reducing the perceived importance of the problem so that people are less reactive to perceived stress (cf. House, 1981).

The alternative model proposes that social support has a beneficial effect irrespective of whether persons are under stress. This model derives from the demonstration of a statistical main effect of support with no Stress X Support interaction, and is hence termed the *main-effects model.* A generalised beneficial effect of social support could occur because large social networks provide persons with regular positive experiences and a set of stable, socially rewarded roles. This kind of support could be related to overall well-being because it provides positive affect, a sense of predictability and stability in one's life situation, and a recognition of self-worth. Integration in a social network may

also help one to avoid negative experiences. This view of support has been conceptualised from a psychological perspective as social interaction, social integration, or relational rewards (e.g. Reis, 1984; Wills, 1985) and from a sociological perspective as "regularised social interaction" or "embeddedness" in social roles (Hammer, 1981; Thoits, 1983).

Based on the work on the impact of social support on well-being, and in line with the literature on leadership, supervisor support and co-worker support are hypothesised to be positively related to the two forms of positive job affect, and negatively related to the two forms of negative job affect (see Figures 7.2a, 7.2b, 7.2c, and 7.2d).

7.1.3 Individual Affective Dispositions

Two personality dispositions are proposed to influence job affect : *positive affectivity* (PA) and *negative affectivity* (NA). These reflect pervasive individual differences in emotional style and feelings about oneself, and both traits have a general influence on a person's affective responses to features and events in the environment. The measures of the two dispositions are only moderately and negatively correlated with each other (Cropanzano, James, & Konovsky, 1993; Elliot, Chartrand, & Harkins, 1994; George, 1990; Watson & Pennebaker, 1989; Watson & Slack, 1993).

Individuals high on PA tend to experience positive affective states, have an overall sense of well-being, and view themselves as pleasurably and effectively engaged in the world (Tellegen, 1985). Individuals high on NA tend to experience negative affective states, feel distressed, and have a negative outlook and world view. To avoid a possible source of confusion, I emphasise that PA and NA refer to enduring personality traits that predispose individuals to experience varying levels of positive and negative affect (Tellegen, 1985). Job

affects, on the other hand, are more transient and are influenced by situational factors as well as personality.

Considering the relationship between personality dispositions and job affect, it is clear that NA is significantly predictive of job-related anxiety. For example, Brief, Burke, George, Robinson and Webster (1988) measured trait NA, through an established personality scale, and negative affect at work during the past week, and found a correlation of +.57 between the two. Similar results have been found by George (1990) and Elliot, Chartand, & Harkins (1994). Studies of PA and job-related enthusiasm also show that trait PA is significantly associated with short-term feelings of enthusiasm in the work settings (e.g., George, 1990). However, these trait affect-state affect links appear to be of rather limited scope in the sense that PA seems only to relate to positive job affect, while NA seems only to relate to negative job affect. For instance, George (1990) found that, although the correlation between NA and job-related anxiety was +.34, NA was not linked to job-related enthusiasm (r = -.03).

Taken together, it is expected that PA and NA will influence the extent to which individuals experience positive affects and negative affects at work, respectively. Therefore, PA is hypothesised to be positively related to positive job affects, namely enthusiasm and comfort (Figure 7.2a, Figure 7.2b); while NA is hypothesised to be positively related to the negative job affects of anxiety and depression (Figure 7.2c, 7.2d).

7.2 Methods

7.2.1 Measurement

In order statistically to control for background factors which are likely to influence job affect, the usual set of control variables were included in the analysis, namely age (in years), length of service in current post (in years), clinical grade, gender, and social desirability. For the purposes of analysis gender and clinical grade were, as before, coded using dummy variables.

Job characteristics

Four aspects of job design, *job control, task variety, cognitive demands,* and *workload demands*, were measured with a total 21 items from various sources. The entire set of items used in the study are shown in Table 7.1.

Workload demands was measured by four items based on Caplan, Cobb, French, Harrison, & Pinnaeau (1980). Respondents were asked to indicate how often they had experienced the described statements (see Table 7.1). Each item was measured with a 7-point Likert-type scale ranging from "rarely" to "all of the time." The total score was calculated by averaging all four responses with a higher score representing a heavier workload. The internal consistency reliability (α) of the scale for the present sample was .82.

Cognitive demands were measured by two sub-scales each consisting of four items, the ***monitoring demands*** and the ***problem-solving demands*** scales, developed and validated by Jackson and his colleagues (Jackson, Wall, Martin, & Davids, 1993; Wall, Jackson, & Mullarkey, 1995; Wall, Jackson, Mullarkey, & Parker, 1996). Respondents were asked to indicate how well each statement described the nature of their job on a 7-point Likert format ranging from "not at

all" to "a great deal" (see Table 7.1). Each sub-scale score was calculated by averaging responses on the relevant items with higher scores representing higher monitoring- and problem-solving demands. The internal consistency reliability alphas were .82 for the monitoring demands scale and .75 for the problem-solving demands scale.

Job control was taped by Jackson et al.'s (1993) modified version of the job control scale for the health care profession. Respondents were asked to indicate the amount of choice they had in their job in terms of the six statements described in Table 7.1. The response format and scoring were the same as those for the cognitive demands variable described above, with higher scores representing greater control (α=.91).

Task variety was measured with a three-item scale adapted from the Job Diagnostic Survey (JDS; Hackman & Oldham, 1975). Respondents were asked to indicate how correctly each statement described their job (see Table 7.1). The scale was presented with a 7-point response format anchored from "not at all" to "a great deal." One of the three items was negatively worded, and then reverse scored accordingly, resulting in higher scores indicating greater variety (α=.68).

Social support

Supervisor support and co-worker support tap both informational and emotional aspects of support (scales adapted from Caplan, Cobb, French, Harrion, & Pinneau, 1980). Respondents were asked how much of the following they had got from their supervisor and from their co-workers respectively, during the last four weeks : 1) useful information, 2) help with a difficult task at work, 3) care and concern, and 4) praise and appreciation. The items were presented with a 7-point Likert response format ranging from "none" to "moderately" to "a great deal." The internal consistency reliability alpha for the supervisor support scale was .89, and .88 for the co-worker support scale.

Table 7.1
The list of the proposed antecedents and their items

Job Design Factors	
Job Control (JC)	JC1: The extent you determine the methods and procedures you use in your work. JC2: The extent you choose what work you will carry out. JC3: The extent you decide when you take a break. JC4: The extent you vary how you do your work. JC5: The extent you plan your own work. JC6: The extent you carry out your work in the way you think best.
Monitoring Demands (MD)	MD1: My work requires my undivided attention. MD2: I have to keep track of more than one thing at once. MD3: I have to concentrate all the time to watch for things going wrong. MD4: I have to react quickly to prevent problem arising.
Problem-Solving Demands (PSD)	PSD1: I have to solve problems which have no obvious answer. *(PSD2: The problems I deal with require a through knowledge of nursing.) PSD3: I come across problems in my job I have not met before. PSD4: I am required to deal with problems which are difficult to solve.
Workload Demands (WL)	WL1: Work extra hours because of staff shortage. WL2: Too little time to get things done in your job. WL3: Work very hard on your job. WL4: Too much work to do in your job.
Task Variety (VAR)	VAR1: My job has variety. VAR2: I have the opportunity to do a number of different things in my job. VAR3: The duties in my job are repetitive (R).
Social Factors	
Supervisor Support (SS)	SS1: Useful information. SS2: Care and concern. SS3: Help with a difficult task at work. SS4: Praise and appreciation.
Co-worker Support (CS)	CS1: Useful information. CS2: Care and concern. CS3: Help with a difficult task at work. CS4: Praise and appreciation.
Dispositional Factors	
Negative Affectivity (NA)	NA1: There are days when I am 'on edge' all of the time. NA2: Often I get irritated at little annoyances. NA3: I often lose sleep over my worries. NA4: I sometimes feel miserable for no good reason.
Positive Affectivity (PA)	PA1: It is easy for me to become enthusiastic about the things I am doing. PA2: I often feel sort of lucky for no special reason. PA3: I always seem to have something to look forward to. PA4: I live a very interesting life.

* This item was excluded from the analyses because it did not load correctly on the proposed factor in the factor analysis.

Positive and negative affectivity

The two affective disposition variables were each measured with a four-item scale based on Watson, Clark, and Carey (1988). Respondents were asked to indicate how correctly each statement described themselves. Each statement was presented with a 7-point Likert format anchored from "strongly disagree" to "neither agree nor disagree" to "strongly agree." Example items of the positive affectivity scale include "I always seem to have something to look forward to" and "I often feel sort of lucky for no special reason." Examples for the negative affectivity scale are "Often I get irritated at little annoyances" and "I often lose sleep over my worries." The full items used in this study are shown in Table 7.1. The internal consistency reliability alphas for the positive affectivity and the negative affectivity scales were .69 and .73 respectively.

Job affect

Job-related anxiety (NH), depression (NL), enthusiasm (PH) and *comfort (PL)* were each tapped using the twenty-item instrument developed for the present study and discussed in detail in previous chapters. As previously reported, the internal consistency reliability alphas for the affect scales were .91 (enthusiasm), .86 (comfort), .87 (anxiety), and .84 (depression), respectively. The two bipolar affect scores, *depression-enthusiasm (NL-PH)* and *anxiety-comfort (NH-PL)*, were also obtained by combining the appropriate unipolar factors as described in Chapter 5. The 'NL-PH' score was calculated by averaging the five reverse-scored NL indicators and the five PH indicators, resulting in higher scores representing greater enthusiasm and lower scores greater depression (internal consistency alpha =.89). Similarly, the 'NH-PL' score was obtained by averaging the five reverse-scored NH descriptors and the five PL descriptors, yielding higher scores indicating greater comfort and lower scores greater anxiety (alpha=.87).

7.2.2 Statistical analyses

OLS (Ordinary Least Squared) regression analyses were conducted for exploring the determinants of job affects. OLS regressions were also used to examine the extent to which job affects mediate the link between antecedents and PSOBs. The specific procedures used to test for mediation are discussed in greater detail later on in the chapter.

To examine the determinants of job affect, the four job affect measures were individually regressed on the proposed antecedent measures, which comprised the four job characteristics factors, the two social support factors, and the two affective disposition factors outlined above. Note that I did not hypothesise relationships between all the proposed antecedent factors and each and every one of the four job affects as there was no theoretical or empirical basis for such linkages in some cases, e.g., *workload demands* and *PH*, *job control* and *NH* (see Figures 7.2a, 7.2b, 7.2c, and 7.2d). However, my null expectations with respect to those linkages were also tested. Along with the proposed antecedents, the usual set of demographic variables outlined above were also entered into the regression equations for control purpose. The two bipolar job affect measures were also regressed on the same set of antecedents in separate analyses.

Before conducting the main regression analyses, a series of factor analyses were carried out for the proposed antecedent variable indicators. First, three separate principal component factor analyses with varimax rotation were performed on each broad category of items, namely, the job design items, the social support items and the dispositional affect items, respectively. For the job characteristics items, a five-factor solution emerged, and each item loaded highly on its predicted factor with one exception. One of the "'problem-solving demands" items did not load on the predicted factor. It loaded on "monitoring demands" instead, and was therefore dropped from further analyses (see Appendix A.7 for the results). Predicted two-factor solutions emerged for both the social support scales and dispositional affectivity scales. Each item loaded clearly and highly on its proposed factor (see Appendices A.8 and A.9). Second, the entire set of

antecedent items used in this study were factor-analysed altogether. The results show that all the items loaded clearly and correctly onto each of the predicted factors resulting in a nine-factor solution (Table 7.2).

Table 7.2
Factor analysis of antecedent items with Varimax rotation

	Job Control	Supervisor Support	Coworker Support	Monitoring Demands	Workload Demands	Negative Affectivity	Positive Affectivity	Problem-Solving Demands	Variety
JC4	.90								
JC2	.84								
JC5	.83								
JC6	.80								
JC1	.78								
JC3	.76								
SS2		.87							
SS3		.83							
SS1		.81							
SS4		.78							
CS2			.87						
CS3			.85						
CS4			.81						
CS1			.66						
MD3				.82					
MD4				.80					
MD1				.73					
MD2				.67					
WL4					.88				
WL2					.84				
WL3					.76				
WL1					.66				
NA1						.76			
NA3						.72			
NA4						.71			
NA2						.70			
PA4							.71		
PA3							.70		
PA2							.62		
PA1							.55		
PSD4								.82	
PSD3								.72	
PSD1								.71	
VAR2									.77
VAR1									.77
VAR3									.60
Eigen Values	7.0	4.6	3.4	2.7	1.8	1.6	1.4	1.3	1.2
KMO Measure of Sampling Adequacy				.80					
Total Percent Variance Explained				69.2%					

Note. N = 224. Factor loadings of less than .40 are not shown. *JC*: job control, *SS*: supervisor support, *CS*: coworker support, *MD*: monitoring demands, *WL*: workload demands, *NA*: negative affectivity, *PA*: positive affectivity, *PSD*: problem-solving demands, *VAR*: variety.

7.3 Results

7.3.1 Descriptive statistics

Table 7.3 presents the descriptive statistics, reliabilities, and intercorrelations for the study variables. Reliability coefficient alphas were reasonably high ranging from .68 to .91. The lowest were .68 for task variety and .69 for positive affectivity, while the highest were for job control (alpha=.91) and positive-high affect (enthusiasm: alpha=.91).

Average levels of job control and task variety were reasonably high amongst the sample of nurses covered in the study (average score of 5.05 for job control, and 5.20 for task variety). This is not inconsistent with the intuition that nursing involves relatively high-skilled work, and that the skills acquired during nursing training and on the job are actually utilised while carrying out the job on a day-to-day basis. Thus nursing work was expected to involve a reasonable amount of task variety, and the data from the present sample indicate this might in fact be the case. Also, although the skills required for carrying out nursing tasks could be, to some extent, standardised, the entire combination and sequence of tasks might not so easily be specified in advance. Therefore it was expected that nurses would be able to exercise a reasonable amount of control over their work. In terms of job demands, the average score for monitoring demands is visibly high (5.91), compared to the other two measures of job demands (4.98 for problem-solving demands, and 4.69 for workloads demands). The variation among the responses was also rather low (s.d.=0.99), and this was expected since a central characteristic of nursing work is the constant vigilance nurses have to exercise over patients.

Table 7.3
Means, standard deviations, reliabilities, and intercorrelations among study variables

Variable	*Mean*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Job Control	5.05	1.31	**.91**														
2. Task Variety	5.20	1.11	.22[a]	**.68**													
3. M_Demands	5.91	0.99	.13	.31	**.82**												
4. PS_Demands	4.98	1.15	.09	.27	.48	**.75**											
5. Workload Demands	4.69	1.34	-.02	.18	.39	.29	**.82**										
6. Supervisor Support	3.93	1.58	.30	.25	.15	.21	-.07	**.89**									
7. Co-worker Support	4.42	1.44	.14	.17	.11	.21	-.20	.47	**.88**								
8 Positive Affectivity	4.62	1.10	.26	.25	.07	.03	.02	.33	.31	**.69**							
9. Negative Affectvity	3.89	1.39	-.12	-.09	.14	.20	.14	-.02	-.02	-.28	**.73**						
10. PH (Enthusiasm)	2.99	1.02	.42	.33	.14	.15	-.04	.51	.41	.55	-.22	**.91**					
11. PL (Comfort)	2.55	0.92	.34	.10	-.02	-.10	-.23	.35	.29	.46	-.30	.64	**.86**				
12. NH (Anxiety)	2.37	0.98	-.10	-.04	.18	.20	.25	-.19	-.07	-.27	.49	-.19	-.42	**.87**			
13. NL (Depression)	1.91	0.89	-.25	-.31	.05	.02	.22	-.31	-.18	-.42	.53	-.51	-.45	.61	**.84**		
14. NLPH	3.54	0.83	.39	.37	.06	.08	-.14	.48	.35	.56	-.42	.89	.63	-.44	-.85	**.89**	
15. NHPL	3.09	0.80	.26	.08	-.12	-.17	-.28	.32	.21	.43	-.47	.48	.83	-.85	-.63	.63	**.87**

Note. N=224. [a] Correlation coefficients : absolute values greater than 0.13 : $p<.05$; absolute values greater than 0.17 : $p<.01$. The main diagonal contains Cronbach's internal consistency reliability estimates. *M_Demands*: monitoring demands, *PS_Demands*: problem-solving demands, *PH*: positive affect with high arousal, *PL*: positive affect with low arousal, *NH*: negative affect with high arousal, *NL*: negative affect with low arousal, *NLPH*: combined measure of reversed-NL score and PH score, *NHPL*: combined measure of reversed-NH score and PL score.

Another noticeable feature was the level of social support nurses received at the workplace. Both supervisor support (Mean=3.93) and co-worker support (Mean=4.42) appeared low with substantial amounts of variation across the sample (s.d.= 1.58 for supervisor support, and s.d.=1.44 for co-worker support). This raises the possibility that some nurses may not in fact receive as much social support from their supervisors and/or co-workers as they *desire*. Compared to the job characteristics described above, a great amount of variability may inhere in the social factors including supervisor support and co-worker support. In other words, the job characteristics are, to some extent, structural components of nursing tasks, thus the features involved may be rather stable across time and situations, and the level of variation of those features may be rather small across the sample. On the other hand, the amount of as well as the quality of social support nurses provide to and receive from others at the workplace may depend, to a greater extent, on individuals' discretion and/or willingness. Hence, the nature and the level of social support nurses provide to their co-workers and/or their subordinates cannot easily be formally specified at the organisational level, and may therefore vary depending on the individuals involved.

In terms of the zero-order correlations, the main initial feature of interest concerns the relationship among the antecedents themselves. The intercorrelations among the antecedent variables ranged from .02 to .48, indicating that none of them is high enough to create *multicolinearity* concerns in relation to the subsequent multiple regression analyses. Also, the patterns of relationships are not inconsistent with previous research. The strongest correlation is that between the two cognitive demands measures, monitoring demands and problem-solving demands. This correlation (r=.48) does not seem, however, large. Theoretically, these two measures represent, as noted by Wall, Jackson, & Mullarkey (1995), two separate, but related, forms of cognitive demands, yielding frequently medium to high intercorrelations empirically (e.g., r=.65 - .70 for Wall, et al.'s (1995) samples). For the job characteristics variables, job control, as expected, was correlated with task variety (r=.22) but

uncorrelated with the three measures of job demands; while task variety itself was correlated with monitoring demands (r=.31), with problem-solving demands (r=.27), and with workload demands (r=.18). These positive associations are not surprising because more mental effort would naturally be required as task variety increases. The three measures of demands were intercorrelated with one another ranging from .29 to .48.

7.3.2 Impact of the antecedents on job affect

Table 7.4 shows the results of the multiple regression analyses. The standardised regression coefficients (betas) for each antecedent variable, controlling for the set of background factors, are shown. Note that all the listed antecedent variables in this chapter were entered in each regression equation although some of the relationships were not hypothesised. As mentioned in the previous section, the proposed determinants for each job affect are preliminary, hence the analyses were conducted in an exploratory manner rather than as rigorous hypotheses tests.

For job-related enthusiasm (PH) as a dependent variable, the four proposed determinants were found to be statistically significant: job control (β = .18, p < .01), supervisor support (β = .22, p < .01), co-worker support (β = .18, p < .01), and positive affectivity (β = .30, p < .01). These are all positively related to job-related enthusiasm and are consistent with the hypothesised direction depicted in Figure 7.2a. Among the five proposed antecedents for enthusiasm, only one variable, variety, was not statistically significant.

Job-related comfort (PL) was hypothesised to be affected by job control (+), supervisor support (+), co-worker support (+), and positive affectivity (+). Amongst these, job control (β = .18, p < .01), supervisor support (β = .18, p <

.01) and positive affectivity (β = .31, $p < .01$) were statistically significant. These were all consistent with the hypothesised direction in Figure 7.2b. Co-worker support was not significant. In addition to the proposed antecedents, workload demands emerged as a significant predictor of job-related comfort (β = -.31, $p < .01$).

Table 7.4

Multiple regressions of job affects on antecedents

DVs / IVs		***Unipolar affects***			***Bipolar affects***	
	PH	*NL*	*PL*	*NH*	*NLPH*	*NHPL*
Adjusted R^2 for Control Variables	(.08**)	(.09**)	(.06*)	(.06*)	(.11**)	(.09**)
Job Control	.18**	-.01	.18**	.02	.12*	.09
Variety	.09	-.23**	-.05	-.02	.18**	-.01
M_Demands	.05	.08	.02	.10	-.01	-.05
PS_Demands	-.04	-.06	-.11	.04	.01	-.09
Workload Demands	-.02	.22**	-.18**	.19**	-.13*	-.22**
Supervisor Support	.22**	-.19**	.18**	-.22**	.24**	.24**
Co-worker Support	.18**	.05	.07	.11	.09	-.03
Positive Affectivity	.30**	-.17**	.31**	-.10	.28**	.24**
Negative Affectivity	-.11*	.40**	-.12	.39**	-.29**	-.31**
ΔR^2	.42**	.40**	.32**	.30**	.46**	.37**
Adjusted R^2	.49**	.48**	.36**	.34**	.57**	.45**
Total R^2	.53**	.53**	.41**	.40**	.60**	.50**

Note. * $p<.05$. ** $p<.01$. Figures in the table are standardised beta coefficients. Adjusted R^2s for control variables only are reported in the brackets. Age, gender, clinical grade, post-tenure, and social desirability were controlled. *M_Demands:* monitoring demands, *PS_Demands:* problem-solving demands, *PH*: positive affect with high arousal (enthusiasm), *PL*: positive affect with low arousal (comfort), *NH*: negative affect with high arousal (anxiety), *NL*: negative affect with low arousal (depression), *NLPH*: combined measure of reversed-NL score and PH score (depression-enthusiasm), *NHPL*: combined measure of reversed-NH score and PL score (anxiety-comfort).

For job-related anxiety (NH), five antecedents were proposed : workload demands, cognitive demands, and negative affectivity as positive predictors; and supervisor support and co-worker support as negative predictors (Figure 7.2c). Of the five proposed predictors, three emerged as significant: workload demands ($\beta = .22, p < .01$), supervisor support ($\beta = -.25, p < .01$), and negative affectivity ($\beta = .39, p < .01$). Cognitive demands and co-worker support were not significant.

Job-related depression (NL) was proposed to be affected by a long list of antecedents (see Figure 7.2d). It was hypothesised to be negatively influenced by job control, variety, supervisor- and co-worker support, and to be positively influenced by workload demands, cognitive demands, and negative affectivity. Among the proposed antecedents, variety ($\beta = -.23, p < .01$), workload demands ($\beta = .22, p < .01$), supervisor support ($\beta = -.19, p < .01$), and negative affectivity ($\beta = .40, p < .01$) were statistically significant. Job control, cognitive demands, and co-worker support were not significant. In addition to the hypothesised relationships, a non-hypothesised antecedent, positive affectivity, was also found to be negative related to the job-related depression ($\beta = -.17, p < .01$).

The two bipolar factors were also examined as alternative dependent variables to the four unipolar factors. As explained in Chapter 5, the bipolar factors were constructed by combining the two relevant unipolar factors. Specifically, the "depression-enthusiasm (NLPH)" bipolar affect was constructed by combining the two unipolar affects, "depression (NL)" and "enthusiasm (PH)," and the "anxiety-comfort (NHPL)" factor by combining "anxiety (NH)" and "comfort (PL)." The two bipolar job affects were then regressed on the listed antecedents variables. The results are shown in the last two columns of Table 7.4.

Overall, the antecedents which were significantly related to the unipolar job affects seem to emerge as significant also in relation to the bipolar measures. For NLPH as the dependent variable, job control, task variety, workload demands, supervisor support, and positive and negative affectivity emerged as significant predictors. All these significant predictors were also significant determinants of either or both the NL and PH factors. Co-worker support, however, was positively and significantly related to the unipolar PH factor, but was not significant for the bipolar NLPH factor. For NHPL as the dependent variable, workload demands, supervisor support and the two dispositional affect measures emerged as significant. Similarly, these variables were also significant for either or both of the two constituent unipolar factors, NH and PL. Job control, one of the significant predictors for PL, however, did not emerge as a significant predictor for the bipolar NHPL factor. The significant antecedents of both unipolar and bipolar job affects are schematically summarised in Table 7.5.

Table 7.5
Antecedents of job affect: A summary

IVs \ *DVs*	*PH*	*NL*	*NLPH*	*PL*	*NH*	*NHPL*
Job Control	*		*	*		
Task Variety		*	*			
M_Demands						
PS_Demands						
Workload Demands		*	*	*	*	*
Supervisor Support	*	*	*	*	*	*
Co-worker Support	*					
Positive Affectivity	*	*	*	*		*
Negative Affectivity	*	*	*		*	*

Note. M_Demands: monitoring demands, *PS_Demands:* problem-solving demands, *PH*: positive affect with high arousal (enthusiasm), *PL*: positive affect with low arousal (comfort), *NH*: negative affect with high arousal (anxiety), *NL*: negative affect with low arousal (depression), *NLPH*: combined measure of reversed-NL score and PH score (depression-enthusiasm), *NHPL*: combined measure of reversed-NH score and PL score (anxiety-comfort).

In sum, based on the results from the present sample, the significant antecedents of the four unipolar affects can be categorised into one of three groups depending on their impact on the bipolar measures of affect. The first group, the most straightforward one, includes those antecedents that are significantly related to bipolar affect as well as to both of the unipolar measures which go to make up the bipolar factor. In terms of NLPH, supervisor support, and positive and negative affectivity belong to this first group, while for NHPL, supervisor support and workload demands fit into this category. The second group includes those antecedents which are only related to one of the "linked" unipolar factors, yet have a sufficiently strong impacts emerge as significant predictors of the relevant combined bipolar factor. These include job control, task variety and workload demands for NLPH, and positive and negative affectivity for NHPL. The third and final group includes antecedents which are significantly related to at least one of the "linked" unipolar factors, but not to the bipolar one. Co-worker support for NLPH and job control for NHPL fall into this category.

7.3.3 Tests of job affect mediation on PSOBs

The results of the previous section showed that some of the job, social, and dispositional factors are significantly associated with job affect. At the same time, these antecedents of affect are also potentially important predictors of prosocial organisational behaviours. Situational factors such as the quality of social relations that nurses have at the workplace and the way their jobs are organised, may influence their engagement in prosocial behaviours. Individuals' dispositional characteristics may also influence the level of PSOB people engage in. Some individuals may be consistently helpful across time and situations, while others may not, for instance. The question which arises, therefore, is whether the job, social, and dispositional factors proposed as antecedents of job affects are also significantly associated with PSOB and, if they are, whether their impact is mediated by job affect.

To be able to answer this question, a standard mediation model was tested using Ordinary Least Squares (OLS) multiple regression. Central to this mediation model is the assumption that the impact of the various antecedents (job, social, and dispositional) variables on PSOB will be either fully or partially mediated by the two job affect variables of PH (enthusiasm) and NL (depression).[25] Following Barron and Kenny (1986) I tested for mediation in three steps. First, I regressed each of the two job affect variables on the set of antecedents. Second, I separately regressed each of the two PSOBs on the set of antecedent variables. And third, I separately regressed the two PSOBs on the set of antecedent variables and on the two job affect variables together, controlling in each case for the background factors. For mediation to be operating the following four conditions must hold: (1) the antecedent variables must significantly affect the job affect variables in the first set of regressions; (2) the antecedent variables must significantly affect the PSOBs in the second set of equations; (3) the job affect variables must significantly affect the PSOBs in the third set of equations; and (4) the impact of the antecedent variables on the PSOBs must be significantly weaker in the third equations than in the second ones.

I start by looking at the results of the regression equations presented in Table 7.6 designed to test the mediation model for PSOB-Alt. In each case the full set of control variables were included in the analysis. However, to simplify the presentation only the regression coefficients (standardised betas) for the main variables in the model are shown. Equations 1a and 1b examined the impact of the antecedents variables on the two unipolar job affects, PH (enthusiasm) and NL (depression) which were already shown and discussed in detail in the previous section. Equation 2 examined the impact of the antecedents on PSOB-Alt, while equation 3 examined the direct impact on PSOB-Alt of all the predictors in the model simultaneously.

[25] As seen in Chapter 5, since only PH and NL, among the four unipolar job affects, are theoretically and empirically significant predictors of PSOBs, the mediation model only includes these two job affect variables.

Table 7.6
Multiple regression of PSOB-Alt on job affects and antecedent variables: Test of mediation

	Dependent Variables			
Independent Variables	**1a PH (Enthusiasm)**	**1b NL (Depression)**	**2 PSOB-Alt**	**3 PSOB-Alt**
Control Variables				
Adj. R^2	(.08**)	(.09**)	(-.00)	(-.00)
Job, Social, & Disposition Variables				
Job Control	.18**	-.01	-.03	-.04
Task Variety	.09	-.23**	-.13	-.10
M_Demands	.05	.08	.07	.05
PS_Demands	-.04	-.06	.10	.11
Workload Demands	-.02	.22**	.22**	.19*
Supervisor Support	.22**	-.19**	.02	.02
Co-worker Support	.18**	.05	.10	.08
Positive Affectivity	.30**	-.17**	.21**	.21*
Negative Affectivity	-.11*	.40**	.22**	.18*
Job Affect Variables				
PH (Enthusiasm)				.10
NL (Depression)				.14+
R^2	.53**	.53**	.23**	.24**
Adj. R^2	.49**	.48**	.16**	.16**

Note. + p <.10 * p <.05 ** p <.01. Figures in the table are standardised beta coefficients. Adjusted R^2s for control variables only are reported in the brackets. Age, gender, clinical grade, post-tenure, and social desirability were controlled.

The results provide only marginal indication of mediation primarily through negative job affect. More specifically, equation 2 shows that three out of the nine antecedent variables had positive and statistically significant effects on PSOB-Alt; positive affectivity, negative affectivity, and workload demands. When the two job affect measures were included in equation 3, the impact of the antecedent variables, although still statistically significant, became weaker than in the second equation. However, the mediation effect, seems, at best, to be very weak since i) the antecedent variables in the third equation were still statistically significant, ii) the impact of job affects (the mediators) on PSOB-Alt in the final equation was either only marginally significant (for NL, beta = .14, $p<.10$) or not significant at all (for PH) and, iii) because of the only marginal impact of job affect on PSOB-Alt, none of the indirect effects of the antecedent variables on PSOB-Alt was statistically significant.

The explanation for this not-so-significant role of job affect in the analyses may be related to the strong impact of the affective disposition measures on PSOB-Alt. Specifically, the potential overlap between dispositional affect and state affect might be one interpretation. As discussed in Chapter 2, the two types of affect (state affect and trait affect) are conceptually distinct in the sense that state affect captures how a person feels at a given point in time, and trait affect represents stable individual differences in affect levels. Although conceptually distinct, it may not be so easy to separate the two types of affect from the measurement point of view. For instance, as noted by Watson and Pennebaker (1989), affect can be measured in either state or trait terms, with measurements using a longer time frame capturing "trait" affect, and "state" affect being captured with a shorter time frame. As a result, the "state" condition can, over time, contribute to the level of "trait" affect. Hence, the potential overlap between state and trait measures may contribute to the weak links between job affect and PSOB-Alt when the dispositional variables of positive affectivity and negative affectivity are included in the equation. In other words, the impact of dispositional affect may soak up or mask the impact of job affect on PSOB-Alt.

To be able to ascertain whether the impact of job affect on PSOB-Alt increases once the measurement overlap between state and trait affect is minimised, additional analyses were conducted. Specifically, the influence of state affect was first removed from the dispositional affect measures, and the same mediation analyses were then conducted using this time the alternative dispositional affect measures. The two alternative measures were created as follows; first, the two dispositional affectivity measures were separately regressed on the positive and negative job affect measures, and the residual scores from the two regressions were then taken as the two uncontaminated "trait" affect measures, and labelled "PA_Trait" and "NA_Trait" respectively.

The results of these alternative analyses are shown in Table 7.7. The results indicated that both the positive and negative job affect measures in the final equation were positively and significantly related to PSOB-Alt. Compared to the results in Table 7.6 where only the dispositional affectivity measures were significant, this time both trait and state affect measures emerged as significant predictors of PSOB-Alt, indicating that job affect is indeed important in explaining this form of prosocial behaviour at work

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Table 7.7

Alternative multiple regression of PSOB-Alt on job affects and antecedent variables: Test of mediation

	Dependent Variables			
Independent Variables	**1a PH (Enthusiasm)**	**1b NL (Depression)**	**2 PSOB-Alt**	**3 PSOB-Alt**
Control Variables				
Adj. R^2	(.08**)	(.09**)	(-.00)	(-.00)
Job, Social, & Disposition Variables				
Job Control	.23**	-.08	-.01	-.04
Task Variety	.16*	-.31**	-.13	-.10
M_Demands	.04	.13+	.09	.05
PS_Demands	-.01	.01	.10	.11
Workload Demands	.01	.24**	.24**	.19*
Supervisor Support	.28**	-.22**	.04	.02
Co-worker Support	.26**	.00	.13	.08
PA_Trait	-.09	.03	.16*	.17*
NA_Trait	-.08	.03	.14*	.15*
Job Affect Variables				
PH (Enthusiasm)				.20*
NL (Depression)				.20*
R^2	.45**	.34**	.21**	.24**
Adj. R^2	.40**	.28**	.14**	.16**

Note. + p <.10 * p <.05 ** p <.01. Figures in the table are standardised beta coefficients. Adjusted R^2s for control variables only are reported in the brackets. Age, gender, clinical grade, post-tenure, and social desirability were controlled. PA_Trait and NA_Trait are residual scores of PA and NA respectively, after the contribution of job affects were removed.

The mediation model was also tested with PSOB-CI as the dependent variable, and the results are shown in Table 7.8. The results did not indicate a strong mediation effect. Job control, for instance, was positively and significantly associated with PSOB-CI in the second equation, and this impact was not

weakened in the third equation when the job affect variables were added. The impact of workload demands was marginally weaker in the third equation (beta = .19, p< .05) than it was in the second one (beta =.23, p<.01), indicating some limited mediation by NL (beta = .15, p<.10). However, none of the indirect effects of the antecedent variables on PSOB-CI was statistically significant.

Table 7.8

Multiple regression of PSOB-CI on job affects and antecedent variables: Test of mediation

	Dependent Variables			
Independent Variables	**1a PH (Enthusiasm)**	**1b NL (Depression)**	**2 PSOB-CI**	**3 PSOB-CI**
Control Variables				
Adj. R^2	(.08**)	(.09**)	(.08**)	(.08**)
Job, Social, & Disposition Variables				
Job Control	.18**	-.01	.18*	.18*
Task Variety	.09	-.23**	-.02	.01
M_Demands	.05	.08	.03	.02
PS_Demands	-.04	-.06	.04	.05
Workload Demands	-.02	.22**	.23**	.19*
Supervisor Support	.22**	-.19**	.03	.06
Co-worker Support	.18**	.05	.03	.02
Positive Affectivity	.30**	-.17**	.13+	.15+
Negative Affectivity	-.11*	.40**	.03	-.03
Job Affect Variables				
PH (Enthusiasm)				.02
NL (Depression)				.15+
R^2	.53**	.53**	.25**	.26**
Adj. R^2	.49**	.48**	.18**	.19**

Note. + p <.10 * p <.05 ** p <.01. Figures in the table are standardised beta coefficients. Adjusted R^2s for control variables only are reported in the brackets. Age, gender, clinical grade, post-tenure, and social desirability were controlled.

In the case of PSOB-CI, neither job affect nor dispositional affectivity emerged as strong statistically significant predictors of PSOB-CI. Negative job affect and positive affectivity were only marginally significant (for NL, beta = .15, $p< .10$, for PA, beta = .15, $p <.10$), while the impact of both positive job affect and negative affectivity was not significant. The results in the final equation showed that PSOB-CI was positively and significantly associated with two job factors, namely job control and workload demands. It may be, in other words, that individuals in an *active job* (the term used by Karasek (1979) to describe jobs high on both job demands and control) are those who are more likely to engage in continuous improvement activities.

In sum, the results from the mediation tests show that the two forms of PSOB seem to be determined by different sets of predictors. Altruistic forms of PSOB were largely explained by affect, both state and trait, whereas continuous improvement behaviours were more strongly associated with job-related factors. This partly confirms the suggestion made in Chapter 6 that PSOB-Alt, unlike PSOB-CI, captures affect-driven behaviours. As discussed in Chapter 6, continuous improvement types of behaviour are relatively well-thought out and proactive forms of behaviour, whereas altruistic forms of behaviour are more spontaneous and reactive to existing needs. Therefore, affect might be a more important determinant of altruistic or helping behaviours than of continuous improvement behaviours.

7.4 Discussion

The main aim of this chapter was to explore the determinants of four job affects, job-related enthusiasm, comfort, anxiety and depression. Several job-related, social, and affective disposition factors were proposed as determinants of each job-related affect. The results from the regression analyses were generally supportive, and provide the basis for more systematic further empirical examination. Specifically, the different sets of proposed antecedents were differentially related to the four job affects. For instance, job-related depression was found to be related to slightly different sets of antecedents from those which are associated with job-related enthusiasm, suggesting these two job affects are not just *reverse-scored* factors of each other. Some of the antecedents were also found to be differentially related to job-related anxiety and to job-related comfort. These findings are particularly encouraging since they provide good empirical support for the conceptual distinction among the four unipolar job affects.

Several important conclusions can be drawn from the results of the multiple regression analyses with the present sample. First, supervisor support seems to have the most pervasive influence on nurses' affective experiences. It has a strong and significant impact across all of the four job affect factors. Nurses work particularly in teams, and their responsibilities for patients are largely shared across members of the team. Because of these high levels of task interdependence created by the very nature of nursing tasks, active coordination and cooperation among staff is essential. Therefore, the amount and the quality of social support nurses receive at the workplace may be critical for their affective experiences as well as for their performance.

Second, in terms of the job characteristics factors, different aspects of nurses' jobs appear to have distinctive influences on the four job affects. For instance, job control had a positive and significant impact on the two forms of positive job

affect, PH and PL, while task variety did not. One explanation for the different roles of job control and variety is that job control reflects worker discretion in general, therefore tapping workers' sense of efficacy and responsibility, while variety only reflects *horizontal* job enlargement which merely serves to prevent job boredom/depression and does not necessarily promote work enthusiasm. Indeed, task variety emerged as an important determinant of job-related depression (NL). Reduced variety, or lack of variety predicted increased job-related depression. On the other hand, job control did not affect the level of job-related depression.

Work-related demands also had a differential impact on the different forms of job-related affect. Workload demands had a significant effect on both job-related anxiety (NH) and depression (NL). They did not, however, have a significant effect on job-related enthusiasm (PH). This suggests that heavy workloads may only increase negative job affect but may not necessarily harm workers' enthusiasm (PH). Cognitive demands, however, showed no significant effects either on positive affect or negative affect. One explanation may be that the effects of cognitive demands on job affect are mainly mediated through quantitative workload demands. In other words, increased cognitive demands may also increase workload demands, and workload demands in turn influence job affect. This is plausible because the workload demands measure covers relatively broad aspects of job demands whereas the cognitive demands measures tap specific aspects of job demands. Alternatively, it may well be that the relationship between cognitive demands and job affect is non-linear. Cognitive demands may not be perceived as harmful, or even as desirable up to a certain point, after which they may begin to have a negative influence on well-being. The intercorrelations between cognitive demands and job affect shown in Table 7.3 partly support this potential curvilinear relationships. For instance, *cognitive demands* variables, namely monitoring demands and problem-solving demands, were positively correlated with anxiety (r=.18 with monitoring demands and r=.20 with problem-solving demands). They were also *positively* and significantly correlated with enthusiasm, a *highly aroused* positive affective

state (r=.14 with monitoring demands and r=.15 with problem-solving demands). They were not, however, related to the *low arousal* affective states of depression and comfort. This is not surprising since cognitive demands reflect activated mental state and, as a result, are only likely to be highly related to high arousal or activated affective states.

Third, people's feelings about their work are a function both of the work situation itself and of their own personality. In modifying aspects of a job in order to influence employee affective well-being, variations in employees' cross-situational dispositions will therefore limit the magnitude of resulting changes in affective well-being; job and/or social system redesign is important in explaining job affect, but its impact is likely to be tempered by employees' dispositions. This might be the case, in particular, for negative affect. According to the data from the present sample, negative job affects were, compared to positive affects, more strongly associated with nurses' affective dispositions. On the other hand, the data also indicated that positive moods, and job-related enthusiasm in particular, were more strongly associated with social factors than were negative moods. This is consistent with the argument in the literature that positive moods are more strongly linked to interpersonal or social contacts while negative moods are more strongly related to individuals' affective dispositions (e.g., Watson & Clark, 1984; Warr, 1987).

Fourth, when the unipolar affect conceptualisation is compared to the bipolar conceptualisation, the unipolar conceptualisation seems to provide a more detailed understanding of the relationships between the antecedents and the affective experiences. First, the unipolar affect conceptualisation seems to contribute to a better understanding of the relationships between the antecedents and their affective consequences. For instance, job control was only significantly related to enthusiastic moods (PH), and task variety and workload demands were related to depressed moods (NL) but not to PH, yet all three antecedents showed significant relationships with the combined bipolar affect, "depression-enthusiasm (NLPH)." In this case, although the bipolar affect measure was

found to be significantly related to a number of potential antecedents, a precise understanding of the mechanisms underlying the association between these antecedents and affect may not be possible based on such a bipolar conceptualisation.

In addition, the unipolar affect measures seem superior to bipolar ones in terms of the identification of antecedents. More specifically, the results from the present sample showed that there were some antecedents that were significantly related to one of the unipolar factors, but that did not exhibit a significant association with the bipolar measure. Co-worker support, for instance, was significantly and positively related to enthusiastic moods, but its significance disappeared when the unipolar affect (PH) was collapsed into bipolar measure (NLPH). Job control is another example. It was a significant and positive predictor of job-related comfort (PL), whereas it was not a significant predictor of the bipolar affect of "anxiety-comfort (NHPL)." These potentially important antecedents of affective experiences were only detectable using the unipolar affect conceptualisation, and not the bipolar one. To the extent that the identification of these antecedents is important, the usefulness of the unipolar conceptualisation of affect developed and presented in the present study is sustained and justified.

I do not suggest, however, that the unipolar affect conceptualisation is necessary or useful at all times. On the contrary, a bipolar conceptualisation may prove preferable, for instance, as a basis for constructing effective indicators of affective well-being. The bipolar-based measures might well serve as better summary indicators of employee well-being, and might also provide a useful overall picture of the general link between well-being and its work-related antecedents. However, when the interest lies in a more detailed understanding of the antecedents of specific affective states with their consequences, the unipolar conceptualisation may prove superior to the bipolar one.

Finally, the mediation tests showed that job affect only marginally mediates the impact of the antecedents on the two forms of PSOB. Altruistic forms of prosocial behaviour were largely explained by the two dispositional affect measures. Both measures of dispositional affect, positive and negative affectivity, were positively and significantly linked to PSOB-Alt, indicating that trait affect might be an important determinant of altruistic forms of behaviour. Once the trait measures of affect were "cleared" of any state affects, however, the job affect variables also emerged as significant predictors of PSOB-Alt.

The importance of dispositional affect in relation to PSOB and task performance has been a controversial issue in the literature. George (1991), for instance, found no significant impact of trait affect on prosocial behaviour, whereas Staw and Barsade (1993) emphasised the importance of dispositional affect. In this respect, whether or not dispositional affect does have a real impact on PSOB, and if it does, the relative importance of "state" and "trait" affect in explaining prosocial behaviour, along with the measurement issues surrounding the distinction between the two types of affect, are interesting areas to pursue in future research.

Amongst the set of situational variables, workload demands were also positively and significantly related to PSOB-Alt. Workload demands were also positively and significantly related to PSOB-CI. Although not formally required to engage in prosocial forms of behaviour, nurses who take a wider view of their role demands are more likely to consider such behaviours as a normal part of their work activities and, hence, to exhibit higher levels of PSOB. Previous literature on customer-oriented prosocial behaviour (e.g., Peccei & Rosenthal, 1997) also found that work demands were positively and significantly related to the level of customer-oriented PSOB among employees. According to Peccei and Rosenthal (1998b), however, the link between work demands and the customer-oriented behaviour of employees may be mainly a function of the importance which supervisors assign to such forms of prosocial behaviour amongst their subordinates. When supervisors place a great deal of emphasis on such forms of

behaviour, employees are more likely to respond accordingly and actively engage in various types of PSOB. At the same time, though, they are also likely to perceive such supervisory emphasis on PSOB as forms of work demands or pressure. Whether or not this is the underlying mechanism for the link between workload demands and PSOBs for the present study remains an open question since supervisors' PSOB orientation was not measured in the research. One should not, however, rule out the possibility of reverse causality. Workload demands may be the result of, rather than the cause of, individuals' engagement in PSOB. Nurses who engage more in prosocial organisational behaviours may, in turn, experience increased workloads.

The only other antecedent variable which was significantly related to PSOB-CI was job control. Job control, along with workload demands, was found to be an important predictor of PSOB-CI. Unlike for PSOB-Alt, the dispositional affect measures did not emerge as statistically significant predictors of PSOB-CI suggesting that for this form of prosocial behaviour the nature of the job is more important. Specifically, the results suggest that jobs which place greater demands on individuals but over which, at the same time, individuals have greater control, are more likely to enhance continuous-improvement forms of prosocial behaviour which involve proactive rather than spontaneous helping.

Chapter 8 Conclusions

Summary of the thesis

The central construct in the present thesis was affect at work or job affect. Affective states or moods have been shown to have a powerful influence on thought processes and behaviours, yet have received very limited attention in organisational settings. To contribute to research on job affect, the present thesis set out to achieve three main aims: a) to gain a better understanding of affect at work; b) to provide an empirical test of the affect-prosocial behaviour relationship in a concrete work setting; and c) to explore the antecedents of job affect at the workplace. The study used a sample of over 200 NHS nurses working in a large London-based Acute hospital as the basis for the analysis.

To fulfil the first aim, the structure of affect was theoretically and empirically explored focusing on how nurses' different affective experiences at work relate to one another, and on how the resulting affect structure can best be described. Two competing affect structure models, a unipolar Four-Factor Model proposed for the present study and a standard bipolar Two-Factor Model, were tested using the survey questionnaire responses of the sample of nurses who participated in the study. The results of confirmatory factor analysis provided good empirical support for the hypothesised conceptual distinction between the four job affect constructs. The proposed Four-Factor Model, in fact, showed a good fit to the data whereas the competing Two-Factor Model did not. Furthermore, all four affect scales exhibited high reliabilities, each scale was differentially associated with several job-related and personality scales, and all four factors were strongly correlated with mental health measures, providing evidence of discriminant and construct validity.

The second aim of the present thesis was explored by testing the commonly hypothesised relationship between affect and prosocial behaviour in the nursing work setting covered in the research. Building on the findings from Chapter 4, job affects were conceptualised in unipolar rather than in the more usual bipolar terms. Based on the unipolar conceptualisation of job affect, two research hypotheses were tested; namely that prosocial organisational behaviour is positively related to both positive and negative job affect. In line with the unipolar Four-Factor Model supported in Chapter 4, positive job affect was operationalised as an "enthusiastic" mood at work, while negative job affect was operationalised as a "depressed" mood at work. Two forms of prosocial organisational behaviour important to the nursing context were proposed as the consequences of job affect: altruistic forms of PSOB (PSOB-Alt) and continuous-improvement forms of PSOB (PSOB-CI). The findings from the multiple regression analyses showed support for both hypotheses, although job affect proved to have a generally stronger impact on PSOB-Alt than on PSOB-CI. These significant relationships between job affects and the two types of PSOB survived even after controlling for two key job attitudes, job satisfaction and organisational commitment. The significant relationship between job affect and prosocial organisational behaviour, however, disappeared when job affect was construed as a bipolar variable and operationalised in terms of "depression-enthusiasm." The results strongly suggest that work-related behaviours such as PSOB-Alt and PSOB-CI examined in the present study, are best analysed in terms of unipolar affect. Also, the unipolar-based positive and negative job affect measures explained a significant proportion of the variance in PSOBs amongst nurses in the sample, above and beyond the variance accounted for by their levels of job satisfaction and organisational commitment, demonstrating that job affects are indeed important antecedents of PSOBs.

The third and final aim was to explore the antecedents of job affect within the context of nursing covered in the research and, in the process, to examine the extent to which job affect mediates the potential impact of these antecedents on PSOB. Several job-related, social and individual dispositional factors were

proposed as potential determinants of the four unipolar job affects (job-related enthusiasm (PH), comfort (PL), anxiety (NH), and depression (NL)). The specific job-related antecedents examined in the research included, job control, task variety, cognitive demands, and workload demands. The social antecedents included supervisory and co-worker support, and the dispositional factors included positive and negative affectivity. Different combinations of these antecedents were hypothesised to be related to the four unipolar job affects, and the findings broadly supported the hypothesised links. Amongst the significant predictors, supervisor support was found to be strongly related to all four job affects. In general, the social factors were more strongly related to positive job affect than to negative job affect, while the dispositional factors were more strongly associated with negative job affect than with positive job affect. Some of the job characteristics factors were also associated with each of the four job affects in their own distinctive ways. When the job affects were construed in bipolar terms, however, some significant antecedents of the unipolar job affects were no longer significantly associated with the bipolar ones. These findings, therefore, provide further confirmation and support for the proposed view that the four job affects are conceptually distinct.

Based on the above results, the final step in the analysis involved looking at the possible impact of the antecedent variables on PSOB and at the extent to which this impact may have been mediated by nurses' affective experiences at work. A number of the antecedents of job affect emerged as significant predictors of the two forms of PSOB. PSOB-Alt was found to be influenced primarily by the two dispositional factors of positive and negative affectivity and by workload demands. PSOB-CI, on the other hand, was primarily influenced by two of the job-related characteristics examined in the research, namely workload demands and job control. The impact of these variables on the two forms of PSOB was found to be primarily direct rather than being mediated by the job affect variables. Few mediation effects obtained in the data in fact, and these all tended to be weak. More importantly, once the antecedent variables were included in the analysis as predictors of PSOB, job affect was no longer found to have a

significant impact on PSOB-CI. In contrast, after taking into account possible overlaps between "state" and "trait" measures of affect and correcting for them in the analysis, job affect was confirmed as a significant predictor of PSOB-Alt. More generally, therefore, the results of the mediation analysis help to sharpen and refine our understanding of the link between job affect and PSOB. In particular, they suggest that job affect may have a differential impact on different forms of prosocial behaviour at work. In so doing, these results reinforce the main findings of the research concerning the job affect-PSOB relations, namely the idea that individuals' affective experiences at work are indeed important in understanding to extent to which they are likely to engage in prosocial behaviours on the job, but that these experiences are far more important in explaining altruistic forms of PSOB than they are in explaining continuous improvement contributions at work.

Contribution of the thesis

The key contribution of the present study is to the theoretical debate on the structure of affect. Although the bipolar-based understanding of affect structure has been predominant in the literature, some empirical as well as theoretical analyses have suggested that affective space might be unipolar (Burke, Brief, George, Roberson, & Webster, 1989). The findings from the present study add support to the unipolar view of affect structure, thereby, encouraging further systematic investigation of the nature and structure of affect at work.

Second, the present study is among the first empirical attempts systematically to investigate job affect in relation to its consequences and its potential antecedents at the workplace. In the recent organisational literature, job affect has been suggested as a pivotal construct for understanding prosocial or citizenship behaviours, yet the concept itself remains under-researched and in need of clarification. Using well-operationalised unipolar-based measures of job affect, the present study demonstrated the importance of job affect for an understanding

of key forms of prosocial organisational behaviour and, in so doing, has opened the way for more focused and fruitful further investigations of the widely hypothesised link between affect and prosocial behaviour at work. In addition, the set of situational and dispositional variables found to be significant antecedents of job affects in the present study will help to direct attention to important areas for further analysis and, as such, should help to focus future research efforts in this field.

Policy implications

In addition to the theoretical contributions outlined above, some practical policy implications can also be drawn from the findings of the present study. Two questions, in particular, are worth asking: a) provided that the promotion of PSOBs is desirable within the organisations, what are the desirable affective characteristics of individuals in terms of PSOB?; and b) what are the recommendations for management who wish to encourage such desirable affective characteristics?

In relation to the first question, concerning the search for desirable affective characteristics of individuals, it could be argued that the findings of the present study serve to rekindle and partly support traditional management folklore about the "happy-productive" worker linkage. Managers have typically assumed that happy workers are productive ones, but decades of academic research has generally revealed a weak to nonsignificant relationship (e.g., Iaffaldano & Muchinsky, 1985). The growing research interest in the affect-prosocial behaviour link began, in fact, as an attempt to reformulate the "happy-productive" hypothesis (Organ, 1988b). Instead of considering job performance simply as a combination of work quantity and quality, researchers suggested investigating instead extrarole, citizenship or prosocial behaviours. Likewise, researchers have turned their attention to job affect as a new predictor candidate for the reformulated hypothesis. Within this broader context, the present study

partly confirms the view that happy workers are, in fact, desirable to have around since they are helpful to others as well as to the organisation.

The present study, however, does not suggest that happy or positive affect is the only desirable affective state of individuals. The results showed that negative affect also promotes nurses' prosocial organisational behaviour. Should one then suggest to management to create negative affective experiences for employees at the workplace? On moral grounds the answer to this question is clearly "no." But it is probably also "no" on practical grounds. A more detailed analysis of the present data tentatively suggests, in fact, that the nurses who, on average, showed highest levels of engagement in PSOB were those who experienced *"rich"* affective states, in terms of both positive and negative affect, rather than those who strongly experienced only positive job affect. More specifically, the level of prosocial behaviour was highest amongst nurses in what might be termed the "affectively sensitive" group (i.e., those exhibiting high levels of both positive and negative affect), followed by those in the "positive affect" group (i.e., those high on positive and low on negative affect), and then by those in the "negative affect" group (i.e., those high on negative and low on positive affect). The level of PSOB was lowest amongst nurses belonging to what might be termed the "apathetic" group who exhibited low levels of both positive and negative affect.

Given, first, that prosocial behaviour is most likely to be enhanced by "rich" affective experiences, a key component of which are positive affective states; and secondly and more importantly, that "negative-only" affective states, unlike "positive-only" states, do not seem to contribute much to the enhancement of PSOB, it seems reasonable to suggest that management would do well to emphasise "positive" affect maximisation within the workplace.

Broadly speaking, based on the findings in Chapter 7 on the antecedents of job affect, there are at least three general suggestions for the creation of positive affect at work. First, organisations may attempt to enhance employees' positive

affective experiences at the workplace by improving their social environment at work and, importantly, by providing supportive supervision to employees. As noted, the present findings indicated that positive job affect, enthusiasm (PH) in particular, was strongly related to social factors including supervisor support and co-worker support at work. Secondly, organisations may attempt to establish a more pleasant work environment through job redesign and the provision, for instance, of increased levels of job control to employees. Finally, since the experience of positive affect was also significantly influenced by individuals' affective disposition, organisations might explicitly try to target dispositionally "positive" people in the selection process. This final point, however, needs careful consideration since a positive personality may not always have the most beneficial consequences in terms of PSOB. This is because selecting a "positive-only" workforce necessarily reduces the likelihood of recruiting "affectively sensitive" workers. And, if the findings from the present study are true, it is the better workers who have the most desirable affective profile in terms of PSOB.

This suggestion is consistent with the caution against the selection of employees on the basis of affective disposition (e.g., Staw & Ross, 1985) since the costs involved in doing so might cancel any benefits that dispositionally positive employees may bring to the organisation. In addition, having a dispositionally positive workforce may not be crucial since positive affective experiences have been suggested to be more strongly determined by situational factors than by dispositional factors (Diener & Larsen, 1984), and the results of the present study also support this view. Arguably, therefore, management may benefit most by promoting a positive social and work environment.

Cautions and potential limitations of the research

However, one should not overstate the implications of the present results for several methodological reasons. First, the study was based on a limited sample-one occupational group within a single organisational unit. The interpretation of

the results, as well as their generalisability to other samples, may, therefore, require considerable caution. Second, because the study relied on a self-report measurement strategy, spuriousness may be a potential problem. When two variables are correlated solely because the same unmeasured cause influences both, the correlation is referred to as spurious (Spector, 1987b). In other words, the common sources of bias associated with the measurement instruments will be correlated and may produce spurious results where the real relationships may not exist or be very weak. Third, any causal implications of the study should be interpreted cautiously since the data are cross-sectional in nature. Admittedly though, the interpretation of the present results has proceeded with overtones of causality not be strictly admissible given the cross-sectional nature of the data. The arrows of causation might well operate in the reverse direction. Or, as is most likely, many of the relationships examined are more recursive in nature and involve elements of reciprocal causation over time. This is probably the case, for example, in terms of relationship between job affect and prosocial organisational behaviour with affective experiences at work tending to increase the likelihood that employees will engage in prosocial acts which, in turn, are likely to lead to enhanced levels of individual affect at the workplace.

Furthermore, although the present study focused throughout on the simplest, main effects models, the relationships among the variables covered in the research, may well be more complex. The study, in fact, covered several antecedent variables including both dispositional and situational ones, and as noted by the general person-environment perspective (e.g., French, Caplan, & Harrison, 1982), some interactions among these two broad class of antecedents are also possible. Therefore, it should be noted that simple or main effects may become less important if any significant interaction effects were to be observed.

Finally, the actual impact of job affect on PSOB was, in practice, rather small: less than 10 % of the variance in either form of PSOB was explained by job affect. Undoubtedly, important variables remain to be identified in theory, and further research is clearly required to provide a reasonable explanation for

individual variation in PSOB. The results of the job affect mediation tests conducted in the final part of Chapter 7 reinforce this view. The inclusion of the situational and dispositional variables as predictors of PSOB in the analysis reduced, to some extent, the impact of the job affect variables on the two measures of prosocial behaviour. In addition, a number of the situational and dispositional antecedents were found to have a significant direct impact on PSOB. For instance, the job characteristics variables of job control and demands explained a significant amount of variance in PSOB-CI, raising the total proportion of explained variance in this form of prosocial behaviour to 26%. Similarly, the explained variance in PSOB-Alt was also increased to 24%, mainly due to the inclusion of dispositional affectivity in the analysis. Therefore, more theory-based predictors of PSOB should carefully be identified to explain different forms of prosocial behaviour at work.

It should be emphasised, however, that the results in Chapters 6 and 7 indicate that job affects did indeed have a significant impact on PSOB and, in particular, on altruistic forms of prosocial behaviour. Thus, the analysis in Chapter 6 showed that job affects had a significant effect on PSOB-Alt and that this effect went above and beyond that of the two key job attitude variables of job satisfaction and organisational commitment. The impact of job affects on PSOB-Alt was further reconfirmed in Chapter 7 once the overlap between the state and trait affect measures was taken into account in the mediator analysis. Although not that marked, therefore, the impact of job affect on PSOB is by no means insignificant. In addition, it is also worth noting that positive affect/moods at the workplace can be created by very small incidents. In other words, despite the potentially small effect size, job affect is arguably still important since it can be created relatively easily. For instance, a bunch of flowers at the office may be enough to help create a positive mood among employees, and the effect, if there is any, is "immediate."

On the other hand, the small effect size might also be due to the fact that the findings from the present study were based on a rather homogeneous sample, a

sample with very low diversity. Since the sample was restricted to nursing staff from a single Trust, the occupational and contextual diversity of the study was necessarily limited. These two factors in combination may result in minimal variation in the exogenous variables. In other words, the lack of diversity in the sample on the independent variables may be responsible for the not-so-strong relationships found between the independent and dependent variables in the study. For instance, as suggested by George (1990), individual levels of job affect may be largely explained by the group-level affective tone. In other words, members of the same group (also potentially of the same organisation) may share a large amount of variance in job affect.

Directions for future research

Several relevant directions for future research are worth noting. The first concerns whether the findings from the present study can be replicated across a range of organisational settings. In particular: a) can the four-factor affect structure be replicated in other studies?; b) are the observed significant links between prosocial behaviours and positive and negative job affect sustained in other settings?; and c) do the antecedents found to be significant for each unipolar job affect in the nursing context also emerge as significant in other contexts? The answers to these questions will serve to determine the validity of the present study, and further contribute to a more systematic understanding of job affect. Without a doubt, studies using larger samples in more diverse settings, and employing more objective measures of key variables of interest instead of self-reports, can make a significant contribution to further research in this area and are, therefore, to be welcomed.

The second issue concerns the refinement of the PSOB concept. The PSOB construct covers a very broad range of behaviours (Brief & Motowidlo, 1986). Therefore researchers should investigate PSOB with well-defined and focused sub-concepts rather than with a generalised construct. Only two forms of PSOB

focusing on altruistic and continuous improvement types of prosocial behaviours respectively, were examined in the present study. Other forms of PSOB relevant to the nursing context, as well as to a broader set of service contexts, should be identified, and their links with job affect investigated.

Third, another interesting suggestion for future investigation involves the detailed understanding of the explanatory mechanisms underlying the affect-PSOB relationship. As discussed in Chapter 5, several mechanisms have been suggested in the prosocial literature. For instance, the positive affect-prosocial behaviour relationship has been interpreted primarily in neo-associationist terms (Morris, 1992). Specifically, the more frequently adduced explanatory mechanisms here is based on the idea that if people feel good then, because of cognitive bias (e.g., selective memories, positively coloured views about the outside work and other people, and so on), they will *automatically* do good. On the other hand, the negative affect route has been suggested as more altruistically motivated mechanisms mediated by the experience of *empathy*.

In addition to these rather qualitatively different explanatory mechanisms for the positive and negative routes, a more "selfishly-motivated" mechanisms (e.g., Batson, 1987; Baumann, Cialdini, & Kenrick, 1981; Cialdini, Schaller, Houlihan, Arps, Fultz, & Beaman, 1987) have also been suggested for both the positive and negative route. A "negative state relief" hypothesis suggests that people are motivated to avoid negative moods and to seek positive ones. Hence, people tend to engage in or seek activities such as prosocial acts which may help them to restore their good moods. Similarly, a "positive affect maintenance" hypothesis suggests that people tend to engage in activities (e.g., prosocial behaviours) which are likely to continue to make them feel good.

In brief, several different mechanisms underlying the link between job affect and prosocial organisational behaviour can be identified and it would help further to understand the motivational aspects of prosocial behaviours in the workplace if

further research systematically examined and compared these different mechanisms.

Fourth, another potentially interesting area of enquiry concerns on the differential role of "state" and "trait" affect in explaining PSOB. For instance, the measures of dispositional affect were shown to be significantly related to altruistic forms of PSOB in the mediation analyses in Chapter 7. The question is then whether the influence of dispositional affect on PSOB reflects the accumulated long-term impact of state affect on PSOB, or whether disposition itself plays a unique role in PSOB. If the former turns out to be true, then the dispositional influence on PSOB is mainly a spurious measurement effect, with the real underpinning mechanism being the effect that "state" affect has on prosocial behaviour. On the other hand, if the latter is true, a separate underlying mechanism for the link between dispositional affect and PSOB should exist, and both "state and "trait" affect would then be worthwhile investigating in relation to PSOB.

At a more general level, it would also be interesting to observe the relative importance of job affect as a determinant of different forms of PSOB. In other words, factors other than job affect are likely to help explain PSOB, and the relative importance of different factors, including job affect, may well depend on the different forms of PSOB involved. For instance, building on the social science literature on the nature of social action (e.g., Etzioni, 1988) and on the general organisational behaviour literature (e.g., Pfeffer, 1982), and in line with the prosocial and service-orientation literature (e.g., Peccei & Rosenthal, 1998a), individuals' engagement in prosocial behaviour might usefully be understood in terms of three broad forms of action, namely "calculative/instrumental," "normative," or "affective" action. More specifically, in affectively based forms of action, the engagement in prosocial acts is a source of intrinsic satisfaction and hence, an end in itself for the individual (Peccei & Rosenthal, 1998a). The job affect explanation therefore, may fit most closely to this form. Individuals may, however, also engage in prosocial acts because they feel a moral obligation

to do so (normative action). Mechanisms such as " work values" and/or "role obligations" may explain this route. Alternatively, or in addition, individuals may engage in prosocial organisational behaviour because of the perceived extrinsic benefits of doing so (calculative action). For instance, some instrumental mechanisms such as "impression management" have recently been suggested as the underlying motivation of citizenship behaviour (e.g., Bolino, 1999). Taken together, these three different mechanisms may well help to explain prosocial organisational behaviours in general, and, as noted above, the relative strength of each explanatory mechanism may also vary depending on the specific forms of PSOB. Future research might usefully investigate the relative importance of these different mechanisms in different organisational contexts which at the same time exploring the conceptual and empirical links between job affect and the different mechanisms.

Finally, concerning the antecedents of affect, the findings from the present study suggest that several job-related, social, and individual dispositional factors might determine workplace affective experiences among nurses. More detailed questions such as why do different combinations of antecedents relate to each job affect, and what might be the concrete mechanisms linking these rather stable features to the more transient mood states of individuals, represent important areas for further enquiry. Also, the causal dynamics involved in these observed relationships need to be better understood and systematically explored in future research.

Appendix A

Appendix A.1 Intercorrelations matrix of control and study variables included in the study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1. Age																									
2. Tenure (post)	.666																								
3. Grade (Ordinal)	.327	.193																							
4. Gender (dichotomy)	-.10	-.09	-.182																						
5. Social desirability	.215	.151	.062	-.097																					
6. PH (enthusiasm)	.070	-.028	.243	-.001	.170																				
7. PL (comfort)	.157	.057	.105	-.036	.231	.639																			
8. NH (anxiety)	-.126	-.015	-.046	.043	-.194	-.185	-.419																		
9. NL (depression)	-.195	-.106	-.207	.095	-.265	-.509	-.447	.611																	
10.NLPH	.148	.040	.259	-.052	.247	.887	.632	-.442	-.849																
11.NHPL	.167	.042	.088	-.048	.252	.480	.831	-.854	-.631	.634															
12.Positive affectivity	.136	.028	.104	-.099	.187	.546	.459	-.274	-.415	.558	.431														
13.Negative affectivity	-.217	-.134	-.061	-.008	-.202	-.224	-.304	.487	.534	-.424	-.473	-.281													

Note. correlations larger than .13, $P < .05$, correlations larger than .17, $p < .01$.

Appendix A.1 Intercorrelations matrix of control and study variables included in the study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
14.Job satisfaction	.129	.048	.204	-.037	.246	.621	.428	-.216	-.549	.676	.378	.410	-.308												
15.OC	.297	.194	.347	-.061	.276	.452	.449	-.238	-.362	.472	.404	.313	-.249	.506											
16.PSOB-Alt	.095	.059	.102	-.016	-.014	.118	.044	.145	.123	.006	-.064	.161	.207	.085	.177										
17.PSOB-CI	.251	.207	.243	-.025	.182	.182	.150	-.060	-.041	.134	.123	.210	-.057	.221	.344	.558									
18.Job control	.141	.133	.308	-.100	.210	.421	.339	-.098	-.247	.390	.255	.258	-.123	.319	.418	.027	.277								
19. Task variety	.069	-.004	.227	-.087	.122	.332	.096	-.035	-.314	.373	.077	.250	-.086	.397	.109	.023	.170	.222							
20.Monitoring demands	.116	.149	.164	-.026	-.034	.140	-.016	.178	.054	.057	-.119	.071	.139	.091	.022	.221	.228	.131	.311						
21.PS demands	-.129	-.175	.099	.054	-.205	.100	-.132	.210	.059	.030	-.204	.012	.238	.032	-.042	.230	.108	.077	.229	.416					
22.Workload demands	.131	.098	.180	.007	-.041	-.039	-.225	.253	.215	-.139	-.284	.020	.135	-.094	-.095	.294	.276	-.020	.176	.388	.261				
23.Supervisor support	-.039	-.116	.117	-.009	.118	.511	.352	-.191	-.305	.477	.320	.334	-.020	.323	.340	.093	.138	.302	.246	.149	.181	-.066			
24.Co-worker support	-.018	-.049	-.013	.002	.001	.407	.294	-.067	-.179	.346	.210	.307	-.024	.241	.178	.108	.092	.137	.170	.105	.206	-.197	.468		
25.GHQ-12	-.165	-.041	-.018	-.027	-.192	-.418	-.463	.566	.570	-.563	-.613	-.393	.531	-.322	-.259	.023	.107	-.171	-.140	.099	.166	.174	-.156	-.207	
26.Somatic symptoms	-.086	.074	-.143	.069	-.279	-.165	-.238	.422	.419	-.326	-.396	-.247	.458	-.158	-.203	.111	.001	-.004	-.010	.168	.173	.161	-.152	-.026	.481

Note. correlations larger than .13, P < .05, correlations larger than .17, p < .01.

Appendix A.2

Additional LISREL analyses for affect structure

Goodness-of-Fit Indices: Two-Factor and Four-Factor Models

Model	Description	*df*	χ^2	RMSR	CFI
Null model		190	3031.97	NA	NA
A	Two Factor: PH+NH, PL+NL	169	1380.48	0.18	0.57
B	Two Factor: PH+NL, NH+PL	169	1262.96	0.15	0.62
C	Two Factor: PH+PL, NH+NL	169	818.12	0.11	0.77
D	Four Factor: PH, PL, NH, NL	164	459.64	0.077	0.90

Note. RMSR = root mean squared residual; CFI = comparative fit index.

Appendix A.3

Factor analysis of prosocial organisational behaviour (PSOB-Alt and PSOB-CI) and job competency indicators

	Factor 1	Factor 2	Factor 3
WD6: Deal with patients' families/friends	.84		
WD2: Provide emotional support to patients	.81		
WD4: Coordinate patient care	.80		
WD5: Deal with emergency situations	.74		
WD1: Perform patient assessments	.68		
WD7: Develop good working relationships with other people (nurses, medical staff, managers)	.68		
WD3: Teach patients self-care (e.g. wound care)	.68		
CI2: I give a lot of thought to ways of Improving patient care in my team/group		.85	
CI3: I often make suggestions about how to Improve patient care in my team/group		.83	
CI1: I am always working to improve The quality of care I give to patients		.61	(.43)
Alt2: I often volunteer for things that are not Required as part of my job			.83
Alt3: I often help my immediate superior By doing things that are not really part of My job			.77
Alt1: I often do more than is required of me In my job			.64
Eigenvalue			
KMO Measure of Sampling Adequacy	**.85**		
Total Percent Variance Explained	**66.1 %**		

Note. N = 224. *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement, *WD* : job competency of common nursing Work Dimensions. Factor loadings less than .40 are not presented.

Appendix A.4

Factor loadings of PSOB-Alt, PSOB-CI and SWP Indicators:
The results of Confirmatory Factor Analysis

	Latent variable		
Observed variable	1	2	3
PSOB-Alt1	.55		
PSOB-Alt2	.73		
PSOB-Alt3	.79		
PSOB-CI1		.68	
PSOB-CI2		.92	
PSOB-CI3		.85	
SWP1			.84
SWP2			.60
SWP3			.27

Note. N=224. *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement, *SWP* : Self-rated Work Performance.
χ^2 (df, 24) = 83.13 (p = .00), Comparative fit index (CFI) = .93.

Appendix A.5

Multiple regressions of PSOBs on unipolar job affects (PH and NL)

Predictor	PSOB-Alt	PSOB-CI
Step 1:		
Control Variables[a]		
Age	.06	.10
Grade_E	-.04	.19*
Grade_F	-.01	.16
Grade_G	.13	.25**
Grade_H	-.05	.12
SD	-.04	.15*
Gender	.00	.05
Tenure	.02	.08
ΔR^2	.04	.13**
Adjusted R^2	-.01	.09*
Step 2:		
Control Variables		
Age	.06	.10
Grade_E	-.05	.19*
Grade_F	-.03	.14
Grade_G	.13	.23**
Grade_H	-.06	.11
SD	-.01	.15*
Gender	-.02	.03
Tenure	.05	.11
Job Affect Variables		
Positive affect (PH:Enthusiasm)	.25**	.21**
Negative affect (NL:Depression)	.30**	.18*
ΔR^2	.07**	.04*
Adjusted R^2	.06*	.12**
Total R^2	.11*	.17**

Note. N=211. * $p<.05$ ** $p<.01$. Figures reported for the positive and negative job affect variables in the table are standardised beta coefficients. [a] Control variables included were age, gender, clinical grade, post tenure, and social desirability. *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement.

Appendix A.6

Multiple regressions of PSOB-Alt and PSOB-CI on unipolar job affects (PH, PL, NH, and NL)

Predictor	PSOB-Alt	PSOB-CI
Step 1:		
Control Variables[a]		
Age	.06	.10
Grade_E	-.04	.19*
Grade_F	-.01	.16
Grade_G	.13	.25**
Grade_H	-.05	.12
SD	-.04	.15*
Gender	.00	.05
Tenure	.02	.08
ΔR^2	.04	.13**
Adjusted R^2	-.01	.09*
Step 2:		
Control Variables		
Age	.08	.12
Grade_E	-.04	.16
Grade_F	-.04	.12
Grade_G	.12	.20*
Grade_H	-.07	.09
SD	-.01	.14*
Gender	-.02	.02
Tenure	.04	.11
Job Affect Variables		
PH (Enthusiasm)	.23*	.27**
NL (Depression)	.24*	.25*
PL (Comfort)	.01	-.04
NH (Anxiety)	.09	-.10
ΔR^2	.08**	.05*
Adjusted R^2	.06*	.11**
Total R^2	.11*	.16**

Note. N=211. * $p<.05$ ** $p<.01$. Figures reported for the positive and negative job affect variables in the table are standardised beta coefficients. [a] Control variables included were age, gender, clinical grade, post tenure, and social desirability. *PSOB-Alt* : ProSocial Organisational Behaviour-Altruism, *PSOB-CI* : ProSocial Organisational Behaviour-Continuous Improvement.

Appendix A.7

Factor analysis of job characteristics items with Varimax rotation

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
JC4 : The extent you vary how you do your work.	.91				
JC2 : The extent you choose what work you will carry out.	.86				
JC5 : The extent you plan your own work.	.84				
JC6 : The extent you carry out your work in the way you think best	.81				
JC1 : The extent you determine the methods and procedures you use in your work.	.80				
JC3 : The extent you decide when you take a break.	.76				
MD3 : I have to concentrate all the time to watch for things going wrong.		.80			
MD4 : I have to react quickly to prevent problem arising.		.80			
MD1 : My work requires my undivided attention.		.74			
MD2 : I have to keep track of more than one thing at once.		.67			
WL4 : Too much work to do in your job.			.87		
WL2 : Too little time to get things done in your job.			.86		
WL3 : Work very hard on your job.			.73		
WL1 : Work extra hours because of staff shortage.			.71		
PSD4 : I am required to deal with problems which are difficult to solve.				.86	
PSD3 : I come across problems in my job I have not met before.				.82	
PSD1 : I have to solve problems which have no obvious answer.				.66	
VAR2 : I have the opportunity to do a number of different things in my job.					.82
VAR1 : My job has variety.					.81
VAR3 : The duties in my job are repetitious (R).					.64
KMO Measure of Sampling Adequacy	.81				
Total Percent Variance Explained	69.4 %				

Note. N = 224. Factor loadings of less than .40 are not shown.

Appendix A.8

Factor analysis of supervisor support and co-worker support items with Varimax rotation

	Factor 1	Factor 2
SS2 : Care and concern	.88	
SS1 : Useful information	.86	
SS3 : Help with a difficult taask at work	.82	
SS4 : Praise and appreciation	.81	
CS2 : Care and concern		.89
CS3 : Help with a difficult task at work		.86
CS4 : Praise and appreciation		.85
CS1 : Useful information		.71
KMO Measure of Sampling Adequacy	**.84**	
Total Percent Variance Explained	**75.0%**	

Note. N = 224. Factor loadings of less than .40 are not shown.

Appendix A.9

Factor analysis of PA and NA disposition items with Varimax rotation

	Factor 1	Factor 2
NA1 : There are days when I am 'on edge' all of the time.	.79	
NA2 : Often I get irritated at little annoyances.	.75	
NA3 : I often lose sleep over my worries.	.72	
NA4 : I sometimes feel miserable for no good reason.	.70	
PA3 : I always seem to have something to look forward to		.78
PA4 : I live a very interesting life.		.71
PA2 : I often feel sort of lucky for no special reason.		.69
PA1 : It is easy for me to become enthusiastic about the things I am doing.		.68
KMO Measure of Sampling Adequacy	**.74**	
Total Percent Variance Explained	**54.2%**	

Note. N = 224. Factor loadings of less than .40 are not shown.

Appendix B

Survey Instrument

- The cover letter

- The questionnaire

LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE:
NURSES' WORK AND PSYCHOLOGICAL WELL-BEING PROJECT

1. What is this study?

This is a survey of your views about your work and well-being. The aim of this study is to find out the work-related factors that affect nurses' psychological well-being. Only people like yourself, who actually work in nursing occupation, can give the information that is needed.

2. Who will see my responses?

Your responses are voluntary and completely confidential. Only the London School of Economics project staff can access your answers. No one in your Trust will see any of your responses.

3. How long will it take?

The questionnaire will take about 20 - 30 minutes to complete.

4. How do I complete this questionnaire?

Please read each question carefully, and give your immediate response by circling the number which best matches your views. Do not spend too much time to respond to each question. There are no right or wrong answers. Please answer all questions as openly and honestly as possible.

For example, a question in this survey asks you whether your job has variety.
If you think your job has a great deal of variety, you would circle the number '7', 'A great deal'.

	Not at all			Moderate amount			A great deal
* My job has variety	1	2	3	4	5	6	7

---

5. How can I send back this questionnaire to the researcher?

Please place the completed questionnaire in the self-addressed, pre-paid envelope provided, seal it and post back to the researcher at the London School of Economics **within 2 weeks**.

THANK YOU FOR YOUR CO-OPERATION!

For the enquiry on this questionnaire :
0171 955 7918, or
H.lee@lse.ac.uk

Serial number _____

A SURVEY OF NURSES' WORK AND PSYCHOLOGICAL WELL-BEING

London School of Economics
Industrial Relations Department

1996

SECTION A. BACKGROUND INFORMATION

A. What is your job title?(please tick one)

( ) 1. General Manager
( ) 2. Senior Nurse
( ) 3. Sister/Charge Nurse
( ) 4. Staff Nurse
( ) 5. Enrolled Nurse
( ) 6. Staff Midwife
( ) 7. Health Visitor
( ) 8. Practice Nurse
( ) 9. Tutor/Teacher
( )10. Other(please specify).....

B. Which speciality do you work in?(please tick one)

( ) 1. Medical
( ) 2. Surgical
( ) 3. Orthopaedic
( ) 4. Gynaecology
( ) 5. Theatre
( ) 6. A & E
( ) 7. Intensive Care
( ) 8. Coronary Care
( ) 9. Paediatric
( )10. Elderly Care
( ) 11. Out-Patients
( ) 12. Education
( ) 13. Management
( ) 14. Mental Illness
( ) 15. Mental Handicap
( ) 16. Midwifery
( ) 17. Health Visiting
( ) 18. District Nursing
( ) 19. GP Practice
( ) 20. Other(please specify).....

C. What is your clinical grade? ( )

D. a. Year you started working in your current post : 19 ( )
b. Year you started working in this Trust : 19 ( )
c. Year you started working as a qualified nurse : 19 ( )

E. a. Is your current job full-time? ( )Yes ( )No
b. If part-time, please state how many hours per week you work: ( )hrs

F. What is your current pattern of work?

( ) 1. Mix of early, late, and night
( ) 2. Mix of early and late
( ) 3. Nights only
( ) 4. Days only('9 to 5' or equivalent)
( ) 5. Other(please specify)
.....

G. Type of nursing care system you work in. If you work in more than one system, choose the one you work in most frequently. (please tick only one)

( ) 1. Patient Allocation
( ) 2. Primary Nursing
( ) 3. Team Nursing
( ) 4. Task Allocation
( ) 5. Other(please specify)
.....

H. How many patients are you normally in charge of? ( )

I. What proportion of your total working time do you normally spend in actual patient contact? (Please circle % below)

10——20——30——40——50——60——70——80——90——100(%)

J. How many patient deaths have you witnessed in the last 6 months? ( )

SECTION B. YOUR JOB **Please circle the appropriate number.**

1. The items below are common tasks in nursing jobs.

How confident are you about your ability to:	Not confident at all			Moderately confident			Extremely confident
a. Perform patient assessments	1	2	3	4	5	6	7
b. Provide emotional support to patients	1	2	3	4	5	6	7
c. Teach patients self-care(e.g. wound care)	1	2	3	4	5	6	7
d. Coordinate patient care	1	2	3	4	5	6	7
e. Deal with emergency situations	1	2	3	4	5	6	7
f. Deal with patients' relatives/friends	1	2	3	4	5	6	7
g. Develop good working relationships with other people(nurses, medical staff, managers)	1	2	3	4	5	6	7

2. The following questions concern the amount of choice you have in your job.

To what extent can you:	Not at all			Moderate amount			A great deal
a. Determine the methods and procedures you use in your work?	1	2	3	4	5	6	7
b. Choose what work you will carry out?	1	2	3	4	5	6	7
c. Decide when to take a break?	1	2	3	4	5	6	7
d. Vary how you do your work?	1	2	3	4	5	6	7
e. Plan your own work?	1	2	3	4	5	6	7
f. Carry out your work in the way you think best?	1	2	3	4	5	6	7
g. Choose which shift pattern to work?	1	2	3	4	5	6	7
h. Decide when to take your days-off/holidays?	1	2	3	4	5	6	7

3. In the last four weeks, how often have you had:

	Rarely			Much of the time			All of the time
a. To work extra hours because of staff shortage	1	2	3	4	5	6	7
b. Too little time to get things done in your job	1	2	3	4	5	6	7
c. To work very hard on your job	1	2	3	4	5	6	7
d. Too much work to do in your job	1	2	3	4	5	6	7

4. How true are the following of your job?

	Not at all			Moderate amount			A great deal
a. My work requires my undivided attention	1	2	3	4	5	6	7
b. I have to keep track of more than one thing at once.....	1	2	3	4	5	6	7
c. I have to concentrate all the time to watch for things going wrong	1	2	3	4	5	6	7
d. I have to react quickly to prevent problem arising	1	2	3	4	5	6	7
e. I have to solve problems which have no obvious answer	1	2	3	4	5	6	7
f. The problems I deal with require a thorough knowledge of nursing	1	2	3	4	5	6	7
g. I come across problems in my job I have not met before	1	2	3	4	5	6	7
h. I am required to deal with problems which are difficult to solve	1	2	3	4	5	6	7

5. How true are the following of your job?

	Not at all			Moderate amount			A great deal
a. I know what my responsibilities are	1	2	3	4	5	6	7
b. I know exactly what is expected of me	1	2	3	4	5	6	7
c. I have a clear idea of what has to be done on my job	1	2	3	4	5	6	7
d. I receive incompatible requests from different people	1	2	3	4	5	6	7
e. I do things at work which are accepted by one person but not by another	1	2	3	4	5	6	7
f. People at work make conflicting demands of me	1	2	3	4	5	6	7
g. My job has variety	1	2	3	4	5	6	7
h. I have the opportunity to do a number of different things in my job	1	2	3	4	5	6	7
i. The duties in my job are repetitive	1	2	3	4	5	6	7
j. My job requires me to keep learning new things	1	2	3	4	5	6	7
k. My job requires a high level of skill	1	2	3	4	5	6	7

6. In the last four weeks, how much of the following did you get?

From your immediate superior	None			Moderately			A great deal
a. Useful information	1	2	3	4	5	6	7
b. Care and concern	1	2	3	4	5	6	7
c. Help with a difficult task at work	1	2	3	4	5	6	7
d. Praise and appreciation	1	2	3	4	5	6	7

From your colleagues	None			Moderately			A great deal
a. Useful information	1	2	3	4	5	6	7
b. Care and concern	1	2	3	4	5	6	7
c. Help with a difficult task at work	1	2	3	4	5	6	7
d. Praise and appreciation	1	2	3	4	5	6	7

7. To what extent do you agree with the following which describe yourself?

	Strongly disagree			Neither agree nor disagree			Strongly agree
a. It is easy for me to become enthusiastic about the things I am doing	1	2	3	4	5	6	7
b. I often feel sort of lucky for no special reason	1	2	3	4	5	6	7
c. There are days when I am 'on edge' all of the time	1	2	3	4	5	6	7
d. Often I get irritated at little annoyances	1	2	3	4	5	6	7
e. I always seem to have something to look forward to	1	2	3	4	5	6	7
f. I live a very interesting life	1	2	3	4	5	6	7
g. I often lose sleep over my worries	1	2	3	4	5	6	7
h. I sometimes feel miserable for no good reason	1	2	3	4	5	6	7
i. I often set deadlines/quotas for myself in my work or other activities	1	2	3	4	5	6	7
j. I consider myself to be hard-driving	1	2	3	4	5	6	7
k. In general, I take my work more seriously than most people I know	1	2	3	4	5	6	7

SECTION C. YOUR WELL-BEING : This section is about your general well-being.

8. Below are some questions which deal with your health in general over the past month. Please circle the most appropriate answer for each question. Remember to concentrate on present and recent complaints, not those that you have had in the distant past.

Have you recently:

a. Been able to concentrate on whatever you're doing?	*better than usual*	*same as usual*	*less than usual*	*much less than usual*
b. Lost much sleep over worry?	*not at all*	*no more than usual*	*rather more than usual*	*much more than usual*
c. Felt that you are playing a useful part in things?	*more so than usual*	*same as usual*	*less than usual*	*much less than usual*
d. Felt capable of making decisions about things?	*more so than usual*	*same as usual*	*less than usual*	*much less than usual*
e. Felt constantly under strain?	*not at all*	*no more than usual*	*rather more than usual*	*much more than usual*
f. Felt that you couldn't overcome your difficulties?	*not at all*	*no more than usual*	*rather more than usual*	*much more than usual*
g. Been able to enjoy your normal day-to-day activities?	*more so than usual*	*same as usual*	*less than usual*	*much less than usual*
h. Been able to face up to your problems?	*more so than usual*	*same as usual*	*less than usual*	*much less than usual*
i. Been feeling unhappy or depressed?	*not at all*	*no more than usual*	*rather more than usual*	*much more than usual*
j. Been losing confidence in yourself?	*not at all*	*no more than usual*	*rather more than usual*	*much more than usual*
k. Been thinking of yourself as a worthless person?	*not at all*	*no more than usual*	*rather more than usual*	*much more than usual*
l. Been feeling reasonably happy, all things considered?	*more so than usual*	*same as usual*	*less than usual*	*much less than usual*

9. **This scale consists of a number of words that describe different feelings and emotions. Some of the items are similar to the others, but none are exactly the same. Please do not skip any of the items.**

To what extent has <u>your job made you feel</u> this way during the past few weeks?

		Very slightly or not at all	A little	Moderately	Quite a bit	Very much
1.	motivated	1	2	3	4	5
2.	strong	1	2	3	4	5
3.	calm	1	2	3	4	5
4.	comfortable	1	2	3	4	5
5.	tense	1	2	3	4	5
6.	distressed	1	2	3	4	5
7.	gloomy	1	2	3	4	5
8.	dull	1	2	3	4	5
9.	excited	1	2	3	4	5
10.	optimistic	1	2	3	4	5
11.	miserable	1	2	3	4	5
12.	at rest	1	2	3	4	5
13.	anxious	1	2	3	4	5
14.	worried	1	2	3	4	5
15.	enthusiastic	1	2	3	4	5
16.	depressed	1	2	3	4	5
17.	bored	1	2	3	4	5
18.	relaxed	1	2	3	4	5
19.	contented	1	2	3	4	5
20.	nervous	1	2	3	4	5

10. The following questions concern physical symptoms you might have experienced recently. Please circle the most appropriate number for each question.

	Almost always	Often	Sometimes	Never
a. Do your hands tremble enough to bother you?	1	2	3	4
b. Are you bothered by shortness of breath when you are not working hard or exercising?	1	2	3	4
c. Are you bothered by your heart beating hard?	1	2	3	4
d. Are you troubled by hands and feet sweating so they feel damp and clammy?	1	2	3	4
e. Do you have spells of dizziness?	1	2	3	4
f. How often are you bothered by having an upset stomach?	1	2	3	4
g. Do you feel tired when you first get up?	1	2	3	4
h. Does ill health affect the amount of work(or housework) that you do?	1	2	3	4
i. Do you have loss of appetite?	1	2	3	4
j. Do you feel that you are bothered by all sorts(different kinds) of ailments in different parts of your body?	1	2	3	4

11. Are the following statements true about yourself?

	YES	NO
a. I never hesitate to go out of my way to help someone in trouble	1	2
b. There have been times when I was quite jealous of the good fortune of others	1	2
c. I have never intensely disliked anyone	1	2
d. I sometimes think when people have a misfortune they only got what they deserved	1	2
e. I can remember 'playing sick' to get out of something	1	2
f. I am always courteous, even to people who are disagreeable	1	2

SECTION D. ATTITUDES TOWARD YOUR WORK

12. FEELING ABOUT YOUR JOB

	Strongly disagree			Neither agree nor disagree			Strongly agree
a. I find enjoyment in my job	1	2	3	4	5	6	7
b. Most days I am enthusiastic about my job	1	2	3	4	5	6	7
c. I am often bored with my job	1	2	3	4	5	6	7
d. I feel dissatisfied with my job	1	2	3	4	5	6	7
e. I plan to quit this job as soon as possible	1	2	3	4	5	6	7
f. I would be reluctant to quit this job	1	2	3	4	5	6	7
g. I plan to stay on this job as long as possible	1	2	3	4	5	6	7

13. YOUR EFFORT

	Strongly disagree			Neither agree nor disagree			Strongly agree
a. I often do more than is required of me in my job	1	2	3	4	5	6	7
b. I put a lot of effort into my job for the sake of patients	1	2	3	4	5	6	7
c. No matter how I feel, I always put myself out for every patient	1	2	3	4	5	6	7
d. If a co-worker is very busy I often pitch in and help	1	2	3	4	5	6	7
e. I am always working to improve the quality of care I give to patient	1	2	3	4	5	6	7
f. I often go out of my way for the sake of patients	1	2	3	4	5	6	7
g. I often volunteer for things that are not required as part of my job	1	2	3	4	5	6	7
h. I often help my immediate superior by doing things that are not really part of my job	1	2	3	4	5	6	7
i. I give a lot of thought to ways of improving patient care in my team/group	1	2	3	4	5	6	7
j. I often make suggestions about how to improve patient care in my team/group	1	2	3	4	5	6	7

14. How many working days were you absent from work in the last 6 months? ( ) days

15. How much of the following would you like to have on your job?

	Only a moderate amount					Very much	Extremely much
a. Stimulating and challenging work	1	2	3	4	5	6	7
b. Opportunity for personal growth and development	1	2	3	4	5	6	7
c. Chances to exercise independent thought and action	1	2	3	4	5	6	7
d. Opportunities to learn new things from work	1	2	3	4	5	6	7

16. YOUR WORK PERFORMANCE

	Strongly disagree			Neither agree nor disagree			Strongly agree
a. My work performance is much better than others in my work unit	1	2	3	4	5	6	7
b. I have no doubt that my superior regards me as the best performer on my job	1	2	3	4	5	6	7
c. I am not doing very well on my job considering my ideal standard	1	2	3	4	5	6	7

17. FEELING TOWARD YOUR TRUST

	Strongly disagree			Neither agree nor disagree			Strongly agree
a. I am proud to be able to tell people that I work for this Trust	1	2	3	4	5	6	7
b. I sometimes feel like leaving this Trust for good	1	2	3	4	5	6	7
c. I feel myself to be part of this Trust	1	2	3	4	5	6	7
d. In my work I like feel I am making some effort, not just for myself but for the Trust as well	1	2	3	4	5	6	7
e. I am willing to put myself out to help the Trust	1	2	3	4	5	6	7
f. The offer of a bit more money with another employer would make me seriously think of leaving this Trust	1	2	3	4	5	6	7
g. I am rewarded fairly for the amount of effort I put in	1	2	3	4	5	6	7
h. I am rewarded fairly considering the responsibilities that I have	1	2	3	4	5	6	7
i. I am not rewarded fairly considering my education and training	1	2	3	4	5	6	7

18. ABOUT YOUR CAREER

	Strongly disagree			Neither agree nor disagree			Strongly agree
a. I do <u>not</u> care about the fate of the nursing profession	1	2	3	4	5	6	7
b. I speak highly of the nursing profession to my friends.....	1	2	3	4	5	6	7
c. I am proud to tell others I am part of the nursing profession	1	2	3	4	5	6	7
d. I think nursing is a rewarding career	1	2	3	4	5	6	7
e. I am confident that I will be able to work for this Trust as long as I wish	1	2	3	4	5	6	7
f. My job in this Trust is secure	1	2	3	4	5	6	7
g. If my job was eliminated in this Trust, I would be offered another in the NHS	1	2	3	4	5	6	7
h. I have a good chance to get ahead	1	2	3	4	5	6	7
i. I am in a dead-end job	1	2	3	4	5	6	7
j. I have the opportunity for advancement.....	1	2	3	4	5	6	7

A. Your Age : ( )

B. Sex : ( ) Female ( ) Male

C. Current marital status:
( ) 1. Single
( ) 2. Living together/Married
( ) 3. Widowed/Separated/Divorced

D. Number of dependents you have: ( )

THANK YOU

* Please return your completed questionnaire to the London School of Economics.

References

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