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**IS A HAPPY WORKER A PRODUCTIVE WORKER?
THE EFFECT OF TRANSIENT MOOD AND NEGATIVE
AFFECTIVITY ON JOB SATISFACTION AND
PRODUCTIVITY.**

**A thesis
submitted in partial fulfilment
of the requirements for the Degree
of
Master of Commerce and Management
at
Lincoln University**

**by
John Gerard O'Sullivan**

Lincoln University

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Abstract of a thesis submitted in partial fulfilment of the requirements for the
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**Is A Happy Worker A Productive Worker? The Effect Of Transient
Mood And Negative Affectivity On Job Satisfaction And
Productivity.**

By J.G. O'Sullivan

The objective of this study was to explore the relationship between an employee's level of job satisfaction and productivity and his or her affective state. To achieve this the following four hypotheses were formulated: (1) a negative emotional state is associated with lower job satisfaction; (2) a negative emotional state is associated with lower productivity; (3) negative affectivity (NA) is inversely related to job satisfaction; and (4) NA is inversely related to productivity. No support was obtained for the four hypotheses among a sample of thirteen factory workers and their four supervisors. However, support for the general objective of the study was obtained from personal interviews conducted with twelve of the original sample, comprising eight factory workers and four supervisors. Reasons why the quantitative data did not support the study's hypotheses are discussed, including possible problems with the research methods. Methodological problems that may have biased the collection of the qualitative data are also discussed. The qualitative results do suggest that people's productivity and level of job

satisfaction is influenced by their emotional state. However, the way in which this occurs may be unique to each individual. Recommendations are made regarding improving the methodology of this study and future areas of research are suggested in the conclusion.

Key Words: emotional state, transient mood, negative affectivity, productivity, job satisfaction.

Chapter One: Introduction

1.0 Introduction

Is a happy worker a productive worker? Is job satisfaction a cognitive or an emotional assessment of how an individual feels about his or her job? Until recently management as a science has largely ignored the role individuals' emotions play in their behaviour in the workplace. Yet just as "an individual cannot be a whole person if he is prevented from using or divorced from his feelings" (Tannenbaum and Davis, 1969, p.73) neither can any academic discipline involving the study of people's behaviour be complete when it ignores the role of emotion.

Psychologists, who use the term 'affect' to refer to our emotions, began study into the area of human emotion. Nineteenth-century psychologists tried to catalogue our various emotional experiences, but their efforts were not successful. "There were simply too many emotional experiences that people reported, and the classifications that were proposed did not seem to do justice to the richness of these subjective feelings" (Gleitman, 1991, p.480). Currently there is still not a unanimously accepted set of independent physiological definitions of feeling states (Strongman, 1996). Explaining how affect operates has also proven problematic for physiologists. Several theories have been proposed over time such as the James-Lange theory, the Cannon-Bard theory, Schachter's cognitive theory and the Contemporary model of emotion (Atkinson, Atkinson, and Hilgard, 1981).

Strongman (1996) states "Psychology has found human emotion to be a complex process, which is not yet fully understood". What is known is that we experience feelings which pass with time, 'transient moods' (Isen, and Levin, 1972) and that we are predisposed to view our world and ourselves in a certain way, 'dispositional affectivity' (Tellegen, 1982).

Psychology continues to try and classify our emotional states, and explain the role of emotion in determining behaviour. This research, while not yet providing comprehensive answers to the way in which emotion affects individuals, has suggested that how we feel impacts on our social behaviour and our ability to perform cognitive tasks. Such effects are relevant to many aspects of organisational behaviour.

Subsequently other disciplines such as management, human resource management and organisational development have begun to consider the influence of individuals' emotions on their behaviour in the workplace.

This study seeks to build on this body of crossover research and add to our understanding of the role affect plays in the workplace. In particular, it looks at the influence of affect on productivity and job satisfaction.

1.1 The Nature of this Study

So as to build on existing work, the following general research question was formulated: does an individual's mood and dispositional affectivity influence his or her job satisfaction and productivity? Use of an artificial, short-term

task in a laboratory setting would allow accurate productivity measures to be gained. However, it is questionable whether any measure of job satisfaction for such tasks would be generalisable to a permanent, ongoing work situation. For this reason it was felt the research question would best be answered through a field study. The choice of a field study over other methods is discussed in more detail in the methodology chapter.

1.2 Reasons for this Study

Existing academic literature such as Isen and Baron (1991) is only suggestive of a relationship between an individual's mood and dispositional affectivity, and his or her job satisfaction and productivity. However, this study directly examines the question of whether an individual's mood and dispositional affectivity influences his or her job satisfaction and productivity.

This study is also timely given the current trend towards redesigning individual jobs and even whole workplaces to increase both employee motivation and productivity (French, 1990; and Perry, Davidson and Hill, 1995). Practices such as 'job enrichment' and 'team building' seek to increase what Hackman and Oldham (1980) termed the five core job characteristics, with the desired aim of achieving increases in productivity and job satisfaction.

It is possible that by increasing the motivators in individual jobs, an employer is also improving how employees 'feel' about their work. Those motivated in a positive fashion through greater responsibility and increased task variety, for example, are possibly happier workers whose more positive mood state results in behavioural change that has the potential to increase productivity (Isen and Baron, 1991). A positive mood state may also increase levels of job satisfaction, as workers possibly use their current mood states as an indicator to assess how satisfied they are with their jobs (Schwarz, 1990).

Similarly, efforts to improve the quality of working life or to create 'family friendly' workplaces are likely to influence the affective state of employees. Both these practices attempt to make workplaces less stressful, which creates a happier working environment for employees.

These possible effects of positive emotion provide important reasons for why employers and HRM practitioners should consider the affective state of workers when designing jobs or carrying out changes in the workplace. However, the effects of a positive mood state and its influence on workers' behaviour, motivation and attitudes is an under-reported area in the investigation of these practices. Yet affect clearly plays some role within the workplace.

Workers do not check in their emotions at the door when they start work every morning. Within the study of workplaces, a more holistic approach is needed where the emotional well being of employees is also considered along with financial and functional concerns. While humanitarian reasons should be justification enough, the simple fact that unhappy workers may impact on a firm's bottom line will probably be the driving force behind this research.

1.3 The Problem

This study builds on work begun by researchers in psychology and seeks to further the study of affect in the science of management. It seeks to add to our understanding of the influence an individual's mood and dispositional affectivity has on his or her behaviour in the workplace.

It is an extension of our current knowledge and is timely given current management trends promoting practices which impact on individuals' emotional states.

1.4 Need for further study

All individuals experience emotion, but some individuals are predisposed to interpret themselves and the world around them in a more negative manner than their peers do. Tellegen (1982) labelled this disposition to experience aversive emotional states 'negative affectivity' (NA).

Watson and Clark (1984) found NA to be a very pervasive disposition that manifests itself even in the absence of overt stress. Their extensive study indicated that high NA individuals are relatively more introspective, and tend differentially to dwell on the negative side of themselves and the world.

NA thus appears to be a relatively stable personality trait (Burke, Brief and George, 1993). If NA is a stable personality trait, then it will exert an influence over all aspects of peoples' lives. This suggests that in a work setting, high NA individuals will express lower satisfaction than low NA individuals.

In looking at the effect of positive emotion, Isen and Baron (1991) found that individuals in positive mood states are more sociable, co-operative and helpful to others. These are all examples of behaviours, which have the potential to increase productivity within an organisation.

Investigations by Brief, Burke, George, Robinson, and Webster (1988) suggest that employees' emotional states, and the way in which they emotionally perceive themselves and others, influences their attitude towards their job.

As attitudes are determinants of behaviour (Ivancevich and Matteson, 1990) this suggests that individuals' affective states may influence their productivity. With workers who have a positive attitude towards their job possibly engaging in more positive workplace behaviour than those workers who have a neutral or negative attitude towards their work.

Cropanzano, James and Konovsky (1993) found in an empirical study of dispositional affectivity, both positive and negative, that affectivity may be related to organisational commitment and that affectivity is related to turnover intentions, but that this association is mediated by work attitudes. Their results also indicated that trait affectivity may predict job performance, but in a complex fashion.

This body of academic work suggests a link between employees' affective states and their level of job satisfaction and productivity. Further research is necessary to confirm the existence of these relationships and to clarify the precise role affect plays in the workplace.

1.5 Problem Statement

This study aims to clarify the effect on job satisfaction and productivity of negative mood states and NA. With this aim in mind the following general research question was formulated:

“How does negative affectivity and transient mood affect job satisfaction and productivity?”

1.6 Definition of Terms

Psychology, like any academic discipline, has its own terminology for conveying ideas. This study utilises psychological terms when referring to human feelings. In psychology the general term 'affect' covers a wide variety of experiences, such as emotions, moods and preferences (Watson, 1988).

In contrast, there is a more specific definition for 'emotion', which tends to be used to refer to relatively brief but intense experiences, although it can also be used in a broader sense (Eysenck and Keane, 1995). Finally, the terms 'mood' or 'state' are used to describe less intense but more prolonged human experiences (Isen and Levin, 1972).

The term 'dispositional affectivity' refers to an affective trait which influences how we view our world and ourselves (Tellegen, 1982).

Research into personality has shown that there are two general dimensions of affective responding, trait-positive affect (PA) and trait-negative affect (NA). Studies suggest PA and NA are not opposite points on a continuum, but instead are independent dimensions (Diener and Emmons, 1984).

1.7 Thesis Overview

Chapter One has given an introduction to the topic of this study, and discussed its importance and relevance. A general research question has been developed and a definition of social psychology terms used in this study provided. Chapter Two presents a review of the literature, research models and hypotheses. The methodology used to carry out this study's research is discussed in Chapter Three, and the results of that research presented in Chapter Four. The fifth and final chapter discusses the conclusions that can be drawn from the results, implications for future study and work place reform.

Chapter Two: Literature Review

2.0 Introduction

This chapter begins by presenting a historic overview of the academic literature pertaining to affect and a brief overview of job satisfaction. A discussion of the research literature specific to the relationship between an individual's affective state and his or her job satisfaction and productivity then follows in Sections 2.3 to 2.5. The chapter concludes with a discussion on the contribution this study makes to the current academic literature.

2.1 Historical Overview of the Literature Pertaining to Affect

Emotion is a subject that until recently has been largely ignored by researchers, even in the field of social psychology, with most cognitive psychologists choosing "to ignore the issue of the effects of emotion on cognition" (Eysenck and Keane, 1995, p.435).

This neglect has been due to the difficulty of defining affect satisfactorily, and the way in which affect overlaps both cognition and conation. It is largely due to the work of A. M. Isen (Isen and Baron, 1991) that there is now renewed interest in affect and its influence on human behaviour. However "despite sustained and repeated efforts to uncover specific physiological states associated with specific emotional states, we have not achieved a set of independent physiological definitions of feeling states" (Isen and Hastorf, 1982, p.23).

Our understanding of the various feelings people experience and the way in which our feelings affect our actions is still limited. "Agreement in the field of social psychology, to the categorisation of individual human emotions has still not yet been reached, nor has the way in which human emotion impacts on our thought processes, been fully explained." (Strongman, 1996)

Watson and Tellegen (1985) have proposed a two-factor structure of mood. Their reanalysis of a number of studies of self-reported mood resulted in two factors constantly emerging as the first two Varimax rotated dimensions in orthogonal factor analysis or as the first two second-order factors derived from oblique solutions. These same two bipolar dimensions, which they termed 'Positive Affect' and 'Negative Affect', emerged with varying sets of descriptors.

Watson and Tellegen do not suggest that all emotional experience can be reduced to these two variables and do not exclude the operation of other systematic sources of variance. Their two-dimensional framework does not compete with existing multifactorial structures for mood within the field of social psychology but instead is complementary. A schematic illustration of Watson and Tellegen's basic two-dimension affective model is presented in Figure 1.

CONSENSUAL MOOD STRUCTURE

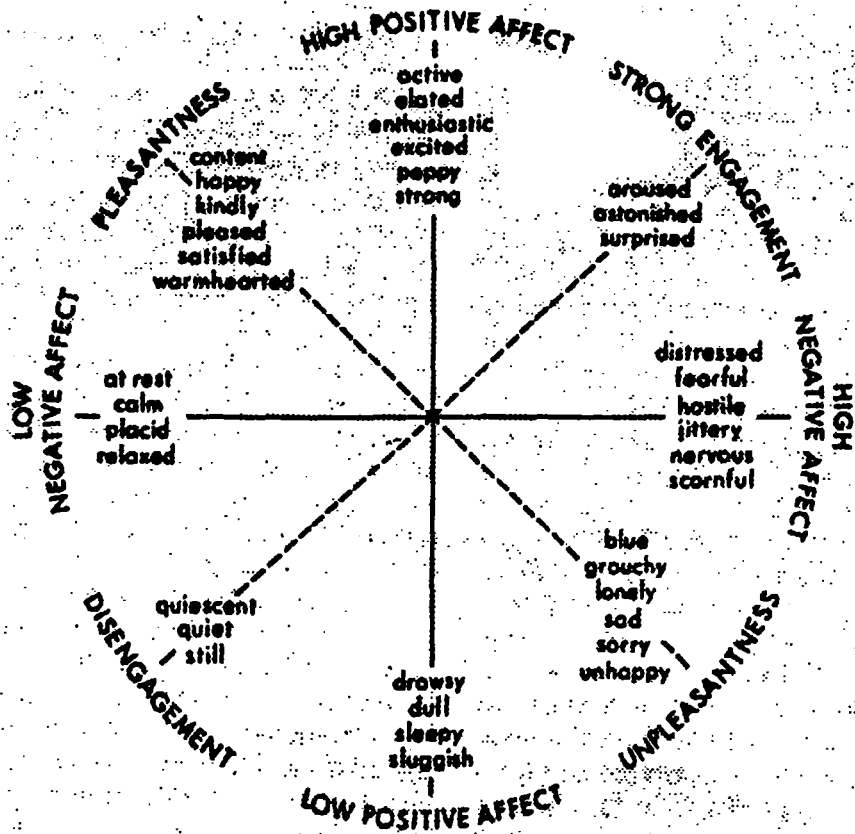


Figure 1. The two-factor structure of affect.

(Source: Watson and Tellegen, 1985)

Their work has shown that a basic two-dimensional structure of affect can be developed from prior research and analysis, providing a framework which further research can utilise to increase our understanding of mood.

Mayer and Gaschke (1988) proposed that mood experience comprises at least two elements, the direct experience of the mood, and a meta-level of experience that consists of thoughts and feelings about the mood.

Mayer and Gaschke (1988) conducted two studies to test their model for mood. In their first study they investigated the direct experience of mood by testing the fit of Watson and Tellegen's two-dimensional structure to the responses of 1,572 subjects who each completed one of three different mood

scales. The Watson and Tellegen structure was supported across all three scales. In their second study they conceptualised meta-mood experience as the product of a mood regulatory process that monitors, evaluates and at times changes mood. They administered a scale to measure meta-mood experience, along with a brief mood scale to 160 participants. Subjects' levels on the meta-mood dimensions were found to differ across moods. More support was found for the monitoring and evaluation of mood, than for the conscious changing of mood.

The findings of Mayer and Gaschke's (1988) second study intuitively make sense as many aspects of mood regulation are definitely conducted automatically, operating outside of conscious control. For example, when in the presence of a tragedy, as individuals we do not need to make a conscious decision to feel sad. Other mood changes have a biological base, such as changes brought about by the menstrual cycle in woman (Lord and Taylor, 1991).

A change in an individual's mood can also be brought about by outside stimuli, with the induction or creation of a particular mood state in respondents an important part of various studies (Eysenck and Keane, 1995). Thus while there are currently still no agreed upon specific definitions for the various mood states, it is clearly acknowledged that individuals' mood state change (Isen and Baron, 1991), and that these changes are brought about by a variety of causes.

Our feelings are not just the product of transient mood however, as our personalities also influence how we respond affectively. Current personality research suggests there are two general dimensions of affective responding: trait-positive affect and trait-negative affect. Tellegen (1982) labeled these traits positive affectivity (PA) and negative affectivity (NA). PA and NA should not be thought of as opposite points on a continuum, but instead as independent dimensions (Diener and Emmons, 1984). Watson and Tellegen (1985) found that an individual can be high on both traits, low on both, or high on one trait and low on the other. This study however, only examines NA, as "research on the work-related effects of trait affectivity has focused almost exclusively on NA" (Cropanzano, James and Konovsky, 1993, p.596).

Watson and Clark (1984), who built on Tellegen's (1982) work, found NA to be a very pervasive disposition that manifests itself even in the absence of overt stress. Their extensive data indicate that high NA individuals are relatively more introspective and tend differentially to dwell on the negative side of themselves and the world. They concluded that NA should be viewed as a stable personality trait.

Given the work of Watson and Clark (1984) , Mayer and Gaschke (1988) and Isen and Baron (1991) it becomes apparent that how we "feel" at any given time is a complex interaction between dispositional affectivity, moods that can be influenced by a variety of variables and our own perception of our mood state.

2.2 Brief Discussion of Job Satisfaction

As stated in Chapter One, this study is not attempting to fully explain the causes of job satisfaction; instead it is examining the influence our affective state may have on this construct. Before considering the effect of transient mood and dispositional affectivity on job satisfaction, it is important to consider what job satisfaction is. Ivancevich and Matteson (1990, p.655) define job satisfaction as “an attitude that workers have about their jobs”, which results from workers’ perceptions of their jobs. There is debate as to how this perception is formed, whether it is a cognitive or an affective view of a workplace, and the extent to which it is influenced by situational factors or dispositional factors.

This has led to several constructs being proposed, with early studies in the 1930s and 1940s focusing on situational factors such as seniority, age, sex, education, occupation and income. More recently, dispositional sources of job satisfaction have been the subject of research in the organisational sciences. However past dispositional research on job satisfaction “has been plagued with definitional and measurement problems” (Judge and Hulin, 1993, p.415). Judge and Hulin (1993), in an investigation of job satisfaction as a reflection of disposition, sought to overcome previous methodology problems through clearly defining their terms and utilising two different sources of data: self-reports and significant other evaluations. In their study they made a clear distinction between affective disposition and subjective well-being, which they defined as the level of overall happiness and satisfaction an individual has with his or her life.

They found support for their model (refer Figure 2) in which affective disposition was hypothesised to lead to subjective well-being, which in turn was hypothesised to influence and be influenced by an individual's level of job satisfaction. While Judge and Hulin's model is useful, it does not fully explain the role our emotions play in influencing job satisfaction. Their measure of affective disposition was not based on the work of Tellegen (1982); instead the authors created their own instrument based on Weitz's (1952) survey of satisfaction with everyday objects, an instrument which by the authors' own admission had only previously been used by Weitz. Judge and Hulin (1993) also ignored the role of transient mood as a potential influence on job satisfaction.

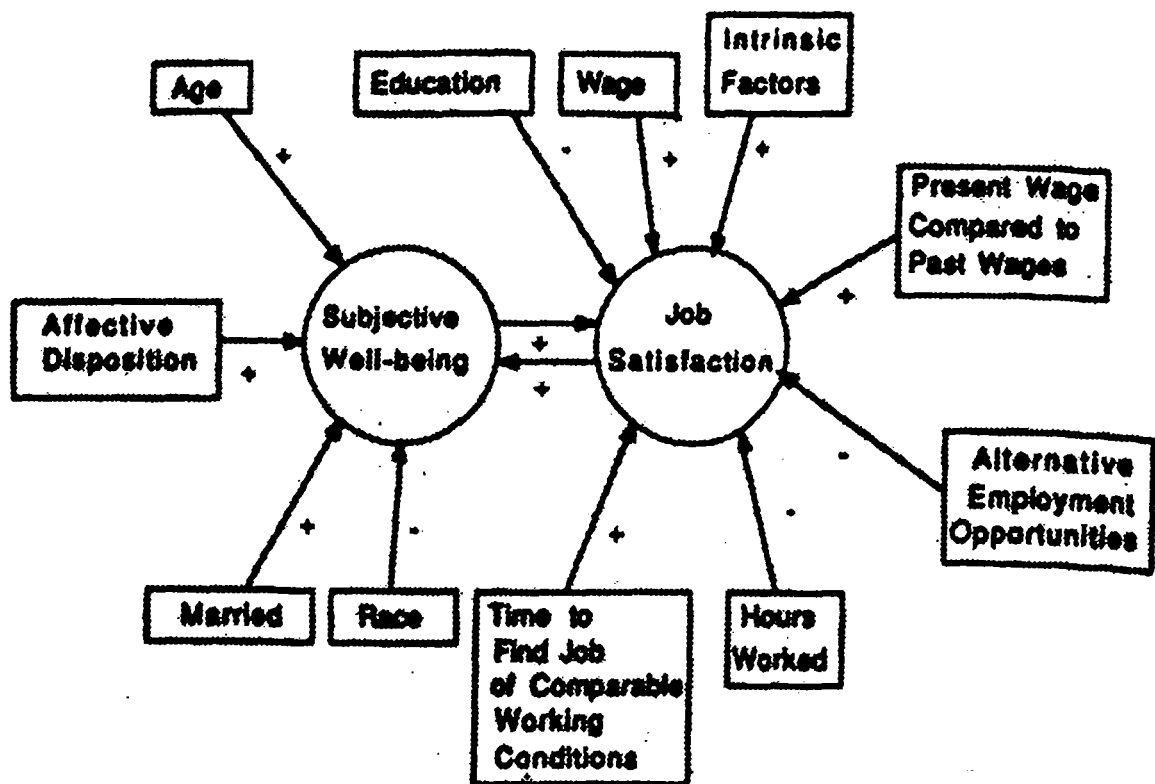


Figure 2. Hypothesized structural model (self-report).

Source: Judge and Hulin (1993)

2.3 Discussion of Literature Relating Mood to Job Satisfaction

Does transient mood affect our job satisfaction? Will an individual who is happy experience a higher level of job satisfaction than when he or she is sad? Numerous studies have shown the effects of mood-inducing events on social judgements (Forgas, 1992), suggesting that job satisfaction too may be influenced by an individual's mood.

Bower (1981) proposed an 'affect priming' model to account for the effect of mood on social judgements in which the priming of an affective state at recall facilitates the retrieval of affect congruent memories. According to this theory,

when an individual is put into a positive mood and asked to make a judgement about his or her job, they recall more of the positive aspects of the job.

In contrast Schwarz (1990) proposed affect as an information model in which one's present mood at the time of a judgement is used as an indicator of one's feelings towards the stimulus. Thus, according to Schwarz's theory, when an individual is asked to evaluate his or her job, they ask themselves, "How do I feel right now?" and rely on their current mood as giving accurate information about their level of satisfaction.

Transient mood may fulfill both functions, with Forgas (1992) proposing a contingency model that builds upon the work of both Bower (1981) and Schwarz (1990). Forgas suggests that mood may have both a priming and information function, depending on the characteristics of the individual and the situation they find themselves in.

Two studies by Isen, Shalke, Clark, and Karp (1978) investigated the effect of positive affect on our cognitive processes. In the first study, a positive mood was induced in subjects through giving them a small gift, which was found to improve subjects' evaluations of the performance and service of products they owned. In the second study, a positive mood was induced by allowing subjects to win a computer game, which improved the subjects' recall of positive material.

Teasdale and Fogarty (1979) found that an induced mood affects the retrieval of past real-life experiences of a pleasant or unpleasant nature. When subjects were depressed, time to retrieve pleasant memories, relative to time to retrieve unpleasant memories, was significantly longer than when they were happy.

In a study by Natale and Hantas (1982) subjects were made to experience (by means of a hypnotic mood-induction procedure) a happy, sad, or neutral state. They found temporary depression caused a decrease in recall of positive life experiences, weaker memory strength for positive personal information, and a bias to recall negative descriptions that were false. An elated mood state was associated with decreased recall of negative memories and an increased recall of positive memories.

Two studies by Schwarz and Clore (1983) investigated whether judgements of happiness and satisfaction with one's life are influenced by mood experienced at the time of judgement. In their first study moods were induced by having subjects recall and describe in detail a recent happy or sad event in their lives. In their second study, moods were induced through subjects being interviewed on either sunny or rainy days. Both studies found that subjects when in a good mood reported being more happy and satisfied with their lives than when in a bad mood.

Other studies have found that we remember what we feel, and reinforce the theory that our emotions affect our memory. Subjects have been found to

better remember emotive material that is consistent with their current emotions, and will also recall erroneous facts, making the information more consistent with the subjects' prevailing mood (Laird, Wagener, Halal and Szegda, 1982).

The work of Isen, Shalke, Clark, and Karp (1978), Teasdale and Fogarty (1979) and Natale and Hantas (1982) suggests subjects whose job satisfaction is assessed when unhappy, may more quickly recall unpleasant experiences relating to their work than pleasant ones. The Schwarz and Clore (1983) study suggests that a subject's assessment of job satisfaction in a good mood would be higher than when in a bad mood. While these studies were done in different contexts, taken together they provide support for the importance of considering individuals' moods when measuring their job satisfaction.

Researchers studying job satisfaction may also need to consider the risk of subjects' emotions affecting their judgement as to how satisfied they are with their job (Laird, Wagener, Halal and Szegda, 1982). If an individual is extremely happy when his or her job satisfaction is assessed, they may recall mainly the positive aspects of the job, and relatively fewer negative aspects.

While the above studies strongly suggest the importance of mood in researching job satisfaction, there have been few studies carried out in work settings. An exception is the recent study by Woodward and Chen (1994) who found that levels of job and career satisfaction of pharmacists were

related to their mood that day. They also found that age, sex, or practice setting were not related to pharmacists' job and career satisfaction.

This study did not clearly resolve the issue of whether job and career satisfaction affect mood, or vice versa (Woodward and Chen, 1994). What researchers do agree upon, however, is that mood is significantly related to job satisfaction. It is possible that mood may be both a simplifying heuristic for making judgements that reduces the need for elaborate information processing, and a state that is influenced by working conditions. Further research is required to determine the nature of mood's relationship with job satisfaction.

2.4 Discussion of Literature Relating Negative Affectivity to Job Satisfaction

Negative affectivity (NA) is a construct that was first proposed by Tellegen (1982), and defined by Watson and Clark (1984) as a mood-dispositional dimension reflecting pervasive individual differences in negative emotionality and self concept. As a concept it brought together such previously unconnected personality attributes as trait anxiety, neuroticism, ego strength, general maladjustment, repression-sensitisation, and social desirability (Watson and Clark, 1984).

After an extensive review of the related literature on NA, Watson and Clark (1984) concluded that high NA (compared with low NA) individuals:

- are more likely to experience distress and dissatisfaction,
- are more introspective and dwell more on their failures and shortcomings,
- tend to focus on the negative side of the world in general, and
- tend to have a less favourable self-view.

This results in high NA individuals being more dissatisfied with themselves and their lives. This pervasive negative orientation means that given the same type of job as a low NA individual, a high NA individual would be expected to be more dissatisfied.

High NA individuals not only interpret their jobs more negatively, but also consider them more stressful. Brief, Burke, George, Robinson, and Webster (1988), examining the role of NA in job stress, determined that NA is a substantive cause of self reported stressful work events. What they did not determine is the degree to which high NA individuals are stressed, as opposed to believing they are stressed. Thus NA becomes both a methodological nuisance in the study of stress and a possible major cause of stressful work events.

A further study by Burke, Brief and George (1993) involving the reanalysis of four data sets from previous studies, found further support for the nuisance

properties of NA. In these four studies they found that NA did influence the magnitude of observed correlations between self-reports of stressors and strains.

Judge and Hulin (1993) argue that incorporating the influence of an individual's affective disposition is an important step to more fully understanding job satisfaction. In their hypothesised model of job satisfaction (refer Figure 2) they consider affective disposition to be a factor along with others that influences our subjective well-being. In their study they make the point that it is important to distinguish between an individual's disposition towards affect and the affect that individual actually experiences.

In two separate studies Cropanzano, James and Konovsky (1993) examined the influence of both negative affectivity and positive affectivity on organisational commitment, turnover intentions, global job satisfaction and performance. The findings of their two studies are very similar with the exception of their performance results which will be discussed in Section 2.6.

Their first study was designed to examine the relationship of both PA and NA to organisational commitment, turnover intentions, and job performance. This study found that PA correlated positively with organisational commitment and negatively with turnover intentions. On the other hand NA correlated negatively with organisational commitment and positively with turnover

intentions. The relationship between dispositional affectivity and turnover was mediated by commitment.

Study two found that NA correlated negatively with global job satisfaction and PA positively. As in study one, PA correlated positively with organisational commitment and negatively with turnover intentions.

NA was found not to be associated with organisational commitment but was again found to be associated in a positive direction with turnover intentions. However in study two both job satisfaction and commitment mediated the relationship between dispositional affectivity and turnover intentions. These associations were all in the expected directions and supported the authors' hypotheses.

Given high NA individuals' perceptions of themselves and their world, and the way in which NA impacts on job stress, it seems reasonable to conclude that there is a negative relationship between NA and job satisfaction. The work of Judge and Hulin (1993), however, suggests that NA should not be used alone as an indicator of an individual's affective state.

2.5 Discussion of Literature Relating Mood to Productivity

Positive affect has been found to promote sociability and helpfulness in a variety of situations, although negative affect has not always been found to reduce the occurrence of those behaviours. Occasionally people in whom negative affect has been induced help less than control subjects, but

research has found that sometimes they help more, and sometimes negative affect and control groups do not differ (Isen, 1984, 1987). Given that the literature suggests negative mood as a variable has unpredictable effects, this section will discuss the effects of positive mood on behaviour and cognition, which over time have then shown to be consistent.

Positive affect can influence social behaviour in a number of ways that have the potential to improve organisational productivity for example, positive affect has been found to promote helpfulness and generosity towards others, including strangers (e.g., Aderman, 1972; Batson, Coke, Chard, Smith and Taliaferro, 1979; Fried and Berkowitz, 1979; Isen, 1970; Isen and Levin, 1972; Moore, Underwood, and Rosenhan, 1973; Weyant, 1978); and cooperativeness and kindness towards others (Gouaux, 1971; Griffitt, 1970; Veitch and Griffitt, 1976).

The ability to recall information and make judgements is an important ability in today's organisations. Positive affect has been shown in various studies to influence memory and judgements made from memory (e.g. Isen, Shalker, Clark and Karp, 1978; Laird, Wagener, Halal and Szegda, 1982; Nasby and Yando, 1982; Teasdale and Fogarty, 1979). In addition a mild positive affective state has been shown to increase the recall of positive memories, and influence judgements regarding neutral material (Isen and Shalker, 1982; Isen et al., 1978).

Positive affect also has an influence on decision making, with a mild positive affective state in some circumstances increasing decision efficiency (Isen and Means, 1983; Isen, Means, Patrick, and Nowicki, 1982). Subjects experiencing an induced positive mood state have also been observed to produce more innovative and creative approaches to problem solving than individuals not experiencing a positive mood state (Isen and Baron, 1991).

Conflict in its extreme forms (anger, resentment and hostility) is damaging to an organisation's performance (Baron, 1989; Thomas and Schmidt, 1976).

The induction of positive affect into a conflict by one of the participants involved in the conflict has been demonstrated to be successful in the reduction of anger and open hostility (Baron, 1977; Baron, 1983). The induction of positive affect or the reduction of negative affect among the participants in a conflict also contributes to the constructive resolution of such disputes (Baron, 1984; Carnevale and Isen, 1986). The use of positive affect in negotiations can also avoid the development of conflict (Carnevale and Isen, 1986).

Stress brought about through work is a serious problem for many individuals and their employers. Many studies suggest that prolonged exposure to high levels of stress can adversely effect an individual's health (Frese, 1985; Motowidlo, Packard, and Manning, 1986), and task performance (Keinan, 1987). An induced positive mood state in individuals experiencing stress has been found to be effective in reducing their stress (Davis, Eshelman, and McKay, 1983).

One way of inducing a positive mood state is humour (Carnevale and Isen, 1986). As a topic within management, humour has been examined as an important form of communication, part of an organisation's culture and an important part of the socialisation of new employees (Yarwood, 1995). In a low tension environment non-aggressive humour has also been shown to increase mood ratings of energy without increasing tension (Dienstbier, 1995).

Despite the suggestive evidence cited above, the degree to which an individual's affective state influences his or her productivity still remains unclear (Isen and Baron, 1991). This study aims to clarify this relationship.

2.6 Discussion of Literature Relating Affectivity to Productivity

Much of the literature discussing NA relates to NA's possible effect on job satisfaction. An exception is Cropanzano, James and Konovsky (1993), who in two studies of affective disposition looked at a variety of other factors including productivity.

Their first study was conducted in a medium-sized hospital and involved a sample size of 100 volunteers who were all female nurses. The second study was conducted in a privately owned pathology laboratory and involved a sample size of 198 individuals (break-down by sex was not reported) who

worked in a variety of jobs. Both studies used individual performance appraisals as the performance measure.

In the first study, PA and job performance were found to be positively related in long serving employees. However, it is important to note that out of an initial sample of 100 female nurses, performance data was only available for a subset of 35 nurses. This was due to a variety of reasons; for example, several nurses were recent hires, and evaluations had not been conducted for several nurses with longer tenure.

Study two did not duplicate the results of study one, with PA found not to be related to job performance. Instead lower tenure individuals were found to have a negative relationship between NA and performance. Again the full sample was not used, as performance appraisals were only available for 138 of the 198 participants.

Given the small sample sizes and use of possibly subjective performance appraisals, the results of Cropanzano, James and Konovsky (1993) were not especially supportive of a strong relationship between NA and productivity.

2.7 Contribution of this Study to the Literature

Various studies have looked at mood (transient affect) and negative affectivity (dispositional affectivity) as separate constructs. This study looks at both constructs with regard to their possible relationship with job satisfaction and productivity.

The existing literature is supportive of a role for mood in influencing job satisfaction, but is only suggestive of a relationship between NA and job satisfaction. Mood may influence productivity, but a possible relationship between NA and productivity has not been thoroughly investigated. This study thus fills a gap in the existing literature regarding the influence of our affective state on job satisfaction and productivity.

2.8 Theoretical Framework

Currently there is no agreement about what causes our emotions or the degree of emotional response we may experience when exposed to outside variables (Eysenck and Keane, 1995). However it is agreed that a particular mood can be induced by outside variables, and that our moods do change (Isen and Baron, 1991). The work of Tellegen (1982), Watson and Clark (1984) and Burke, Brief and George (1993) suggest that our emotional state includes a relatively stable personality trait, being NA. While what causes our emotional state is not yet fully understood (Strongman, 1996), two of the factors seem to be our transient moods (which can be influenced by outside variables) and a relatively stable personality trait (NA).

Job performance and job satisfaction are both the subject of complex theories, and there are various models within management that attempt to explain them. This study uses two existing models to incorporate the possible influence of affect on both job performance and job satisfaction.

2.8.1 Development of Productivity Model

Blumberg and Pringle (1982) developed a three factor model for performance which viewed performance as a function of 'willingness to perform', 'capacity to perform' and 'opportunity to perform'. In their model, willingness to perform relates to motivation, capacity to perform relates to an individual's task-related skills and abilities, and opportunity to perform encompasses workplace factors such as quality of tools.

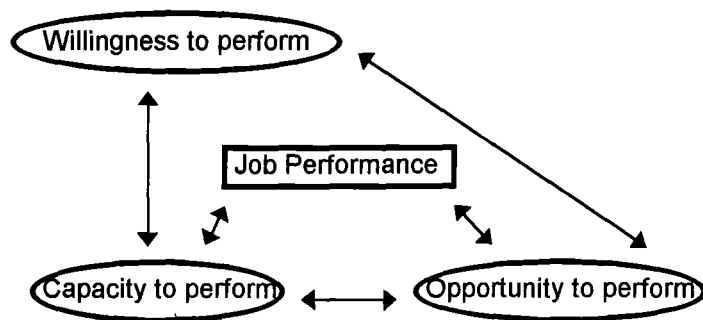


Figure 3. Three Factor Model of Performance. (Source: Blumberg and Pringle,1982)

While their model does not incorporate affect, it provides a good overview of the other factors influencing job performance, and allows for the incorporation of affect. Given the studies discussed in the literature review it seems likely that our emotional state influences what Blumberg and Pringle term 'willingness' and 'capacity'.

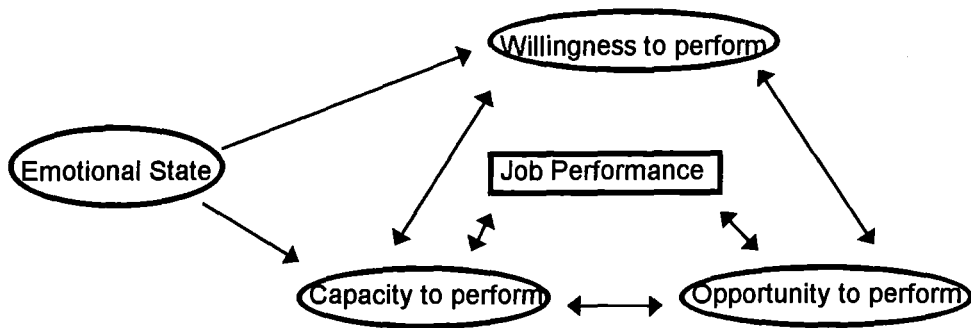


Figure 4. Three Factor Model of Performance incorporating 'emotional state'.

2.82 Development of Job Satisfaction Model

There have been numerous studies on job satisfaction, (Petty, McGee, and Cavender, 1984); and various models proposed, which incorporate a wide variety of factors. While earlier studies from the 1940s through till the 1970s concentrated on situational factors, there is now a trend towards investigating dispositional factors that may influence job satisfaction. This study, along with others such as Judge and Hulin (1993), takes the approach that job satisfaction is a function of both situational factors and dispositional factors, with an individual's emotional state being one of the possible dispositional factors. (refer Figure 4)

Given that the literature suggests that our emotional state is influenced by both our outside environment (transient affect or mood) and our genetic inheritance (dispositional affect), it also seems logical to acknowledge this relationship in this study's model. Thus while our emotional state may influence our job satisfaction, as a variable it is influenced by situational and dispositional factors that also influence job satisfaction. (refer Figure 5)



Figure 5. Two Factor Model of Job Satisfaction incorporating 'emotional state'.

2.9 Hypotheses

This study's general objective is to clarify the nature of the relationship between an employee's affective state and his or her level of job satisfaction and productivity. To achieve this objective the following hypotheses were formulated to be tested.

- Hypothesis 1: A negative emotional state is associated with lower job satisfaction.
- Hypothesis 2: A negative emotional state is associated with lower productivity.
- Hypothesis 3: NA is inversely related to job satisfaction.
- Hypothesis 4: NA is inversely related to productivity.

This study's four hypotheses investigate four separate and important relationships. Together they provide an overview of the effect of our emotional state has on two key areas of management. They also provide insight into how our feelings affect how we feel about our work and our capacity to work.

Chapter Three: Research Design

3.0 Introduction

This study was conducted in a small leather goods factory in Christchurch. While a field setting allows less control over external variables, has a higher cost and is more time intensive (Kinnear and Taylor, 1991), it was felt a study of this nature would be difficult to conduct in a laboratory setting, given the variables that were to be studied.

A field setting has two key advantages from this study's point of view. Firstly, it provided an opportunity to assess the satisfaction of respondents with an actual job they are currently employed to do, and with the organisation that currently employs them. Secondly, it provided a measure of the respondents' productivity on an actual job which they are employed to do. Such data increases the degree to which any findings can be generalised to other workplaces. It also nullifies a major criticism leveled at previous studies in the field of management, which used of student samples in artificial settings to analyse workplace behaviour and attitudes.

This particular field setting had the additional advantage of providing an objective measure of the respondents' productivity. This fact increases the reliability of any conclusions that this study may draw with regard to productivity, as there is no rater bias involved in the study's productivity measure.

Unfortunately, a disadvantage of the field setting used was the small sample size it provided. Initial discussions with the factory manager suggested that a sample size of fifty could be obtained. However, at the time of data collection it became clear that differences in the nature of work carried out by different employees (e.g. tanning versus machining) meant that it was inappropriate to group all employees together. This left an undesirably small sample of workers carrying out the same task in the same physical location.

3.1 Participants

The participants in this study were thirteen factory workers and their four supervisors, all employed at a small Christchurch factory producing leather goods. The factory workers were predominantly women, whose ages ranged between early twenties and late fifties. The supervisors were equally represented by men and women, and their ages fell between 24 and mid forties.

3.2 The Theory and Research Literature Specific to the Test Instruments

This study made use of three pre-existing test instruments to assess the respondents' mood state, NA level and job satisfaction.

An individual's mood or affective state can be measured using various instruments, with the Beck Depression Inventory and the Profile of Mood States being the "two most widely used self-report instruments for the measurement of affect" (Jacobs and Boze, 1993, p.431).

In this study however Mood State was assessed using the Depression-Happiness Scale (McGreal and Joseph, 1993). The reasoning behind this decision is discussed in the following paragraphs.

The Beck Depression Inventory produces subscale scores for cognitive-affective and somatic-performance aspects of depression, as well as a more widely used total depression score. The Profile of Mood States measures six dimensions of affect: Tension-Anxiety, Depression-Dejection, Anger-Hostility, Vigor-Activity, Fatigue-Inertia, and Confusion-Bewilderment.

These two instruments have often been used together in clinical and applied studies " in such diverse areas as chronic back pain, headache, diet-related mood disturbances, marijuana smoking, prediction of depression from earliest memories and sleep disturbances in geriatric patients" (Jacobs and Boze, 1993, p. 431).

Both these instruments were primarily designed as tools for use in clinical research, with the Beck Depression Inventory in particular designed to identify individuals who are clinically depressed. While depression is a mood which almost all individuals will experience, "only four or five percent of a population meet the criteria for clinical depression at any one time " (McGreal and Joseph, 1993, p. 1279).

There was therefore a need for an instrument designed for use in social research, to quantify a continuum of affect. McGreal and Joseph (1993) developed such a scale suitable for use with a general population. Their own tests showed that The Depression-Happiness Scale has good internal reliability and concurrent validity with the Beck Depression Inventory.

As this study's sample was drawn from the general population, the Depression-Happiness Scale (McGreal and Joseph, 1993) was used to assess the *mood state* of the respondents. This instrument was designed for use in social research to quantify a continuum of affect, and consists of 25 yes/no response questions. A total score for the scale ranges from zero to 75, with a low score indicating depression and a high score indicating happiness.

Mood can be assessed over a variety of time frames with McGreal and Joseph's (1993) questionnaire's instructions directing the respondent as to how far back the researcher wishes them to reflect upon how they felt. This study chose to direct the respondents to consider how they felt over the past seven days, including the day the questionnaire was administered. It was decided to look at a one week time frame for two reasons. First, this was the original time frame used by the developers of the instrument, and second, this ties in with the measure of factory worker productivity, which is assessed weekly.

NA is part of a construct first proposed by Tellegen (1982), which brought together previously separate personality attributes such as trait anxiety. The Taylor Manifest Anxiety Scale (Taylor, 1953) measuring trait anxiety can thus be considered as an alternative measure of NA (Burke, Brief and George, 1993).

In this study the Taylor Manifest Anxiety Scale (TMAS) (Taylor, 1953) was used to measure the *negative affectivity* of the respondents. The TMAS comprises 50 true-false items. It is scored by adding up the number of times a respondent answers "true" to particular questions and "false" to other questions. The scale has shown no significant differences between males and females; test-retest reliability has been greater than .80 for periods ranging from 3 weeks to 17 months (Taylor, 1953).

Organ and Near (1985) contend that most standard job satisfaction scales place more influence on a cognitive assessment as opposed to affective assessment of an individual's job and workplace. Certainly two very popular measures, the Job Descriptive Index (JDI) (Smith, Kendall, and Hulin, 1969) and the Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Davis, England, and Lofquist, 1967) have been shown to have little affective content (Brief and Roberson, 1989).

This study used a modified version of the Faces scale (Kunin, 1955) to assess job satisfaction. The Faces scale was developed to measure satisfaction without depending on verbal responses. Response options

consist of 11 faces with expressions ranging from a wide smile to a deep frown. Research by Brief and Roberson (1989) showed the Faces scale to be relatively balanced in terms of capturing both the cognitive and affective components of job attitudes.

The Faces used from Kunin's scale were faces 1,4,6,8 and 10 from the characterized series, with each face representing a point on a 100 point scale as determined by Kunin. Eight items ask respondents to indicate how they feel about various job facets (pay, opportunity for promotion, supervision, co-workers, the work itself, the amount of work, the physical surroundings, and the organisation's policies and practices); a ninth item asks how they feel about their job in general. These questions were the same as asked by Brief, Butcher and Roberson (1995) who in turn sourced them from both the JDI (Smith, Kendall, and Hulin, 1969) and the MSQ (Weiss, Davis, England, and Lofquist, 1967).

Demographic data were also obtained, with respondents asked their age, sex, highest education qualification, and length of tenure at the factory. These data were collected so that the effect of demographic differences could be controlled for.

3.3 Productivity Variable

The factory in this study runs a bonus system in which workers are rewarded for completing tasks faster than average and penalised for completing them slower than average. This system made it necessary to determine the amount

of time an average worker spends on each task carried out on the factory floor, and requires every individual worker on the floor to maintain a daily production sheet. This sheet is used to record the time they spend doing each task, and is used to determine the bonus or penalty earned. This productivity variable is thus a completely objective measure of each worker's performance.

Included in this system is a fault penalty, which is subtracted from a worker's bonus figure if they make a serious mistake which ruins a component of the final product, or the final product itself. To determine a productivity figure for each worker, any fault penalties were first subtracted from their productivity bonus, which was then divided by the total number of hours they worked.

3.4 General Procedure

At the time of this study the Lincoln University Human Subjects Ethics Committee was not formally established. However this study's research proposal was examined by members of the committee who found nothing unethical in the way in which this study was to be conducted.

The co-operation of the study's participants was obtained through an initial briefing session in which they were invited to participate in a study looking at job satisfaction and performance. At this session the workers and supervisors were assured that their responses would be kept completely confidential, and were being collected for academic research only. They were also informed that the author was happy to answer any questions that they might have

about the study, upon its completion. To encourage participation the author arranged for lunch to be provided at the research sessions for those workers who took part.

Those workers who were interested in taking part in the study were then asked to sign-up and provided with a consent form. This form advised them that they had the right to withdraw from the study at any moment and retain any information so far provided. The standard consent form (as proposed by the Lincoln University Human Subjects Ethics Committee) was used for this purpose.

3.5 Possible Methodological Criticisms

The incentive of a seemingly 'free' lunch is an event which could be seen as likely to induce a positive mood state in the respondents, thus biasing the study. However the amount of positive affect generated by this event is likely to have been slight. It was presented as 'payment' for their unpaid co-operation in this study rather than as a 'free' pleasant surprise. Furthermore, any positive affect generated by the 'free' lunch would be countered by the affect testing instruments, which move the participant's focus from their immediate affective state, by requiring them to consider what emotions they experienced over the last week.

At the initial briefing session the term emotion was deliberately not mentioned in the explanation given for the purpose of the study. This was done so as not to pre-sensitise the respondents, avoiding the risk of them cognitively assessing their affective state.

It was felt that if the respondents were asked to think about how they feel, there was a very real risk that they would provide information as to how they believe they feel or how they think they should feel, as opposed to their actual affective state. It was important for this study that the respondents didn't report how they thought they should feel, censoring or exaggerating their feelings to try to conform to a cognitive assessment of their situation.

The need to assess the 'real' emotional state of respondents, and not feelings censored or exaggerated to conform with a cognitive assessment was an important issue in this study. It was thus felt necessary to withhold full disclosure of the purpose of his study until its completion. However once all the questionnaire data were collected and analysed, the nature of the data collected was fully disclosed to the participants in a debriefing session. This session took place during the participants' lunch break, and consisted of a brief presentation of the study's purpose and results. At the end of the presentation a summary of the study's key findings was given to the respondents, along with a small present to thank them for their participation.

3.6 Quantitative Data Collection

While the factory manager was happy to allow workers to take part in this study, he specified that the research sessions should be conducted during the workers' breaks.

As such all the questionnaires were administered during the workers' lunch break. The factory only ran one set of breaks so all the study's participants were able to be tested at the same time. This method minimised disruption to the organisation and avoided time of day bias (Hill and Hill, 1991).

The quantitative data were collected over a period of four weeks, with research sessions being run on Thursday October 24, Friday October 25, November 1, November 8, and November 22, 1996. At the first session the job satisfaction and NA questionnaires were administered to the respondents. On the following Friday, and for the next three Fridays, (excluding November 15) the mood questionnaire was administered. The mood questionnaire was not administered on Friday November 15, as this was a statutory holiday (Canterbury Anniversary Day).

From the sign-up list, named envelopes were prepared to contain the test instruments, which were coded. The coding of the instruments allowed the author to perform data matching between each worker's questionnaire and productivity data. The productivity data were provided by the manager, who allowed the author access to the productivity figures for each worker who

signed a consent form. At no stage did the management team of the factory have any access to the survey/test results of the staff.

At the first research session, each worker who attended was given an envelope with their name printed on it and a number. Inside the envelopes was the Taylor Manifest Anxiety Scale, each numbered the same as the envelope containing it. At the second research session the same procedure was followed, except the envelopes contained the Depression-Happiness Scale and the Job Satisfaction questionnaire. At the third, fourth and fifth research sessions, the Depression-Happiness Scale was again administered.

3.7 Qualitative Data Collection

After the quantitative data had been collected, those who had participated were asked if they would consent to a personal interview about their work. The workers and supervisors were again assured that their responses would be kept completely confidential and were being collected for academic research only. This resulted in a sample size of twelve people, being all four supervisors and eight people from the factory floor. These interviews followed a structured format using an interview sheet which had been pre-tested to ensure simplicity of language and lack of ambiguity (Refer to Appendix six for a copy of interview sheet).

The first question addressed the interviewees' 'feelings' towards their job and recorded the type of words/phrases the respondents used to describe these. Interviewees were then asked what aspects of their job they disliked and

liked. The fourth question asked the respondents if they believed other people's performance at work is affected by experiencing negative emotion. The respondents were then asked to elaborate further, being asked if yes, how? If no, why? Next the respondents were asked if they believed that negative emotion, affected their own performance at work. Again the respondents were asked to elaborate further, being asked if yes, how? If no, why? The tenth question looked at job satisfaction and asked the respondents if they believed their negative feelings affected how they felt about their job.

Question number eleven was different for the factory workers and the supervisors; it addressed the effect of negative emotion on relationships within the workplace. The factory workers were asked, "If your supervisor or one of your workmates is feeling worried, unhappy, or angry about something, does this affect the way in which you interact with your co-workers?" The supervisors were asked, "As a supervisor, if you are feeling worried, unhappy, or angry about something, does this affect the way in which you interact with your subordinates?" Both the factory workers and the supervisors were then asked if yes, how? If no, why? The last question in the interview looked at the effect of positive emotion on job performance. It asked the respondents to think about the last time they experienced positive feelings at work, and then describe the effect if any, this had on their performance at work.

The interviews were held in a vacated office to ensure privacy and were conducted in an informal manner, with each interview taking on average 10-12 minutes. The participants' responses were written down rather than taped, so as to encourage informality. It is important to note that some of the participants also expressed nervousness about having their answers taped.

3.8 Delimitations and Limitations of this Study

As this study sought only to show the influence affect has on an individual's job satisfaction and productivity, the relationship between job performance and job satisfaction was not examined. This relationship is "one of the most widely debated and controversial issues in the study of job satisfaction" (Ivancevich and Matteson, 1990, p.83), and its inclusion would serve only to hinder an explanation of the influence affect may have on job performance and job satisfaction as separate variables.

A suitable working environment for this study required two conditions. First, a workplace in which the workforce were employed in homogeneous tasks, and second, a workforce whose output could be measured in an objective fashion. Locating such a workplace and obtaining the co-operation of its management was difficult, and resulted in a trade-off between an ideal working environment to study and sample size.

3.9 Conclusion

The collection of both the quantitative and qualitative data went smoothly with a high level of co-operation from most of the subjects who signed up for this study. However, two subjects did chose not to provide mood data, because they believed the information was too personal.

Chapter Four: Findings

4.0 Introduction

The previous chapter provided an overview of this study's research design, and methodology. This chapter now discusses the results obtained from the analysis of the quantitative and qualitative data collected in the two parts of this study.

4.1 Univariate Statistics

In this section the univariate statistics are reported for the measures used in this study, and these are compared, with samples reported in earlier studies.

Taylor (1953), in the development of the Taylor Manifest Anxiety Scale (TMAS) which was used to measure the *negative affectivity* of the respondents, tested two samples;

Taylor's Sample

163 under-graduate psychology students - median score 14
103 neurotic and psychotic individuals - median score 34

Study Sample

Median	21	S.d.	8.22
Mean	20.17	N	17

The study's sample reported a higher NA score than Taylor's normal population sample of under-graduate students. However, the standard deviation was quite high reflecting a wide range of scores. The respondents'

scores ranged from 6 to 37, with two respondents obtaining a score of 30, which may indicate clinical depression.

While some of the sample obtained very high NA scores it seems reasonable to conclude that the study's sample was a normal population, and not a sample consisting of neurotic and psychotic individuals. Unfortunately, Taylor did not report the standard deviation or the mean of her two samples so no statistical comparison can be made between the three samples.

McGreal and Joseph (1993), in the development of The Depression - Happiness Scale which was used to assess the *mood state* of the respondents over the period of a month, reported the following:

McGreal and Joseph's Sample

200 young adults - whose mean score on the Beck Depression Inventory was within that expected of a normal population

Scores ranged from 3 to 69 (Mean = 46.22, S.d. = 12.28)

Internal reliability high - Cronbach alpha = 0.93

Study Sample

Mood Data Week One

Mean	49.46	S.d.	13.03
		N	15

Mood Data Week Two

Mean	49.86	S.d.	10.53
		N	15

Mood Data Week Three

Mean	52.8	S.d.	11.38
		N	15

Mood Data Week Four

Mean	53.73	S.d.	10.70
		N	15

The study's sample obtained a slightly higher average on The Depression - Happiness Scale over the four weeks than McGreal and Joseph's sample, and different scores for s.d. A series of two-tailed t-tests were conducted to determine whether there was any significant difference between the uncorrelated mean of McGreal and Joseph's sample and the uncorrelated mean scores obtained by this study. This produced the following t values.

Table 1 T- Values obtained from comparing McGreal and Joseph's uncorrelated sample mean and the uncorrelated mean scores obtained by this study

	Week 1	Week 2	Week 3	Week 4
McGreal & Joseph's Sample Mean	0.98	1.12	2.01	2.30

The t-test was conducted at the .05 level of significance, with 213 degrees of freedom, giving critical values of 1.9699 and -1.9699. Thus at the .05 level of significance there was a significant difference between McGreal and Joseph's sample mean and the mean scores obtained by this study for week three and week four.

A series of two-tailed t-tests were also conducted to determine whether there was any significant difference between each of the mean mood scores obtained by this study. This produced the following t values:

Table 2 T- Values obtained from cross comparison of the study's mean mood scores

	Week 1	Week 2	Week 3	Week 4
Week 1		-0.09	-0.75	-0.98
Week 2	0.09		-0.73	-1
Week 3	0.75	0.73		-0.23
Week 4	0.98	1	0.23	

The t-test was conducted at the .05 level of significance, with 28 degrees of freedom, giving critical values of 2.0484 and -2.0484. Thus at the .05 level of significance there was no significant difference between any of the mean mood scores obtained by this study.

This study used a job satisfaction instrument developed by Brief, Butcher and Roberson (1995), using questions drawn from the JDI (Smith, Kendall, and Hulin, 1969) and the MSQ (Weiss, Davis, England, and Lofquist, 1967). Brief, Butcher and Roberson checked the internal reliability of this instrument, gaining a Cronbach alpha of 0.72.

A modified version of the Faces scale (Kunin, 1955) was used as a response scale for each question on this instrument, with the faces weighted according to values determined by Kunin. Brief, Butcher and Roberson (1995) also used Kunin's scale, but did not report how they weighted the faces, or the univariate statistics for the job satisfaction instrument.

Study Sample

Mean	543.41	S.d	113.07
		N	17

It is therefore impossible to make any comparison between the data obtained from this study, and the data collected by Brief, Butcher and Roberson (1995).

4.2 Overview of Analysis

Statistical Package For The Social Sciences, (SPSS) was used to calculate correlations between the variables of interest. Following this, a qualitative analysis of interview responses was completed

4.3 Relationship between Mood and Job Satisfaction

The first correlation calculated was between the first week of mood data and the aggregate job satisfaction score for the fifteen of the seventeen respondents in the study who provided mood data. This calculation produced a positive correlation ($r = .039$, $N = 15$, not significant at $p < .05$). For the first hypothesis to be supported a significant positive correlation needed to be present. Thus the results did not support the first hypothesis.

4.3.1 Relationship between mood and productivity

The second set of correlations calculated were between the four weeks of mood data and the four weeks of productivity data calculated for the thirteen factory workers. This involved a sample size of eleven, as two of the factory

workers had been uncomfortable about providing mood data. The r values are summarised in Table 3; none of the correlations reached significance at $p < .05$.

Table 3 Correlation of Mood data and Productivity data

	Productivity Week 1	Productivity Week 2	Productivity Week 3	Productivity Week 4
Mood Week 1	-0.14			
Mood Week 2		0.23		
Mood Week 3			0.10	
Mood Week 4				0.17

Note. $N = 11$

For the second hypothesis to be supported, each of the individual weekly correlations needed to be positive and significant. Thus the results did not support the second hypothesis.

4.3.2 Relationship between NA and Aggregate Job Satisfaction Score

The third correlation calculated was between the NA variable and the aggregate job satisfaction score for the 17 respondents. This produced a positive correlation ($r = 0.14$, $N = 17$, not significant at $p < .05$). For the third hypothesis to be supported a significant negative correlation between the two variables needed to be present. Thus the results did not support the third hypothesis.

4.3.3 Relationship between NA and Productivity

The fourth set of correlations calculated was between the NA data and the four weeks of productivity data calculated for the thirteen factory workers.

This involved two samples, the first being all thirteen factory workers (refer Table 4a), and the second only eleven of the factory workers (refer Table 4b).

In the second sample, the two factory workers who had been uncomfortable about providing mood data were removed. This provided a sample size the same as the correlation between mood and productivity so that a comparison between state and trait emotion could be made.

Table 4a Correlation of NA and Productivity - Sample Size 13

	Productivity Week 1	Productivity Week 2	Productivity Week 3	Productivity Week 4
Negative Affectivity	-.008	-.36	.23	-.13

Note. N = 13

Table 4b Correlation of NA and Productivity - Sample Size 11

	Productivity Week 1	Productivity Week 2	Productivity Week 3	Productivity Week 4
Negative Affectivity	.006	-.32	.32	-.08

Note. N = 11

For the fourth hypothesis to be supported, each of the individual weekly correlations needed to be negative and significant. Thus the results for both samples did not support the fourth hypothesis.

4.3.4 Relationship between NA and Job Satisfaction Questions

After the first four correlations were calculated, the Pearson product-moment correlation coefficient between each respondent's NA score and value they assigned each individual question about their job, in the job satisfaction questionnaire was calculated. This involved a sample size of seventeen, and produced the following r values (refer Table 5)

Table 5 Correlation of NA and Job Satisfaction Questions

Amount of money paid: $r = -.01$

Promotion prospects: $r = .09$

Supervision: $r = -.23$

Feelings about co-workers: $r = .03$

Feelings about type of work done: $r = .22$

Feelings about amount of work done: $r = .08$

Feelings about working environment: $r = .17$

Feelings about workplace rules and procedures: $r = .15$

How do you feel about your job in general: $r = .26$

Note. $N = 17$

This analysis did not result in any significant correlations (at $p < .05$) between any of the individual variables in the job satisfaction questionnaire and NA.

As discussed in the literature review, it was thought that high NA individuals would be more dissatisfied with aspects of their job that involved contact with others, such as how they were supervised, than low NA individuals.

4.3.5. Relationship between NA and Mood

The final analysis carried out was the calculation of the Pearson product-moment correlation coefficient between the NA score and first week's mood score. This involved a sample size of fifteen as two of the factory workers had been uncomfortable about providing mood data. The r value produced was -0.48 , which was not significant at $p < .05$.

4.4 Discussion of the Qualitative Analysis

The qualitative analysis of this study will be discussed in two sections. The first section will discuss the interview transcripts of the four supervisors, with the transcripts of the eight factory floor workers discussed in the following section. Due to the small size of the sample and the author's desire to protect the subjects anonymity, neutral gender language will be used to describe the respondents' responses.

4.4.1 Interview Analysis of Supervisors

In describing how they felt about their job, three of the supervisors used the word "Good", one answered "It's alright, I quite like it". Two supervisors did not dislike any aspects of their job, while the other two reported their only dislike was difficulties with suppliers. Three supervisors reported that they liked their job in general, without referring to any particular component of their job. One supervisor said that he/she liked the fact it was challenging.

When asked if they believed negative emotion would affect someone's work, three supervisors responded yes, with one saying "A small bit". Three of the

supervisors felt negative emotion would result in lower quality, with workers making more mistakes, with one supervisor saying that "They don't do the job properly, make mistakes, their minds aren't on the job". However the supervisor who felt that negative emotion would only affect someone's work a small bit, expressed a completely opposite view: "To me I think it is the opposite, if happy they're not concentrating, if unhappy they are watching what they are doing".

When asked if they believed negative emotion affected their work, one of the supervisors responded "Yes". Two of the supervisors said "It could have done" and one said "sometimes it may have". All four supervisors though were able to discuss ways in which they felt negative emotion had affected their ability to do their job.

One felt that it caused him/her to spend too much time on trying to fix problems, another felt that it caused them to make "Silly little mistakes", another "Was quite rude to other people, didn't have any time for people", while the last felt it slowed them down. One supervisor stressed the point that it was only work related issues that caused him/her negative emotion at work, as he/she did not allow negative emotion generated by issues outside of work to affect him/her at work.

Only two out of the four supervisors felt that experiencing negative emotion affected how satisfied they felt with their job. The two supervisors who did feel it affected their job satisfaction both said that it reduced how satisfied

they felt with their jobs. Of the two who said negative emotion did not affect how satisfied they felt with his/her job, one said he/she did not relate his/her feelings to his/her job, while the other just responded that "it didn't affect my job satisfaction".

When the supervisors were asked if they felt experiencing negative emotion affected their ability to supervise, one said "No", one said "I don't know", one said "Sometimes", and one "Yes". The latter two supervisors both felt that it negatively affected their ability to communicate effectively with their subordinates.

Three of the four supervisors felt that experiencing positive emotion positively affected their ability to perform their job. Two felt that their day went faster, and one felt things went smoother, with less problems. However, the supervisor who felt that personally experiencing positive emotion did not affect his/her performance, did make the following comment "if everyone is happy then things go smoother."

4.4.2 Interview Analysis of the Factory Floor Workers

In describing how they felt about their job, the factory workers said the following; "Some days I like it, some days I don't", "Its alright", "Love it", "Its O.K.", "Good", "O.K.", "Quite good", and "I enjoy it". Only one of the factory workers did not dislike any aspects of his/her job, while the other seven reported various dislikes. Two disliked their co-workers lack of attention to quality, two disliked the fact that their job required sitting down a lot, one

disliked the pay rate, one felt they were not being kept busy enough, and one disliked the repetitiveness of the work.

All eight of the factory workers reported that they liked one or more components of their job. Five mentioned they liked their co-workers, two mentioned they liked making a quality product, two liked the general working environment, one liked the fact that his/her job got her out of home, two liked the varied work, and one the money they were earning.

When asked if they believed negative emotion would affect someone's work, four of the factory workers gave an unconditional "Yes", with three attaching conditions such as "Yes sometimes", "Yes it can" and "Probably would, yes". Only one of the factory workers felt negative emotion would not affect someone's productivity.

Six of the factory workers felt experiencing negative emotion resulted in workers concentrating less on their work. Of those six, five also felt that this resulted in more mistakes and a drop in quality. One factory worker felt simply that people slowed when experiencing negative emotion.

The one subject who felt that negative emotion would not effect someone's work gave the following reason for this response: "People can take what's being thrown at them, they just focus on their work."

When asked if they believed negative emotion affected their work, five of the factory workers responded yes, one probably and two no. Six of the factory workers discussed the following ways in which they felt negative emotion had affected their ability to do their job. Two felt that their ability to concentrate on their job was reduced, one worried about making mistakes, one felt that a negative emotional state resulted in him/her working slower, conversely another felt that they tried to work too fast, and thus made more mistakes. The last of the six reported not caring about their work when experiencing a negative emotional state.

Of the two factory workers who said that negative emotion did not affect their work, both said they did not let things upset them, with one respondent stating that they "Leave outside problems outside (work)".

Five of the eight factory workers felt that experiencing negative emotion definitely affected how satisfied they felt with their job. Two responded no, and one felt that it probably did. Four of the five who responded yes, said that experiencing negative emotion made them like their job less, with the fifth saying it made them feel like going home. The subject who responded "Sometimes" said that if the negative feelings were caused by their job, then "Yes it can make me like it less". The two subjects who responded "No" said the following "I don't think it affected my satisfaction with my job" and "I felt the same about it".

In response to the question "If your supervisor or one of your co-workers is feeling worried, unhappy, or angry about something, do their feelings affect how you feel?" six out of the eight of the factory workers said yes. Five of those six made a distinction between their supervisor and co-workers, with three referring only to their supervisor, saying that when their supervisor was in a bad mood they worried about his/her behaviour e.g. "Supervisors can get angry without any real reason". Two referred to both their supervisors and their co-workers. Saying when their supervisors were upset, they also worried about the supervisors actions, e.g. "I worry about her (the supervisor) picking on me". With regard to their co-workers, one said that a coworker's negative mood "Makes me uptight", while another simply would ignore a co-worker's negative mood. The one subject who made no distinction, referring to another's bad mood, said "It rubs off".

The two subjects who responded "no", both said that they would show concern if another was experiencing negative emotion, but that another's negative mood did not alter their mood.

Seven of the eight factory workers felt that experiencing positive emotion positively affected their ability to perform their job and expressed a variety of benefits. Three felt that their day went faster, and three felt they worked faster. One said they enjoyed their work more and another felt they achieved more when in a positive mood. The subject who felt that personally experiencing positive emotion did not affect his/her performance, made the following comment "Not sure" (if it has any effects).

The qualitative data collected through interviewing twelve of the seventeen subjects in this study produced results more supportive of the study's general reasearch question.

4.4.3 Summary of Qualitative Findings in Table Form

If someone is worried, unhappy, or angry, do you think that this negative emotion would affect his or her work?

	No	Yes	A little	Conditional Yes
Supervisors		3	1	
Workers	1	4		3

If yes, how?

	People slow down	Lower quality/more mistakes	Loss of concentration
Supervisors		3	1
Workers	1	5	6

If no, why?

	People can cope, they just focus on their work	People concentrate more on their work when unhappy
Supervisors		1
Workers	1	

Think back to a time when you yourself were worried, unhappy, or angry about something. Do you think that experiencing these feelings affected your work?

	No	Yes	Probably	Sometimes it may have	It could have done
Supervisors		1		1	2
Workers	2	5	1		

If yes, how?

	Focused too much on work problem that upset me	Made mistakes	Was rude to people and didn't want to interact with others	Slowed down
Supervisors	1	1	1	1
Workers				1

	Worked too fast	Ability to concentrate on work reduced	Worried about making mistakes	Didn't care about work
Supervisors	1			
Workers	1	2	1	1

If no, why?

	Don't allow personal issues to upset me at work	Don't allow things to upset me
Supervisors	1	
Workers	1	2

Again think back to a time when you were worried, unhappy, or angry about something, now do you think that experiencing these feelings affected how satisfied you were with your job?

	Yes	No	Probably
Supervisors	2	2	
Workers	5	2	1

If yes, how?

	Reduced how satisfied I felt	I felt like quitting	I liked my job less	I felt like going home
Supervisors	1	1		
Workers			5	1

If no, why?

	I don't relate my feelings to my job	I felt the same about my job	It just didn't	I don't think it affected my job satisfaction
Supervisors	1		1	
Workers		1		1

If your supervisor or one of your workmates is feeling worried, unhappy, or angry about something, do their feelings affect how you feel?

	Yes	No
Workers	6	2

As a supervisor, if you are feeling worried, unhappy, or angry about something, does this affect the way in which you interact with your subordinates?

	Yes	Sometimes	No	I don't know
Supervisors	1	1	1	1

Did experiencing positive emotion have any effect on your ability to perform your job?

	Yes	No
Supervisors	3	1
Workers	7	1

4.5 Summary of Findings

The quantitative data was not supportive of this study's hypotheses with the first four correlations calculated not supporting conclusively any of the four hypotheses put forward by this study. The calculation of the correlation coefficient between each of the respondents' NA score and value they assigned each individual question about their job also did not produce any significant correlations. The qualitative data, however, was not only supportive, but suggestive of the effect our emotional state has on our level of productivity and job satisfaction. The following chapter will discuss these results and future implications for research and management.

Chapter Five: Conclusion and Implications

5.0 Introduction

The previous chapter reported the results obtained from the analysis of the quantitative and qualitative data collected in the two parts of this study.

This chapter now looks at the conclusions that can be drawn from this study's findings, and implications of those findings. (Recommendations are also made regarding the methodology of this study.)

5.1 Conclusions

It is generally expected that for practical purposes a significant r value is considered to be .50 or above (Mitchell, 1985), with a moderate correlation in the area of .30, and a small correlation to be in the area of .10 (Cohen, 1988). In the field of psychology however, a researcher is unlikely to obtain correlations between two variables that are greater than .40 (Aron and Aron, 1994). This figure was thus used as a bench mark to judge the practical value of the correlations calculated in the quantitative data analysis of this study. None of the correlations calculated in this study reached the .40 value, and thus as such none of this study's four hypotheses were supported. It is important however, to note that the results obtained were suggestive of two of the relationships postulated in this study, being H1 and H2, with the and provided interesting results with regard to H4. The following sections discuss the quantitative analysis and the results obtained. Given the lack of statistical evidence, any conclusions drawn in this discussion are based on previous academic literature and the author's own thoughts.

5.1.1 Transient Mood and Job Satisfaction

As expected a positive correlation was found between a positive emotional state as assessed on the Depression-Happiness Scale, McGreal and Joseph (1993) and job satisfaction assessed using the Faces Scale, Kunin (1955).

A negative correlation would have indicated that an increasing level of depression resulted in higher job satisfaction, which would have gone against H1.

The r value, however, was not significant, suggesting that either the effect of mood on job satisfaction is very weak, or that the job satisfaction instrument did not tap into the respondents' affective assessment of their job. Organ and Near (1985) felt that for any job satisfaction instrument to be valid as an affect measure it would need to be simple and 'facet-free' (not referring to any identifiable dimension of the job). This study used an instrument developed by Brief, Butcher, and Roberson, (1995) which asked the respondents to assess their satisfaction with a variety of job dimensions. As such it is possible the instrument tapped into the respondents cognitive, as opposed to affective, assessment of their job.

5.1.2 Transient Mood and Productivity

The correlation analysis of the factory workers' emotional state over four weeks, as assessed on the Depression-Happiness Scale, (McGreal and Joseph, 1993) and four weeks of productivity data, produced interesting results. The analysis of the first week's data produced a negative correlation, suggesting that higher states of happiness are associated with lower

productivity. This possible relationship was supported by one of the supervisors who felt happy workers engaged in more shop floor talk, and concentrated less on their work than unhappy workers. The analysis of the other three weeks of data though produced positive correlation values as expected. This suggests that a positive emotional state is associated with increases in productivity, which is consistent with H2.

It is possible however that a positive emotion state may have the potential to either decrease or increase an individual's productivity, depending on the behaviours that the positive mood induces in the individual. Individuals experiencing a positive mood wishing to interact more with their work mates and thus producing less could explain the unexpected result of the first week. The work of Isen (1970) demonstrated that a positive mood, increases pro-social behaviour, suggesting that positive mood could also increase our desire to socialise.

It is also important to note that in most work settings there is little room for large changes in performance. In particular, at the factory studied workers would lose money off their bonus total if they produced items slower than the average. A worker who was constantly under-performing would also risk a reprimand from his or her supervisor. As such even if a worker was particularly unhappy, the possibility of financial loss or punishment might keep him/her from dropping his/her performance level.

The type of tasks studied may also have influenced the effect of transient mood on the subjects' performance. Various studies have found that positive affect increases and promotes teamwork, co-operation, information recall and decision making. In this study, however, each worker in the study worked independently from their co-workers performing highly standardised tasks which did not rely on another worker's input to complete. Thus affect (positive or negative) may have had very little effect on the workers' productivity due to the nature of the tasks studied.

5.1.3 NA and Job Satisfaction

The correlation analysis of the factory workers' NA score and aggregate job satisfaction score provided a weak positive correlation which did not support H3, and surprisingly produced a result opposite to that suggested by the literature. There are three possible reasons for this result, the first being that the respondents are satisfied with their jobs to a degree that this over rides any effect exerted by NA. Certainly in the interviews most of the respondents indicated that they liked their job to varying degrees, with only one of the factory workers saying that they sometimes disliked his/her job.

Seven of the factory workers interviewed, however, expressed specific dislikes with their job, including the repetitiveness of the work and the level of pay. Given that the interviewed respondents expressed dissatisfaction with aspects of their job it seems more likely that the job satisfaction instrument did not tap into the respondents' affective feelings regarding their job.

This supports the proposition raised in the discussion of the effect of transient mood on job satisfaction, that the instrument tapped into the respondents' cognitive, as opposed to their affective assessment of their job.

The final reason may lie in the nature of NA as a trait. Levin and Stokes (1989, p. 756) believe that high NA individuals as opposed to low NA people "make more realistic appraisals of job experiences". Thus the subjects of this study, while unhappy with their current job, feel satisfied with their current employment given their previous employment experiences'.

5.1.4 NA and Productivity

Two of the highest correlations produced in this study were between the factory workers' NA scores and their four weeks of productivity data, with week two producing a r value of $-.32$ and week three a r value of $.32$. To be of practical significance, the correlation had to be less than -0.4 . In order for H4 not to be rejected at $p < .05$, r would have had to be less than -0.5 for each week of productivity and NA. (refer Table 4b)

The results obtained are inconsistent with a strong influencing role of NA on productivity. NA is a relatively stable dispositional characteristic if it had a strong negative influence on productivity we would expect to find consistently negative figures over the four week period. The absence of such a pattern may be due to the small sample size in the study. It could also be explained by the fact that NA is a disposition, and influences but does not direct behaviour. As Judge and Hulin (1993, p.391-392) observed "The tendency to

respond to the environment in an affect-based manner (affective disposition) is not the same as how happy an individual is or is not.” Transient mood may thus be a better measure to assess the effect of emotion on productivity.

5. 1.5 Relationship between NA and Mood

The highest correlation produced in this study was the calculation of the Pearson product-moment correlation coefficient between the NA score and first week’s mood score. The r value produced was -0.48 , which while not statistically significant at $p < .05$, is of practical significance, being greater than 0.4 .

This result is not surprising as it makes common sense to expect a negative relationship between NA and Mood. An individual who scored highly on the NA test, which was administered in the first week, can easily be seen to score lower at the end of the first week on the Depression-Happiness Scale, (McGreal and Joseph, 1993). Any individual who has a tendency to view his or her world less positively, is certainly going to be less “happy” than his or her peers who do not have this tendency.

5.2 The Qualitative Results

While the quantitative results were not conclusive, the interviews were very supportive of the study’s hypotheses. This strong contradiction could firstly be explained by the nature of our memories. An individual’s perception of events is not always an accurate account of those events (Eysenck and Keane, 1995). As such the *perceived* effect of a mood change on one’s

productivity or job satisfaction could have been far more than the *actual* affect.

The nature of the questions asked may have also affected the subjects' responses. No time frame was specified in any of the questions asked. As such the respondents may have been recalling mood changes that occurred before the study began. Also, given the whole of their working lives to choose from, the subjects may have recalled particularly unpleasant mood states when referring to the effect of negative emotion on their job satisfaction and productivity.

Finally, the interviewed respondents may have given the interviewer the response they thought he wanted. This is a common risk with interviews (Kinneer and Taylor, 1991) and cannot be discounted as a cause of the contradiction between the quantitative and qualitative results.

Bearing these caveats in mind, however, the qualitative results have produced some interesting findings. Firstly, the majority of interviewed respondents believed that experiencing negative emotion affected others' ability to carry out their work. The majority of respondents also believed that experiencing negative emotion affected their ability to successfully perform their job. The respondents described a variety of ways in which negative emotion could affect another person's (or their) ability to perform tasks at work. Some felt negative emotion slowed people down, others felt an unhappy worker made more mistakes, while still others felt negative emotion resulted in a loss of concentration.

Yet some respondents did not believe that experiencing negative emotion affected other people's ability, or their own ability to perform tasks at work. They felt people, including themselves, either concentrated more on their work or simply did not allow things to upset them. If some people do focus more on their work when unhappy, and others get distracted, this could prove to be a methodological problem. Researchers could find it difficult to obtain significant statistical results as the two groups' effects could cancel each other out.

Finally, it is important to note that two of the respondents expressed the opinion that they don't allow personal issues to upset them at work. If this is so then future researchers may need to differentiate between affect generated outside the workplace and affect generated by the working environment.

5.2.1 The Qualitative Results and Implications for the Study's proposed models of Productivity and Job Satisfaction

The qualitative results partially supported the model of productivity proposed by this study. With the relationship between an individual's emotional state and his or her "ability to perform" supported, as most respondents indicated that a negative emotional state impaired their ability and a positive emotional state improved their ability to perform their job. It was not clear from the qualitative findings whether an individual's emotional state influenced his or her "willingness to perform". With regard to the model of job satisfaction proposed by this study, the qualitative results supported the linkage between

emotional state and job satisfaction. Most respondents stated that a negative emotional state reduced their level of satisfaction with their job.

5.3 Recommendations

The recommendations for this study fall into two key areas, being sample issues and testing issues. This section will now discuss those recommendations and the reasoning behind them.

5.3.1 Sample Issues

A key weakness of this study was its small initial sample size, a problem compounded by the unwillingness of two of the factory workers to provide mood data. While acknowledging the difficulty of obtaining access to workplaces, any future researcher considering duplicating this research should try and obtain a larger sample. This would have the advantage of increasing the statistical generalisation of any results, and may increase the chances of identifying the relationships that this study hypothesised.

As discussed in Section 5.1.2, the type of task studied was perhaps inappropriate, and future researchers should probably study tasks, which involve more teamwork, co-operation, information recall and use of judgment.

Studying such tasks may, however, prove difficult. For while the productivity of such high cognitive tasks may be more greatly affected by mood changes, obtaining a productivity measure for these tasks will be more difficult, as employees engaged in such tasks seldom produce an easily measured or

identifiable product. Their productivity would thus probably have to be assessed by supervisor performance assessment, a measure that runs the risk of being subjective.

5.3.2 Testing Issues

The mood measure used in this study made no distinction between mood caused by events outside or inside the workplace. Given that some of the interviewed respondents felt that bad moods caused by events outside of work did not affect their work place behaviour it seems prudent for future researchers to make a clear distinction between the effect of the two types of mood on respondents' work.

As discussed in Sections 5.1.1 and 5.1.3, the job satisfaction instrument used in this study possibly tapped more into the subjects' cognitive assessment of their job. Designing a job satisfaction instrument that assesses subjects' affective assessments of their job may, however, be difficult. Zajonc concludes that the communication of affect more easily follows nonverbal than verbal channels and that the processing of affect "is closer to the acquisition and retention of motor skills than of word lists" (1980:p158).

Organ and Near (1985) feel that for any job satisfaction instrument to be valid as an affect measure it would need to avoid referring to any identifiable dimension of the job. Thus a questionnaire designed to tap into an affective assessment of job satisfaction would possibly need to ask very general

questions and rely on symbols for subjects to identify their responses such as the 'faces scales'.

Future researchers may also wish to investigate psychological well-being as a more useful construct for explaining the effect of emotion on productivity. In two studies Wright and Cropanzano (1997) found psychological well-being was related to job performance ratings, whereas Satisfaction, NA, and PA, were not.

In this study the degree to which respondents displayed the trait negative affectivity (NA) was assessed, future studies should test for the degree that respondents exhibit the trait positive affectivity (PA). While the literature has focused on NA, a tendency towards high PA or the interaction of these two traits may affect the way an individual perceives his or her job and the way they behave at work. Both NA and PA could be measured for using the PANAS scale (Watson, Clark, and Tellegen, 1988).

Access to the setting studied was limited and controlled, as the management of the factory wished to minimise disruption caused by the research. If greater access could be obtained to a suitable work place then the discreet observation of respondents while working would probably provide useful insights into the effect of emotion on their behaviour. Researchers would have to be aware though of the risk of creating a Hawthorne effect, as workers who are closely observed may change their behaviour to make it appear more favourable to the observer.

The collection of the qualitative data should be altered with a time frame specified for the questions and a distinction made between moods induced by work and moods induced by outside sources.

Future researchers may consider it well worthwhile to conduct more in-depth interviews, to clarify the distinction (if any) between the effect of moods induced by work and moods induced by outside sources.

Job satisfaction should be assessed at regular intervals throughout the study, coinciding with when transient mood is assessed. This would provide data on whether respondents' job satisfaction changes over time and if these changes are related to changes in the respondents' mood.

This study's final recommendation is that it should be conducted over a longer period of time. Only four weeks of mood data were correlated against four weeks of productivity, and this may have been too brief a period. Isen and Baron (1991) felt that the effects of positive moods could not be directly assessed by the short-term volume or quality of work.

5.4 Conclusion

Given the inconclusive quantitative results of this study and its small sample size, this study is best viewed as an exploratory investigation of the effect our emotions have on job satisfaction and productivity.

While there are no strong findings there is still support for the study's basic proposition that our emotions affect how we view our jobs and how we behave at work.

There are many interesting avenues for future research in this area as this study's recommendations point out. Sadly though the difficulty of conducting this type of research and problems with obtaining access to suitable workplaces may continue to limit this field.

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Appendix 1

INFORMATION SHEET

**For Study being carried out by John G. O'Sullivan,
masters student,
at the Department of Economics and Marketing,
Lincoln University.**

You are invited to participate as a subject in a project investigating factors that may influence job satisfaction and performance.

Your participation in this project will involve five research sessions, lasting between 10-15 minutes, to be held at your workplace, during your lunch break. At these sessions, you will be asked to complete various testing instruments. At the completion of each session, a free lunch will be provided, to thank all the participants for taking part, and to compensate them for their loss of time.

As a follow-up to this activity, you will be asked to attend a debriefing session, where the researcher will discuss the results of his study with you, and answer any questions you might have. This session will last between 30-45 minutes, and will be catered. At the completion of this session a small present will be presented to each person who took place in the study.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation: the identity of participants and their work place will not in any way be made public. To further ensure anonymity and confidentiality, only the researcher will be involved in the analysis of the raw data, collected in this study.

The project is being carried out by John G. O'Sullivan, who can be contacted at Lincoln University, 3252-811 ext 8479. He will be pleased to discuss any concerns you have about participation in the project.

The project has been reviewed by members of the Lincoln University Human Subjects Ethics Committee.

Appendix 2

CONSENT FORM

For Study being carried out by John O'Sullivan

I have read and understood the description of the above-named project, contained in the information sheet. On this basis I agree to participate as a subject in the project, and I consent to publication of the results of the project with the understanding that anonymity will be preserved. I understand also that I may at any time withdraw from the project, including withdrawal of any information I have provided.

Printed name:

Signed:

Date:

Appendix 3

Thank you for participating in this survey. All responses will be kept completely confidential, and are being collected for academic research only.

Instructions

A number of statements that people have used to describe how they feel are given below. Read each one and circle the answer that correctly applies the statement to you. Some statements describe positive feelings and some describe negative feelings. You may have experienced both positive and negative feelings at different times in the past.

	<i>True</i>	<i>False</i>
I do not tire quickly.	<input type="checkbox"/>	<input type="checkbox"/>
I am often sick to my stomach.	<input type="checkbox"/>	<input type="checkbox"/>
I am about as nervous as other people.	<input type="checkbox"/>	<input type="checkbox"/>
I have very few headaches.	<input type="checkbox"/>	<input type="checkbox"/>
I work under a great deal of strain.	<input type="checkbox"/>	<input type="checkbox"/>
I cannot keep my mind on one thing.	<input type="checkbox"/>	<input type="checkbox"/>
I worry over money and work.	<input type="checkbox"/>	<input type="checkbox"/>
I frequently notice my hand shakes when I try to do something.	<input type="checkbox"/>	<input type="checkbox"/>
I blush as often as others.	<input type="checkbox"/>	<input type="checkbox"/>
I have diarrhea ("the runs") once a month or more.	<input type="checkbox"/>	<input type="checkbox"/>
I worry quite a bit over possible troubles.	<input type="checkbox"/>	<input type="checkbox"/>
I practically never blush.	<input type="checkbox"/>	<input type="checkbox"/>
I am often afraid that I am going to blush.	<input type="checkbox"/>	<input type="checkbox"/>
I have nightmares every few nights.	<input type="checkbox"/>	<input type="checkbox"/>
My hands and feet are usually warm enough.	<input type="checkbox"/>	<input type="checkbox"/>
I sweat very easily even on cool days.	<input type="checkbox"/>	<input type="checkbox"/>
When embarrassed I often break out in a sweat which is very annoying.	<input type="checkbox"/>	<input type="checkbox"/>
I do not often notice my heart pounding and I am seldom short of breath.	<input type="checkbox"/>	<input type="checkbox"/>
I feel hungry almost all the time.	<input type="checkbox"/>	<input type="checkbox"/>
Often my bowels don't move for several days at a time.	<input type="checkbox"/>	<input type="checkbox"/>
I have a great deal of stomach trouble.	<input type="checkbox"/>	<input type="checkbox"/>
At times I lose sleep over worry.	<input type="checkbox"/>	<input type="checkbox"/>
My sleep is restless and disturbed.	<input type="checkbox"/>	<input type="checkbox"/>
I often dream about things I don't like to tell other people.	<input type="checkbox"/>	<input type="checkbox"/>
I am easily embarrassed.	<input type="checkbox"/>	<input type="checkbox"/>

My feelings are hurt easier than most people.	<input type="checkbox"/>	<input type="checkbox"/>
I often find myself worrying about something.	<input type="checkbox"/>	<input type="checkbox"/>
I wish I could be as happy as others.	<input type="checkbox"/>	<input type="checkbox"/>
I am usually calm and not easily upset.	<input type="checkbox"/>	<input type="checkbox"/>
I cry easily.	<input type="checkbox"/>	<input type="checkbox"/>
I feel anxious about something or someone almost all of the time.	<input type="checkbox"/>	<input type="checkbox"/>
I am happy most of the time.	<input type="checkbox"/>	<input type="checkbox"/>
It makes me nervous to have to wait.	<input type="checkbox"/>	<input type="checkbox"/>
At times I am so restless that I cannot sit in a chair for very long.	<input type="checkbox"/>	<input type="checkbox"/>
Sometimes I become so excited that I find it hard to get to sleep.	<input type="checkbox"/>	<input type="checkbox"/>
I have often felt that I faced so many difficulties that I could not overcome them.	<input type="checkbox"/>	<input type="checkbox"/>
At times I have been worried beyond reason about something that really did not matter.	<input type="checkbox"/>	<input type="checkbox"/>
I do not have as many fears as my friends.	<input type="checkbox"/>	<input type="checkbox"/>
I have been afraid of things or people that I know could not hurt me.	<input type="checkbox"/>	<input type="checkbox"/>
I certainly feel useless at times.	<input type="checkbox"/>	<input type="checkbox"/>
I find it hard to keep my mind on a task or a job.	<input type="checkbox"/>	<input type="checkbox"/>
I am more self-conscious than most people.	<input type="checkbox"/>	<input type="checkbox"/>
I am the kind of person who takes things hard.	<input type="checkbox"/>	<input type="checkbox"/>
I am a very nervous person.	<input type="checkbox"/>	<input type="checkbox"/>
Life is often a strain for me.	<input type="checkbox"/>	<input type="checkbox"/>
At times I think I am no good at all.	<input type="checkbox"/>	<input type="checkbox"/>
I am not at all confident of myself.	<input type="checkbox"/>	<input type="checkbox"/>
At times I feel that I am going to crack up.	<input type="checkbox"/>	<input type="checkbox"/>
I don't like to face a difficulty or make an important decision.	<input type="checkbox"/>	<input type="checkbox"/>
I am very confident of myself.	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 4

Thank you for participating in this survey. Your responses will provide valuable information for my Masters Thesis at Lincoln University. All responses will be kept completely confidential.

How have you felt over the last week?

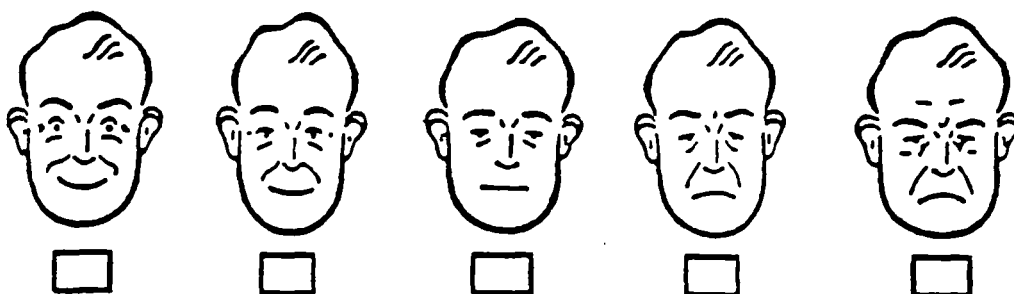
A number of statements that people have used to describe how they feel are given below. Reach each one and circle the number that best describes how frequently each statement was true for you in the past seven days, including today. Some statements describe positive feelings and some describe negative feelings. You may have experienced both positive and negative feelings at different times in the past week.

	Never	Seldom	Often	Always
I felt sad.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt I had failed as a person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt dissatisfied with my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt mentally alert.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt disappointed with myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt cheerful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt life wasn't worth living.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt satisfied with my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt healthy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt like crying.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt I had been successful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt happy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt I couldn't make decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt unattractive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt optimistic about the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt life was rewarding.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt cheerless.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt life had a purpose.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt too tired to do anything.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt pleased with the way I am.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt lethargic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I found it easy to make decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt life was enjoyable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt life was meaningless.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt run down.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

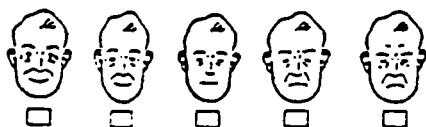
How do you feel about your Job?

Instructions:

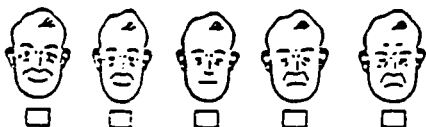
This part consists of eight questions about your job. For each question, tick the box under the face that best describes how you feel. Below is a larger example of the scale.



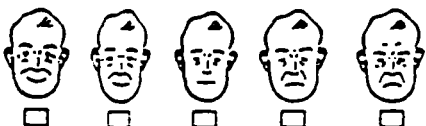
1. How do you feel about the amount of money you are paid for your work?



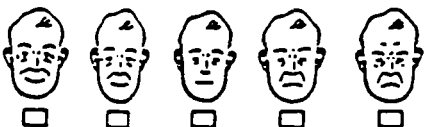
2. How do you feel about opportunities for promotion?



3. How do you feel about the way in which you are supervised?



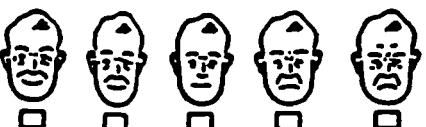
4. How do you feel about the people you work with?



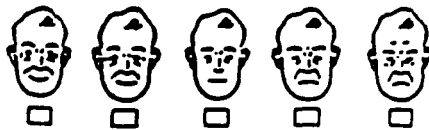
5. What are your feelings about the type of work you do?



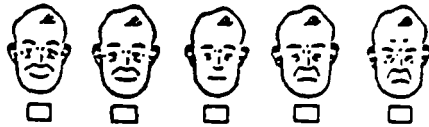
6. How do you feel about the amount of work you do?



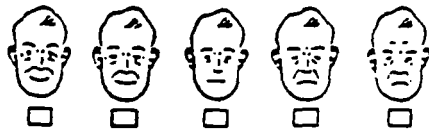
7. How do you feel about your working environment?



8. What are your feelings about the rules and procedures in place at your work place?



9. How do you feel about your job in general?



Part 2 - Demographic Information

This part consists of questions about you, so that your answers can be compared with the answers of individuals of similar age and background.

Q1. Age

Please tick the correct box:

- | | |
|-----------------------------------|--|
| <input type="checkbox"/> Under 25 | <input type="checkbox"/> 46 - 50 |
| <input type="checkbox"/> 25 - 30 | <input type="checkbox"/> Greater than 50 |
| <input type="checkbox"/> 31 - 45 | |

Q2. Gender

Please tick the correct box:

- | | |
|-------------------------------|---------------------------------|
| <input type="checkbox"/> Male | <input type="checkbox"/> Female |
|-------------------------------|---------------------------------|

Q3. Highest Level of Formal Education

Please tick the correct box:

- None
- School Certificate
- Sixth Form Certificate
- Higher School Certificate
- University Entrance
- Diploma
- Degree
- Other

Q4. Tenure (How long have you worked here)

Please tick the correct box:

- Less than 12 Months
- 13 Months - 24 Months
- Between 2 and 4 Years
- More than 4 Years

Appendix 5

How have you felt over the last week?

Instructions:

A number of statements that people have used to describe how they feel are given below. Read each one and circle the number that best describes how frequently each statement was true for you in the past seven days, including today. Some statements describe positive feelings and some describe negative feelings. You may have experienced both positive and negative feelings at different times in the past week.

	<i>Never</i>	<i>Seldom</i>	<i>Often</i>	<i>Always</i>
I felt sad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I had failed as a person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt dissatisfied with my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt mentally alert.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt disappointed with myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt cheerful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt life wasn't worth living.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt satisfied with my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt healthy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt like crying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I had been successful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt happy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I couldn't make decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt unattractive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt optimistic about the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt life was rewarding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt cheerless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt life had a purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt too tired to do anything.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt pleased with the way I am.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt lethargic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it easy to make decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt life was enjoyable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt life was meaningless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt run down.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix 6

PERSONAL INTERVIEW FORM FOR FACTORY WORKERS

1. How do you feel about your job in general?
2. What are some of the aspects of your job that you dislike?
3. What are some of the aspects of your job that you like?
4. If someone is worried, unhappy, or angry, do you think that this negative emotion would effect their work?
5. If yes, how?
6. If no, why?
7. Think back to a time when you yourself were worried, unhappy, or angry about something. Now do you think that experiencing these feelings effected your work?
8. If yes, how?
9. If no, why?
10. Again think back to a time when you were worried, unhappy, or angry about something. Now do you think that experiencing these feelings affected how satisfied you were with your job?
- 11.(a) *For Factory Workers Only*
If your supervisor or one of your workmates is feeling worried, unhappy, or angry about something, do their feelings affect how you feel?
- (b) *For Supervisors Only*
As a supervisor, if you are feeling worried, unhappy, or angry about something, does this affect the way in which you interact with your subordinates?
12. If yes, how?
13. If no, why?
14. I would just like you now to think about the last time you were feeling really happy about something. Now what effects if any, did it have on your work.