ATTRIBUTION - ITS APPLICATION TO JOB SATISFACTION AND PROBLEM SOLVING

A thesis completed in partial fulfilment of the requirements for the degree of Master of Arts in Psychology at Massey University, Palmerston North, New Zealand

Helen Walker

1994

ABSTRACT

In the present study, unresolved issues associated with the meaning and measurement of causal attribution are addressed, and the implications for application to organisational behaviour are considered. Causal attributions, made by 233 New Zealand managers, about occupational success and failures, were measured with the Occupational Attributional Style Questionnaire (OASQ), (Furnham, Sadka and Brewin, 1992). Those attributions were examined in terms of their relationships to Problem Solving (as measured by the Social Problem Solving Inventory - Revised, D'Zurilla and Nezu,1990) and Job Satisfaction, which was assessed with the Minnesota Satisfaction Questionnaire (Weiss, Dawis, England and Lofquist, 1967). As predicted, managers who had a more positive attributional style reported greater job satisfaction ($r = .22$, $p < .01$), and better problem solving attitudes ($r = .39$, $p < .001$) and problem solving skills ($r = .32$, $p < .001$). In accordance with the urging of Carver (1989), both a single score and the individual components of causal attribution were assessed in determining those relationships. It is concluded that a single score of attribution is both a superior predictor and at an appropriate level of abstraction. However, it is also concluded that the comparison between a single score and the components is necessary to enhance understanding. There is evidence that in naturalistic settings, the importance of an event to the individual may moderate relationships between attribution and other variables but the present study concludes that this is not the case in responding to measures such as the OASQ. It is concluded that causal attribution may be a useful construct in predicting organisational behaviour but refinement is required of its measure and its conceptual meaning. Implications for further research and theory development are noted.

ACKNOWLEDGEMENTS

I wish to thank my supervisor, Associate Professor Judith Brook for her warmth, support and encouragement in this research.

My thanks to the many managers who made this study possible through their participation.

Table of Contents

LIST OF TABLES

CHAPTER ONE

INTRODUCTION

Cognitive processes have an important role in explaining and understanding behaviour and there is increasing evidence of their role in emotion. Over the last few years the view that cognition is closely related to emotion has been steadily gaining ground, although disagreement continues about the direction and extent of that relationship (Matthews and MacLeod, 1994). According to some commentators, for example, Landy (1989), cognitive theory will become the fourth major influence in the development of industrial and organisational psychology (he identifies differential psychology, human relations and industrial engineering as the first three). Yet the role of cognition has not attracted a great deal of research in industrial psychology until recently.

One such cognitive process is causal attribution. A causal attribution is an inference about why an event occurred or about a person's disposition (Harvey and Weary, 1981). According to Harvey and Weary cognitions about oneself involve attributional activities which may serve as mediators in maintaining and modifying behaviour patterns. Causes are sought to assist or prescribe future action. By explaining the cause of an event, there is an implicit prescription to circumvent or minimise the impact of future negative events, and maximise the likelihood of a positive event recurring (Weiner, 1985). An explanation is imposed or inferred by the attributor and is not necessarily objectively accurate. Attributional style, on the other hand, refers to an individual's characteristic way of making causal attributions, and implies a relatively stable and enduring trait.

Attributions have been empirically related to an array of variables including self-esteem (Ickes and Layden, 1978), depression (Seligman, Abramson, Semmel and Von Baeyer,

1979) and productivity (Seligman and Schulman, 1986). Ickes and Layden (1978) propose that attribution is a fundamental factor relating to a variety of personal adjustment difficulties and this implies a construct of considerable value in predicting and explaining human behaviour.

However, there are unresolved questions regarding the meaning and measurement of attributions and some of those issues need to be examined when considering its application to organisational behaviour. The assumptions and theory relating to causal attribution need to be explored to assess their applicability to the industrial domain. Peterson (1991) notes that research on attributional style developed from work on learned helplessness; and when it is applied outside the realm of learned helplessness, a clinical concept, the theoretical rationale underlying it, loses its power hence, those assumptions must be examined. Questions have been raised regarding the measurement of attributions, for example, the justification for deriving a single score of attributional style (Carver 1989) and indeed, how this should be done.

The present study shall address some of those issues relating to the meaning and measurement of causal attribution in an organisational context, by focussing upon the inferences made by a managerial population about occupational successes and failures. In considering these issues, causal attributions will be examined in terms of their relationships to problem solving and job satisfaction in a managerial population.

The remainder of this chapter describes the dependent variables used in the present study.

PROBLEM SOLVING

A situation is problematic when no effective response alternative is immediately available to the individual (D'Zurilla and Nezu, 1982). D'Zurilla and Nezu (1990)

characterise problem solving as a complex process incorporating cognition, affect and behaviour.

Problem solving is an integral part of managerial activity. Landy (1989) suggests that nearly all managerial activities can be defined in terms of a problem requiring a decision. For example, drawing up a budget is a problem solving activity requiring the allocation of resources to one or more areas. Reitz (1987) says that management is sometimes called the art of decision making, but adds that this definition is too narrow as, success also depends on problems being recognised and decisions being implemented. Consequently, the factors that influence and contribute to managerial problem solving behaviour have implications for managerial effectiveness.

Social Problem Solving Model

The model used in the present study was developed by D'Zurilla and his associates (D'Zurilla and Nezu, 1982; D'Zurilla and Nezu, 1990; Nezu and Perri, 1989). This model refers to social problem solving, defined as problem solving that takes place in the real life social environment whereby an individual identifies or discovers effective means of coping with problematic situations encountered in day to day living (D'Zurilla and Nezu, 1990).

The social problem solving model outlines a problem solving process which consists of a set of specific problem solving skills and also a general emotional component called a problem orientation.

The problem orientation component is a generalised subjective feeling that an individual brings to a specific problem, and is based on the person's prior experiences of problems and their success in coping with them, that is, it is based on social learning theory. The model suggests that this orientation will have a generalised facilitative or inhibitive effect on problem solving performance, influencing the initiation of problem

solving activities, the time and effort spent on coping with obstacles and consequent emotional distress (D'Zurilla and Nezu, 1990).

A positive problem orientation, therefore, describes a generally positive emotional response to a problem situation which is likely to facilitate problem solving activities while a negative problem orientation suggests an emotional response that may inhibit problem solving.

There is evidence supporting the concept of a problem solving orientation. According to Butler and Meichenbaum (1981) how a person appraises their own problem solving skills affects their problem solving performance. Meichenbaum, Henshaw and Himmel (1979, cited by D'Zurilla and Nezu, 1982) concluded that a common characteristic associated with contending with difficulties was the adoption of an appropriate problem solving "set". More competent individuals for example, tended to accept stress and view it as a challenge or "problem to be solved" whilst less effective people were more likely to perceive the problem as threatening. The appraisal of problem solving effectiveness may be related to the attributional style of the individual, in that an individual's appraisal is likely to be related to previous attributions for success and failure in problem solving activities.

D'Zurilla and Nezu (1990) say that the relationship between perceived control and expectancy is an important part of the problem orientation component of the model, and perceived control - expectancy is related to locus of control. In turn, they report locus of control as being related to problem orientation.

The specific problem solving skills identified in this model are:

    1. Problem definition and formulation which involves the identification and clarification of the nature of the problem and the establishment of problem solving goals. If the problem is well defined it is likely to facilitate the

functions of the other stages. In specifying the problem solving goal the major objective is to alter the situation so it is no longer problematic. A secondary objective in effective problem solving is to maximise the positive consequences and minimise negative consequences.

2. Generation of alternative solutions, whereby the individual identifies as many alternative solutions as possible to increase the likelihood of identifying an optimal solution. This model assumes that quantity will lead to quality, but according to Reitz (1987) some theorists argue that the costs of searching or generating those alternatives must be weighed against the possible gains. Because time and resources are generally limited only a small number of alternatives will be generated according to a limited set of criteria.

3. Decision making which focuses upon evaluating the alternatives and selecting the best of the alternative solutions for implementation.

4. Solution implementation and verification which is an evaluative skill whereby the implemented solution is monitored for effectiveness in real life.

The skills are not conceptualised as separate independent sets of abilities but rather each represents a different skill or operation that has a distinct function within the problem solving process (D'Zurilla and Nezu 1982).

According to Reitz (1987) five or six phases are usually incorporated in decision making or problem solving models in management.
These phases are:
1. Recognising the problem
2. Searching for alternatives
3. Evaluating alternatives

4. Implementing and following up the decision
5. Setting objectives
6. Comparing performance with objectives.

It is reasonable to assume that as the social problem solving model of D'Zurilla and Nezu (1982) is based on real life but non-specific problems, and the phases it incorporates are reflective of those noted by Reitz (1987), it is relevant to a managerial population.

This model focuses upon problem solving ability rather than problem solving performance. D'Zurilla and Nezu (1982) distinguish between abilities and performance on the basis that the latter is concerned with solutions for specific problems, that is, the outcomes, while the former is concerned with the process, the important attitudes, beliefs and skills that comprise the problem solving process. Factors other than abilities are likely to influence performance, for example motivation and resources, so a measure of ability suggests a capacity to solve problems while a measure of performance suggests how that capacity is applied. The social problem solving model does not consider specific problem solving strategies on which much of the problem solving literature has focussed, for example, whether people generate visual or verbal representations when solving problems, or how they go about an information search during the identification of the problem.

JOB SATISFACTION

Job satisfaction is an attitude, defined by Locke (1976) as a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences. It is distinct from motivation in that motivation refers to energising and directing effort towards a goal while job satisfaction is concerned with the feelings about that effort and the outcomes. There is no comprehensive theory of what specifically leads to job

satisfaction except perhaps in the case of equity theory which specifies conditions for dissatisfaction (Schneider 1985).

It is intuitively appealing that job satisfaction will be related to other organisational variables and this may account for the extensive research on the topic. However research has not supported the expectation of a direct relationship between job satisfaction and other variables such as performance (for example, Iaffaldno and Muchinsky, 1985).

Job satisfaction is a distinct concept concerned with people's attitude to their jobs, their work conditions and job outcomes. Job satisfaction is usually measured in terms of either a feeling or a belief, and according to Landy (1989) these two components of an attitude may render different results.

Job satisfaction may be measured either in its entirety (global satisfaction) or with regard to specific aspects of the job (facet satisfaction). In his review, Schneider (1985) says that global satisfaction does not appear to be the same as the sum of the facets, yet from a basic research perspective it is global satisfaction that theories need to predict. However, in a meta analysis, Tett and Meyer (1993) compared multi-item global and facet measurements, and found no significant difference in the amount of variance accounted for when related to other variables such as intention to leave, organisational commitment and turnover; which suggests that both global and facet measures are equally sensitive to organisational criteria.

There is evidence suggesting that job satisfaction may be a stable and enduring attitude, that it may be influenced by dispositional factors and that investigating job satisfaction from a dispositional perspective may enhance understanding of it.

Staw and Ross (1985) note that a dispositional approach to predicting attitudes and behaviour has been unpopular in organisational research and argue that with a predominance of situationally based research it is predictable that situational explanations of organisational behaviour appear more robust than dispositional effects. Staw and Ross (1985) hypothesised that there are stable individual characteristics that predispose people to like or dislike jobs. They analysed longitudinal data on job satisfaction from a sample of over five thousand men from across the United States and reported stability in reported job satisfaction over a five year period. The data supported the hypothesis that prior attitudes would be as strong at predicting subsequent attitudes as situational changes, using change in pay and job status as situational determinants.

It has been suggested that job satisfaction determines perceptions of the job, contrary to the more traditional or historical view that perceptions of the job influence the level of job satisfaction (Caldwell and O'Reilly, 1982; James and Jones, 1981). This hypothesis has its roots in the theory of Schachter and Singer (1962) who suggest that emotions are composed of two critical processes - arousal and attribution. Schachter and Singer (1962) consider that an event which causes arousal leads the individual to make an emotional attribution by using the cues available. If this is the case, then the way in which individuals explain events or conditions in the work environment will be related to the level of perceived job satisfaction.

Landy (1989) says it is generally agreed that satisfaction and dissatisfaction are emotions, and therefore theories of emotion should be applied to the study of job satisfaction. Such theories may be a good framework for the reconceptualisation of job satisfaction.

According to Furnham, Sadka and Brewin (1992), it seems that perceptions and expectations associated with certain attributional styles lead to various behaviours at work which in turn lead to successes that perpetuate the attributional style. They say

that despite the documented importance of attributions in motivation, little attention has been paid to it in an occupational setting, other than the work done by Seligman and Schulman (1986) discussed on pp 27-28 of the present study.

SUMMARY

Causal attribution has attracted a great deal of research in both social and clinical psychology and more recently in industrial psychology. It is a cognitive process which appears to be related to emotion or affect and influences behaviour and performance, it may be an important variable in understanding organisational behaviour. However, its applicability to industrial psychology needs to be examined.

Problem solving is examined, in the expectation that the cognitive processes operating when making attributions are likely to influence the individuals appraisal of problem solving effectiveness, which in turn, may determine the problem orientation component of that process, as defined by D'Zurilla and associates.

Attributions are of particular relevance to a managerial population as managers spend much of their time problem solving and decision making. The relationship between attributional style and problem solving has implications for greater understanding of managerial behaviour.

An individual's attributional style may be related to the dispositional factors that influence job satisfaction. The inferences surrounding work related events will reflect an attributional style which is also brought to bear when considering one's job satisfaction.

This chapter outlines the constructs and basic premises of the study. Chapter Two examines the meaning and measurement of causal attribution, while Chapter Three reviews the relevant literature and concludes with the specific hypotheses to be

addressed. Chapter Four provides an account of the method used, and the data analysis strategy, Chapter Five reports the results obtained and Chapter Six incorporates a discussion of the results along with the limitations of this study and conclusions regarding the application of causal attribution to industrial psychology.

CHAPTER TWO

ATTRIBUTION - MEANING AND MEASUREMENT

ATTRIBUTION - ITS MEANING

Attributional style and explanatory style are interchangable terms referring to a cognitive personality variable that reflects how people typically explain the causes of events involving themselves (Peterson, 1991). The number of possible causes that can be perceived for an event or outcome is large. However, by examining the common properties of those causes the underlying dimensions can be identified. The dimensions allow for quantitative analysis of causal attributions that seem dissimilar and this, in turn, enables a greater understanding of the structure of causal attributions and how they may relate to other variables.

The Structure of Attributions

The first systematic analysis of causal structure was proposed by Heider (1958, cited by Weiner, 1986) who identified a fundamental distinction as being between factors within the person (internal) and factors within the environment (external). For example, if an individual is unsuccessful in searching for a job, an external attribution is the individual's belief that lack of success is due to the dearth of jobs available while an internal attribution is the belief that she or he is lacking in requisite skills. It has been argued that humans think in terms of dichotomous categories (internal or external), rather than in terms of continua, the degree of internality - externality. Therefore the question of whether internality and externality are dichotomous or located on a bi-polar continuum is not yet settled (Weiner, 1986).

A second dimension, stable - unstable was proposed by Weiner et al. (1971) to differentiate between causes, already identified as either internal or external, on the basis of whether that cause is constant or fluctuating. For example, both aptitude and

effort are internally oriented but the former is a stable cause while the latter may fluctuate.

A third dimension, controllability, was identified by Rosenbaum (1972 cited by Weiner 1985) and incorporates the extent to which a cause is subject to personal control. A cause may be internally oriented and unstable yet uncontrollable, for example fatigue, while other causes may be internal, unstable and under volitional control, for example, effort. Unstable causes are not necessarily under personal control, for example fatigue, but causes that are under personal control are likely to be unstable. Therefore, volitional control implies instability, so the dimensions are no longer orthogonal once controllability is included.

To avoid confusion between locus of control and controllability, many researchers, including Weiner, refer to the former as locus of causality. According to Weiner (1986) these three dimensions were initially identified by intuition and logic, and an inherent flaw in relying on logical analysis of causal structure is that the dimensions are derived from attribution theorists rather than from their subjects. He says it is conceivable that theorists may derive their own structures which will not be identical between theorists nor be the same as those of the layperson. Direct evidence is required to substantiate which dimensions are indeed components of attributions.

Evidence supporting the three dimensions noted above is provided in a study by Meyer (1980) who used factor analysis to identify attributional dimensions. Respondents in his study were asked to rate the influence of nine possible causal elements, for example, ability, effort and mood, on hypothetical examination outcomes (success and failure). Three factors emerged, stability, locus of causality (internal - external) and controllability. In other studies, along with locus of causality, stability was also identified, for example Michaela, Peplau and Weeks (1982), and Meyer and Koelbl (1982), but control was not. Wimer and Kelley (1982) used multidimensional scaling

in their study and identified internality and stability but not controllability, as salient dimensions of attributions. They concluded that controllability was well explained by internality and stability. Controllable causes tended to be internal and unstable, and controllability may be important only because it carries information about internality and stability. However, this study focussed upon attributions for loneliness and Wimer and Kelley note that it remains possible that attributions for controllability are important in other contexts or situations. Consequently, it remains ambiguous as to which dimensions are important in measures of attribution.

Weiner's Theory of Attribution and Emotion

Weiner (1985, 1986) proposes an attributional theory of motivation and emotion, whereby he suggests that the consequences of an attribution may be related to both expectancy and affect.

According to Weiner (1986) attributions and outcomes (either success or failure) independently influence the affective responses. Attributions, per se, do not influence the objective characteristics of an outcome. Regardless of one's needs or desires the event or outcome is objectively unchanging, a positive event will elicit happiness and a negative event resignation or disappointment, and Weiner refers to these as outcome related affects. If, however, a cause is inferred, there will also be attribution related affects. Thus the emotional impact of the event is influenced by the perceived cause of the event. For example, he suggests that finding five dollars (which would be attributed to luck or chance) elicits surprise, earning five dollars, which is likely to be attributed to internal causes, elicits pride and being given five dollars elicits gratitude.

Following a causal search, specific affective responses are likely to be elicited depending on the attribution. Locus of causality influences both self-esteem and pride, on the basis that people will feel better about an internally induced success, or a failure that is attributed to external causes. A negative event perceived as controllable may

elicit guilt while an uncontrollable negative event is more likely to elicit shame or self-pity. Hence, this theory proposes that each causal dimension is uniquely related to specific feelings.

Weiner (1985) notes that goal expectancy is a concern that continually recurs in studies of motivation, the expectation of future success influencing an individual's motivation to act. Further, the direction and magnitude of changes in expectancy are partly determined by the causal inferences that are drawn. There is evidence that the stability of an attribution, is related to expectancy of future successes and failures. Stable causes for negative outcomes are likely to lower the expectation of future success, and may elicit hopelessness and resignation. On the other hand stable causes for positive events increase future expectancy of success. If a cause is not expected to change, then the outcome is also expected to remain. Therefore, a negative outcome or event that is ascribed to an unstable cause will have less impact on future expectations than if it is ascribed to a stable cause.

The Reformulated Model of Learned Helplessness
Abramson, Seligman and Teasdale (1978) proposed a reformulated model of learned helplessness that suggests that the way in which failures are explained impacts upon the consequences of that failure and that, to the extent that individuals show characteristic attributional tendencies, it is appropriate to speak of an attributional style.

The model of Abramson et al. suggests that attributions comprise three dimensions. In common with other theorists they note internal-external and stable-unstable, but differ on the third dimension which they describe as global-specific, that is, whether the cause applies to only some circumscribed situations or is likely to apply to most situations. This dimension differs from stable-unstable in that, for example, if a failure on a maths test is attributed to poor maths ability it is unlikely to affect situations

outside mathematically oriented ones, whereas if that failure is ascribed to low intelligence, the affect will be more wide spread. Globality, therefore, influences cross situational expectancies according to this model.

However, while most causes can be compared on the basis of internality and stability, many causes can not be compared on the basis of specificity and globality. Weiner (1986) says that the definition of the global - specific dimension is ambiguous, in that if hot weather were perceived as a cause of academic failure due to interference with concentration, an argument could be put forward for it to be either global or specific in nature. However, he suggests it may be warranted to consider stability and globality as a single dimension on the basis that they both relate to generalisation, (stability relates to temporal generalisation and globality to stimulus generalisation) although empirical findings do not support such an enlargement of the stability dimension.

Abramson et al.'s (1978) model proposes that attributions for negative outcomes that incorporate global causes are likely to increase the generality of the failure effects. The effect of the failure will be long term if a stable attribution is made and an attribution to internal characteristics rather than external causes is likely to diminish self-esteem. They propose that an attributional style characterised by global, stable and internal causes for negative outcomes is depressogenic and is increasingly being named a pessimistic style. The depression prone individual is thought to hold such an attributional style.

Attributional styles based upon the Abramson et al. (1978) model have been described unidimensionally and labelled optimistic and pessimistic. An optimistic style is one where negative events are explained with external, unstable and specific causes, while a pessimistic style is one in which negative events are explained as internal, stable and global (Peterson, 1991).

Abramson et al.'s model is concerned with negative events while Weiner's theory incorporates both positive and negative events. Other differences and similarities between Weiner's theory and Abramson et al.'s model are summarised in Table 1.

Table 1   Comparison of Weiner's Theory and Abramson et al.'s Model

Dimensions	Sphere of Influence	Weiner	Abramson et al.
Internal	Self - Esteem	yes	yes
	Pride	yes	no
Stability	Hopelessness / Resignation	yes	yes
	Long / Short term Effect	yes	yes
Controllability	Guilt	yes	no
	Shame	yes	no
Globality	Cross-situational Effect	?	yes

Peterson et al. (1979) developed the Attributional Style Questionnaire (ASQ) to measure attributional style, as defined by the learned helplessness model. There has been direct support for the model's propositions that an attributional style comprising internal, stable and global attributions predisposes depression (for example, Peterson and Seligman, 1985).

Although causal attribution itself has not been researched to any great extent in industrial psychology, it is closely related to other constructs which have received greater research attention.

Attribution and Locus of Control

Locus of control refers to the extent to which people believe they control their own destiny and the extent to which causes are attributed either externally, (to the environment) or internally (to individual characteristics). Those that believe they have a lot of control over their own lives are referred to as internals, and those that believe

their fate is determined by outside influences or chance are referred to as externals (Rotter, 1966).

Attributional style has strong theoretical links with locus of control. It is a broader concept than locus of control, in that it incorporates the locus of control dimension, the extent to which attributions are made either internally or externally and also other dimensions such as stability and globality.

Furnham and Steele (1993) identify the Occupational Attributional Style Questionnaire as a locus of control measure in their critique of such measures, pointing out that where Rotter's (1966) original scale was unidimensional, incorporating only the internal - external dimension, newer measures are often multidimensional. Locus of control is surrounded by a 'conceptual elasticity' according to Furnham and Steele (1993). They distinguish between locus of control and attribution on the basis that attributional measures are concerned with past events while locus of control measures are more concerned with expectancies of future events. However theorists such as Weiner (1985) and Abramson et al. (1978) both assume that attributions influence future expectancies or future responses.

Spector (1982) says whether individuals are internals or externals should have a powerful and direct effect on organisations in several ways. The behaviour of internals and externals differs across situations. The internal is potentially more motivated than the externally oriented individual and is also more likely to take action to reduce dissatisfaction. He adds that the relation between experience and locus of control is interactive; locus of control may affect behaviour, and the consequences of behaviour may, in turn, affect locus of control. A study by Andrisani and Nestel (1976) concludes that locus of control is affected by an individuals past experience. They examined longitudinal data for nearly 3,000 men and reported that success at work enhanced the expectancy of internal control.

Spector (1982) notes four reasons why those with internal locus of control are likely to have greater job satisfaction than those with a more external locus of control:

1. Internals are more likely to take action, therefore, an internal is more likely to leave a dissatisfying job.

2. Internals are more likely to perform better and receive the benefits of that performance.

3. Internals tend to advance more quickly and receive more pay rises than do externals and organisational level has been shown to be positively correlated with satisfaction (Porter and Lawler, 1965);

4. Because internals are prepared to leave a dissatisfying position, cognitive consistency theory would predict that in choosing to stay, the situation will be viewed more favourably.

Spector (1982) also suggests internals are likely to be more successful in their careers than externals, and cites three studies that support this contention. Spector (1982) concludes that internals exert greater effort and perform better than externals. He also notes that internals will only display better performance if they perceive that effort will lead to valued rewards. Spector (1982) suggests that locus of control may be useful as a selection device for many specific jobs and settings.

There is much evidence to suggest that locus of control is related to work outcomes. It needs to be established empirically whether it is locus of control or causal attribution that is the important variable in those work outcome relationships.

Self Serving Bias

Brewin and Shapiro (1984) note that originally it was assumed that people had a general predisposition to make either internal or external attributions regardless of whether the outcome was positive or negative. However, research commonly finds that people tend to attribute success internally and failure externally and this tendency

is referred to as a self serving bias. It has generally been agreed that the self serving bias operates to protect or enhance self-esteem as the individual takes credit for successes but not for failures. There is much empirical support for self serving bias, for example, Feather (1983) found that positive outcomes were likely to be attributed to the self and the causes were more likely to be judged as stable and global. Positive outcomes were also perceived as more important than negative ones.

Brewin and Shapiro (1984) also note that when positive outcomes are perceived as being under control, those outcomes are almost always intended, but clearly this is not the case when negative outcomes are considered, as people do not usually intend negative outcomes. This suggests that the cognitive processes involved in drawing inferences for positive and negative events may be different. However, internal control could imply that the impact of the negative outcome can be minimised, escaped or avoided.

The present study does not explore self serving bias, per se, but does test whether the attributions made for positive and negative events are different.

Attribution and Self Efficacy

Causal attribution is related to self efficacy, a concept put forward by Bandura (1977, 1982). He proposes that the degree to which people believe they have the required skills and abilities to attain an objective, influences their effort expenditure and level of accomplishment. Self-efficacy is concerned with one's future expectancies, while attributions are concerned with causal beliefs. However, according to Forsterfling (1985), causal attributions may convey information about one's self-efficacy. Past successes and failures are an important antecedent of self efficacy estimates, but, self-efficacy does not merely reflect an individual's past acheivements, it is influenced by how those successes and failures have been explained by the individual.

Some of the underlying propositions of self-efficacy theory are pertinent to attributions. Bandura (1982) points out that how success is perceived is more influential than the success, per se, and in a similar vein Weiner (1986) says that "feelings of personal control or the belief that one can overcome barriers effectively and act upon the environment is an extremely important belief that deters depression, maladaptive stress reactions and a variety of other undesirable psychological states and consequences." (p. 49). The characteristic way in which individuals ascribe causes may be a determinent of their self efficacy.

ATTRIBUTION - ITS MEASUREMENT

The measurement of attributional activities poses some problems. For attributional activity to be adequately measured, a theory about the nature of attributions is needed (Harvey and Weary, 1981). Ideally, theory should determine which dimensions are measured. For example, the ASQ directly reflects Abramson et al.'s model of learned helplessness, the dimensions measured, internal, stable and global, are specific to the model and there is an underlying rationale as to how each of these dimensions bears upon depression.

In measures of attributional style, such as the ASQ, subjects are asked to generate a cause for different events which may be positive or negative, and then asked to rate the degree of internality, stability and globality of that cause. Scores on the separate dimensions are combined to give a single score or index of attributional style for both positive and negative events, separately.

Some researchers (for example, Seligman and Schulman, 1986) create a further index by subtracting the index for negative events from the index for positive events, on the basis that the impact of an attributional style for negative events will be mediated by the attributional style for positive events. That is, if a person has a positive attributional style for positive outcomes this will minimise the impact of a negative

attributional style for negative events. This assumption has not been tested empirically, although Peterson (1991) notes that the correlates of attributions for positive events tend to be the opposite of the correlates for negative events. Peterson (1991) argues, however, that until attributions for positive events are understood and there is a theoretical reason that compels it, a composite made up of indices for both positive and negative events cannot be justified. In the present study, further discussion on indices or composites refers to combining the dimensions for either positive or negative events to give a single score for attributional style.

Composites

The use of single scores as measures of attributional style raises a number of questions. For example, which dimensions should be used, how should they be combined, and should indices for positive and negative events be combined. These issues are addressed in the present study. The primary question, however, must be, are single scores necessary?

Carver (1989) discussed, the combining of distinct variables (the individual dimensions) to create a multifaceted construct and noted that the major advantage of combining distinct qualities was the simplicity and accessibility of the resulting construct. He states that the combination "simplifies the data analysis and the conceptual explanations of the findings and the work of getting other people to understand what the findings are and what they mean" (p. 579). On the other hand, by combining these distinct qualities a certain degree of ambiguity is introduced, in that it is not clear whether one, two or all components, additively or interactively, are responsible for any variance accounted for. Therefore, according to Carver (1989), the individual components need to be tested separately to establish the basis upon which the composite is associated with the outcome measure, this also establishes whether any of the dimensions may in fact be redundant and are equally important in predicting outcomes.

Without a single score it is doubtful whether an appropriate level of abstraction has been arrived at in applying attribution. It would seem that a composite is necessary if attributional style is to be used for dichotomous decisions such as hire/not hire. Yet, in developing theory, information is required about the contribution of the individual dimensions to the attribution construct. Given what is known and not known about attributions, assessing and comparing how both the individual dimensions and single scores for attributions relate to dependent variables should be informative and contribute to theoretical development.

Carver (1989) also considers the theoretical justification for creating composites, by identifying two distinct theoretical bases for the use of multidimensional constructs. The first, he calls the latent variable approach which assumes that the construct can not be measured directly but has several surface manifestations. When the dependent variable is directly related to the latent variable, one would expect the composite to be a better predictor than any of the facets individually. Alternatively, individual facets may, on occasion, better predict the dependent variable than the overall construct because the dependent measure may be related to one of the facets but not directly related to the latent variable. Thus, Carver (1989) recommends that the individual dimensions are assessed as well as the composite. Carver (1989) asserts that a latent variable approach provides a justification for summing across components if by so doing, it yields a construct that is at an appropriate level of abstraction. Carver and Scheier (1991) note that summing the three dimensions in the ASQ, assumes that all three matter equally in predicting an outcome.

The second theoretical basis that Carver (1989) identifies, he refers to as an interactional or synergistic approach, whereby several facets interact with each other to produce an outcome effect. In the helplessness model this is seen as attributions that are both stable and global interacting to predict depression. If a synergistic approach is the basis for the composite, Carver (1989) says the interaction between

variables should be tested and reported, and to his knowledge this has not yet occurred.

A synergistic approach implies that there is a threshold for each dimension, that must be exceeded before the attributional style will be related to the outcome variables. This may be the case, yet relationships are being found between attributions and, for example depression, self-esteem, and productivity in studies where attributions are not being tested or measured in this way. Carver (1989) concluded by saying that a synergistic approach provides no justification for summing across components but rather a statistical interaction between the dimensions should be investigated. On the other hand, a latent variable approach does justify the creation of a composite but should be done in conjunction with analysis of the separate facets.

It seems on the basis of what is known about the components or dimensions of attributions, that an attribution is a latent variable, with several surface manifestations, consequently, combining those dimensions seems reasonable as a measure of attribution. The present study shall examine the contribution made by each of the dimensions measured, and any possible redundancy of those dimensions. The predictive value of a single score for attributional style will be compared with that of the individual dimensions.

Internal Consistency

Attributional style implies both a characteristic way of making attributions and cross-situational consistency. If an individual possesses a characteristic style, there will be cross-situational consistency. It would be expected, therefore, that the internal reliability of the dimensions within measures such as the ASQ and the OASQ would be high, as respondents are asked to make attributions for a number of situations and then rate each attribution on a scale for the individual dimensions, in effect, a repeated measure. An individual with a characteristic style would be expected to rate the

attributions in a relatively consistent manner. However, internal consistencies for the individual dimensions as measured by the ASQ have often been low. Peterson et al. (1982) reported internal reliabilities for each dimension in the range of .44 to .69. Peterson and Seligman (1985) propose that there will be incidental determinants of an attribution depending on the event, and it is those incidental determinants that contribute to the low reliability of instruments with few events. By increasing the number of events those incidental or extraneous determinants will be cancelled out. Peterson and Villanova (1988) developed an expanded ASQ in an attempt to overcome the problems associated with low reliabilities. The expanded version contained 24 negative events, and the alpha coefficients were .66 for internality, .86 for stability and .88 for globality. Thus for each dimension the coefficients were substantially higher than those for the ASQ, but internality is barely adequate with the 24 events, and is consistently the least reliable of the dimensions. Stability and globality were highly correlated ($r = .55$) and largely independent of internality giving rise to the suggestion that stability and globality were together reflecting a single dimension of hopelessness or pessimism.

Importance as a Moderator

The question of when people derive causal explanations spontaneously is of some relevance in measuring attributions. If the measurement of attributions concern events for which, in real life, people do not normally derive inferences, that measurement of attributions is likely to be meaningless. It does not reflect the way in which respondents would normally ascribe causes to outcomes.

It would seem that for attributions to be psychologically informative they must concern events that people care about. According to Peterson (1991) causal explanations for neutral events, neither positive nor negative, are unrelated to depression. In the original version of the ASQ, respondents were asked to rate the importance of each event (as well as a rating of the cause on the attributional

dimensions), on the basis that the importance of the event would moderate relationships between attributions and the dependent variables. Peterson et al. (1982) reported that the importance variable did not consistently mediate the attribution - depression relationship, and since then this aspect of attribution has received little research attention. The present study examines whether the importance of the event does moderate any relationship between attributions and the dependent variables.

CHAPTER THREE
LITERATURE REVIEW

There is a great deal of research on causal attribution, relating it to a variety of concepts and phenomena, however, there is little that is specific to causal attribution and organisational behaviour. The studies within this literature review were selected to demonstrate the concepts that are being examined in the present study, followed by studies from the organisational literature which includes causal attribution and job satisfaction, and finally studies specifically relating causal attribution to problem solving.

CONCEPTS OF ATTRIBUTION

Empirical evidence for the dimensions of attributional structure are discussed in Chapter Two.

In one of the few studies where attributions have been manipulated, McFarland and Ross (1982) tested whether, as proposed by Weiner, Russell and Lerman (1971), success produced greater positive affect and higher feelings of self esteem only when internal and stable attributions were induced. Fifty subjects completed a test ostensibly measuring social judgements, and were then given false feedback on their results for the test, either success or failure. The manipulation was managed by having subjects in pairs, where either both members of the pair received scores that were very similar, within one point of each other, or the difference in scores was high (7 to 8 points out of a possible 15). Those subjects in a pair with disparate scores were in the ability condition, those in a pair with similar scores were in the task difficulty

condition. In the success/ability condition, subjects were told that success suggested ability and were asked to consider a list of possible ability factors and signify which were applicable to themselves. Subjects in the failure/ability condition were given the same information but asked to give reasons as to why they may lack the ability to do well on the test. Subjects in the success/task difficulty condition were told that most people had done very well in the test and asked for possible reasons why the test was easy. Those in the failure/task difficulty condition were told most people had found the test difficult and were asked for possible reasons for the test's difficulty. Subjects then completed an inventory with 77 mood adjectives which they rated 1 to 11 on the basis of how they felt at the time. ANOVA's confirmed the attribution manipulation had been successful.

Results showed that subjects who attributed failure to lack of ability experienced significantly less pleasant affect than those who attributed failure to task difficulty or to those in the success conditions, regardless of the attribution. "Attributing an outcome to task characteristics causes the difference between success and failure in affective reactions to completely disappear" (McFarland and Ross, p. 943). Affects related to self esteem were influenced by attributions following both success and failure as proposed by Weiner, Russell and Lerman (1971). Weiner (1986) posits that a happy or sad reaction to success and failure is independent from other affects, for example pride or shame, which are induced by the specific attribution.. However McFarland and Ross, concluded on the basis of their results that the general positive and negative affective reactions were influenced by specific attributions.

Cross Situational Consistency

Cutrona, Russell and Jones (1984) explored the degree of cross-situational consistency in attributional style by administering the ASQ and the Beck Depression Inventory to 1133 students, and used factor analysis to test various models of attributional style. Cutrona et al. found that there was little cross-situational consistency for the internal dimension and this was also evident in the low internal reliability of that dimension. Internality appeared to account for 8.5% of the variance in the ASQ. Stability and globality accounted for more variance (32% and 23.5%, respectively) suggesting some support for a factor model that hypothesised cross-situational consistency and situational specificity. Cutrona et al. concluded that characteristics of situations were important determinants in the causal attributions of the ASQ. They also concluded that individuals tend to make either internal, stable, global attributions or external, unstable and specific attributions.

ATTRIBUTIONS AND ORGANISATIONAL BEHAVIOUR

Seligman and Schulman (1986) provide persuasive evidence that an optimistic explanatory style is related to increased productivity, greater persistence and greater initiation of activity as a result of a study of insurance agents. The measure used, (ASQ) is based upon the reformulated learned helplessness model which claims that the tendency to explain bad events with internal, stable and global causes is depressogenic or pessimistic. In this study Seligman and Schulman suggest that such an explanatory style potentiates quitting when bad events occur. This implies that a pessimistic style can be used to explain an array of behaviours other than depression, and that it is a continuous trait which at one pole relates to optimism and at the other relates to pessimism. In the first of two studies, 94 life insurance sales agents completed the ASQ, and Seligman and Schulman report that the composite score for negative events correlated significantly with productivity in the first two years ($r = -$

.18). No significant relationship was found between positive events and productivity. Although the correlation was low, Seligman and Schulman also reported productivity for agents scoring in the top half of the ASQ comparing it to those agents scoring in the bottom half. Those agents in the top half sold an average of 37% more life insurance than those scoring in the bottom half.

To rule out the possibility that success caused a more optimistic explanatory style, a second study was undertaken whereby 104 agents were asked to complete the ASQ at the time they were hired. In this study, Seligman and Schulman report that a score comprising the summation of dimensions for positive events, minus the summation of dimensions for negative events was the best predictor of productivity and quitting. The indices for positive and negative events, separately, were of only moderate significance. However, this combined index was not a significant predictor in the first study. At the end of one year, the ASQ results were examined in relation to productivity and resignation. Information was available for 101 agents and of those agents, 59 had left the organisation and 42 survived. Of the survivors, 67% had scored in the top half of the ASQ, while 33% had scored in the bottom half. It can not be discounted, of course, that some of the agents who had left the organisation, remained employed as insurance agents. In terms of productivity, it was reported that those scoring in the top half of the ASQ sold 25% more insurance than those scoring in the bottom half.

The individual dimensions of the style were not separately reported to allow their pertinence to the composite index to be determined. It is possible that one dimension was responsible for the observed relationship, and the others were either redundant or suppressors. It is somewhat unclear, why different indices might be better predictors

in different studies, and this highlights a difficulty in applying causal attribution. Theory which explains when and how causal attribution relates to work related variables is required.

Furnham and Procter (1989) concluded that the power of attributional measures to predict behaviour was enhanced if the measures were specific to the sphere of the behaviour of interest. Consequently Furnham, Sadka and Brewin (1992) reported a measure of attributional style developed specifically for occupational use, the Occupational Attributional Style Questionnaire (OASQ). Their study did not incorporate a composite index of attributional style but rather examined the dimensions of causal attribution individually and no recommendation was made regarding the creation of a composite index.

The dimensions incorporated in the OASQ, are internal, stable, external, global, chance, personal control, colleague control, foreseeable and importance.

Furnham, Sadka and Brewin (1992) reported that attributions for positive events were significantly and consistently correlated with social class, salary, job satisfaction and intrinsic motivation, but there were few correlations between dimensions for negative events and those variables. They concluded that the attributional correlates of salary were most consistent and explicable: high salaries were positively correlated with the internal, personal control and importance dimensions but negatively correlated with external, chance and colleague control attributions. They say that this finding is in accordance with what one might expect from Seligman's attributional theory (Abramson et al.'s model of learned helplessness). However, that model is concerned with attributions for negative events and is silent on the question of attributions for

positive events. Salary was not correlated with stability and globality which are integral to the model. Further, Abramson et al.'s model is concerned with a particular consequence of causal attribution, that is depression, so it is unclear how these correlations are explained by the reformulated model of learned helplessness. The correlation between salary and both internality and personal control, may suggest that those people who earn higher salaries are in positions where they can exert greater influence over their environment and therefore realistically perceive more personal control over events. It is questionable whether correlations with demographic variables provide evidence of construct validity of the OASQ as suggested by Furnham et al.

PROBLEM SOLVING AND ATTRIBUTION

Heppner, Baumgardner and Jackson (1985) investigated the relationship between attributional style and self appraised problem solving skills. They suggested that a depressive attributional style may be related to a more general problem solving style or that a depressive attributional style was absent in those individuals that reported fewer difficulties in solving problems; Heppner et al. (1985) did not specify what that general problem solving style might be. They used the ASQ, the Problem Solving Inventory (PSI) (Heppner and Peterson, 1982) which measures people's perceptions of their personal problem solving behaviours and attitudes and is, therefore, a self appraisal of problem solving skills, and the Mooney Problem Checklist which is a measure of the number of problems that an individual may report. Initially the PSI was given to 500 undergraduate students and a sample of 40 was randomly selected from the top and bottom 18% of scores. These students then completed the ASQ and the Mooney Problem Checklist (results showed no significant sex differences). A series of 2 (PSI: High vs Low) x 2 (Sex: Male vs female) ANOVA's were conducted on each of the

positive and negative ratings of the three subscales of the ASQ (internal vs external; stable vs unstable; and global vs specific) and the composite scores. There was only one significant finding: subjects scoring low on the PSI had higher stability scores on positive events than those who scored high on the PSI. The stability dimension relates to expectancy and this result may suggest a relationship between stability and a problem solving "set" or Positive and Negative Problem Orientation. Heppner et al. (1985) concluded there was little relationship between attributional style and self appraised problem solving skills. However, note the very small sample size n=40 (20 from the top and 20 from the bottom 18% of the PSI scores). Their findings suggest that attributions of causality and cognition about coping are separate processes. However, they state that this does not imply that attributions are not an important variable in problem solving but rather that there is not a strong linear relationship.

In similar studies Baumgardner, Heppner and Arkin (1986) examined the causal attributions of self-appraised effective and ineffective problem solvers in terms of the etiology of personal problems and also for attempts to solve personal problems. In the first study regarding the etiology of personal problems, effective and ineffective problem solving was measured with the PSI. One hundred students who had previously completed the PSI and scored in either the top or bottom 18% completed a Common Experience Questionnaire designed specifically for this study and measuring causal attributions for intrapersonal and interpersonal problems. Attributions were measured on the dimensions of internality, stability and controllability. Results suggested no sex differences, and that self appraised effective problem solvers were more likely to attribute causes of problems to internal and controllable factors than were self appraised ineffective problem solvers. Baumgardner et al. (1986) concluded

that individuals who make attributions to internal and controllable causes will be more likely to persist longer and expend more effort in solving such problems.

In the second study, eighty students, who had previously scored in either the top or bottom 18% of the PSI were asked to perform two tasks. Prior to undertaking the first task the participant was asked to estimate their likely performance on the task. Following completion of the task, the participant was given bogus feedback. Half of the sample were given success feedback suggesting they had scored in the upper 15% of the distribution and half given failure feedback, suggesting a score in the lower 15% of the distribution. The participants' attributions for their performance outcome and expectations for the second task were then assessed. The students were not required to perform the second task.

Self appraised effective problem solvers reported more confidence in problem solving than ineffective problem solvers both before and after feedback. Self appraised effective problem solvers also seemed to have a more pronounced self serving bias than self appraised ineffective problem solvers. They attributed success to internal factors and failure to external factors to a greater degree. After receiving failure feedback, self appraised effective problem solvers were more likely to attribute the outcome to unstable or transient causes, whereas following success, there was no significant difference on the stability dimension for both groups. This suggests that attributions for negative outcomes may be more important than attributions for positive events in differentiating effective and ineffective problem solvers (Baumgardner et al., 1986). The first of these studies focussed upon etiology and the second focussed upon generating solutions yet for both studies self appraised effective problem solvers perceived effort as a major determinant of personal problem solving.

Baumgardner et al. (1986) concluded that effective problem solvers were similar to individuals who had high self esteem, were non-depressed and had low anxiety in that they attributed failure more to external factors. However, where the self appraised effective problem solvers differed from the high self esteem, non depressed, low anxiety populations was that in the first study they were more likely to attribute the cause of their problems to personal characteristics. Those problems were also viewed, however, as being within personal control, suggesting perhaps that personal control over negative events may be important in the relationship between problem solving and attributional style. Baumgardner et al. (1986) also suggest that effective problem solvers who attributed problem solving success to factors within themselves and failure to factors external to themselves were maximising a self serving pattern, in that their self confidence was boosted with success and protected when failure was encountered.

The implications of this are that people who perceive success as being a result of internal factors are likely to feel more positively about their future problem solving successes, and this, in turn, may have an effect upon their problem solving behaviour.

SUMMARY AND HYPOTHESES

Attribution and problem solving have been researched predominantly in the clinical domain. The relationships between these variables in a managerial population are of interest, in that they may serve as a predictor of effective decision making; a manager with deficits in the skills of problem solving may also be influenced by an attributional style that is not conducive to effectiveness.

Weiner's (1985) theory and Abramson et al.'s (1978) model both emphasise the affective consequences of attributions, therefore, it seems reasonable to test for a relationship between attributions and job related affective variables.

As discussed in Chapter Two, the present study examined both the individual dimensions and a single score for attributions. The OASQ (used in the present study) and the ASQ are similar in format. The OASQ includes more dimensions than the ASQ (8 and 3 respectively), and there is little or no empirical evidence for some of those dimensions, and the derivation of an index for the OASQ has not previously been reported. Therefore, to derive a single score to reflect a positive attributional style, it was first necessary to address issues associated with the measuring of attributions. Those issues are, firstly, whether attributions for positive and negative events should be combined. This required that it be established whether attributions for positive and negative events are significantly different. Secondly, Peterson (1991) notes that the dimensions measured should be theoretically driven, yet at present there is no theory to suggest the appropriate dimensions. Therefore it needed to be established which dimension within the OASQ should be incorporated in a single score of attribution. This included establishing whether any of the dimensions within the OASQ were redundant. Additionally, the question of whether internal and external are dichotomous categories or opposite poles of one continuum was addressed. From these issues a single score could be derived and it would then be possible to compare the relationships between both a) the individual dimensions and the dependent variables, and b) a single score and the dependent variables.

In summary to derive a single score for attribution it must be established whether attributions for positive and negative events were significantly different and which dimensions from within the OASQ should be incorporated into a single score of attribution. In addition the question of whether internality and externality, are dichotomous categories or opposite poles of one continuum was addressed.

Once a single score was derived four hypotheses were investigated.

1. That those subjects with a positive attributional style will report higher levels of job satisfaction than those with a less positive attributional style.

2. That those subjects with a positive attributional style will report a higher Positive Problem Orientation and greater Rational Problem Solving skills than those with a less positive style .

3. That a single score is preferable to individual dimensions, in establishing relationships between attributions and job related affective variables as implied by Carver's (1989) latent variable approach.

4. That the perceived importance of an event will moderate the relationship between attributions and the dependent variables.

CHAPTER FOUR

METHOD

SAMPLING

The present study is a component of a cross-national study of managerial characteristics. Being part of that study required that the sample comprise managers; defined as being full time employees with both supervisory and budgetary responsibility and in a line rather than advisory position. It was also considered desirable to draw from both the public and private sector to provide a more representative sample of managers.

Twelve private sector organisations were approached and asked to assist with access to managers. These organisations, all employing in excess of 300 people, were from both the manufacturing and services sectors. Seven organisations agreed to assist with the sampling.

Privacy laws meant that names and addresses of managers could not be revealed to the researcher, and therefore questionnaires were provided to the organisations, which then took responsibility for distributing questionnaires to staff members considered to be in managerial positions. The questionnaires were returned to the researcher by mail. A total of 180 questionnaires were distributed to the organisations and 106 were returned. Because the researcher did not have access to the names of potential subjects it is unknown how many questionnaires were actually distributed, and efforts to increase the return rate were necessarily limited.

Secondly, the State Services Commission (SSC) was approached for access to public service managers. The SSC agreed to distribute 273 questionnaires to its senior managers, of which 112 were returned.

A third source of subjects was mature university students studying towards a Master of Business Administration while holding a full time job, or studying a Stage Three Industrial Psychology paper, extra-murally. Seventy mature students received a questionnaire and 33 were returned to the researcher.

A total of 523 questionnaires were distributed with 251 completed questionnaires returned (47.9%). Of these, 19 were deleted from the study because they were not full time employees, or because they had no supervisory experience. Examination of the responses suggested confusion regarding the line / advisory distinction, with many respondents either omitting that item, or indicating that their position was both line and advisory, therefore, that item was ignored. Where it was ambiguous as to whether the respondent was indeed in a managerial position, the job title provided by the respondent was taken into account.

SUBJECTS

The research sample comprised 233 people of whom 66% were male and 34% female. This is not quite reflective of a managerial population generally, in which 77% of administrative and managerial workers are male (Department of Statistics, 1990). Further, 69% of the sample are drawn from the public service. The average age was 42 years (a range of 25 to 60 years) and the mean salary, was in the range of $65,000 - $69,000. Supervisory experience ranged from 6 months to 40 years with a mean of 10.3 years. The number of years of work experience ranged from 4 to 41 with a mean of 21.25 years.

Therefore, the sample, though not completely representative of a managerial population, consists predominantly of managers in organisations that are large, in New Zealand terms, with considerable work and supervisory experience and earning a higher than average salary.

INSTRUMENTS

As this study is a component of a cross national study of managers, the selection of instruments was outside of the control of the present researcher.

The Occupational Attributional Style Questionnaire (OASQ)

The Occupational Attributional Style Questionnaire was developed by Furnham, Sadka and Brewin (1992) and is specific to the occupational domain. Work related events of both a positive and negative nature are included.

Furnham et al. say it is closely modelled on the Attributional Style Questionnaire developed by Peterson et al (1982) and upon a diabetes control questionnaire developed by Bradley, Brewin, Gamsu and Moses (1984), the latter incorporating dimensions not found in the ASQ, for example, controllability and foreseeability. The OASQ comprises ten hypothetical events (five positive events and five negative events) for which the participant is asked to vividly imagine that an event has happened to them, and to write down the single most likely cause for that event. The cause is then rated by the respondent, on nine 7 point scales concerned with internality, stability, globality, externality, colleague control, personal control, chance, foreseeability and importance. Examples of the events included are:

> Imagine that you apply for a promotion and get it
>
> Imagine that you are turned down at a job interview
>
> Imagine you are given a poor annual review by a superior.

A short version was used in this study (refer to Appendix A), comprising six events (three positive and three negative).

The dimension of importance has been incorporated in the OASQ as a measure of valence, the importance assigned by the individual to the outcome.

The internal reliability of the full length version of the OASQ was reported by Furnham et al. (1992) as ranging between .52 and .84 on the nine scales, when the responses for positive and negative events were combined. For positive events alone, reliability was reported between .56 and .79, and for negative events, .44 to .78. Furnham et al. suggested the most likely reason for the relatively low reliability was the small sample size (n= 97); and noted the low reliability could also have been caused by using too few events. Test-retest reliability for ten subjects over a four week period was reported as .87. It was expected that the use of a shortened version in this study would have some impact on reliability.

Minnesota Satisfaction Questionnaire

There are many measures of job satisfaction available and for this study the Minnesota Satisfaction Questionnaire was selected (refer to Appendix A). It is a global scale, which measures separate responses to specific features of a job and sums them to obtain an overall index of job satisfaction. It was developed in conjunction with a theory of work adjustment which assumes that people seek to achieve and maintain correspondence with their environment (Lofquist and Dawis, 1969).

The Minnesota Satisfaction Questionnaire contains twenty items scored on a scale of 1 to 5, rendering a possible score of between 20 and 100, with a higher score suggesting a greater level of job satisfaction. Examples of the items within the scale are:-

On my present job this is how I feel about:

Being able to keep busy all the time

The chance to work alone on the job

The competence of my supervisor in making decisions

According to Cook, Hepworth, Wall and Warr, (1981), factor analysis of 1460 responses suggested that there are two principal components representing Intrinsic (12 items) and Extrinsic satisfaction (6 items), with two items not included in either factor.

Cook et al. note some reservations about the Intrinsic and Extrinsic scales - the disparity in the number of items, and the unexpected allocation of "steady employment" to the intrinsic scale whilst "working conditions" is omitted, consequently in the present study, only overall job satisfaction was examined.

Hoyt internal reliability was reported by the authors as having a median of .90 (range .87 to .92) for General Satisfaction. Several authors have reported mean values for general satisfaction ranging from 68.9 (sd 12.8) to 83.22 (sd 6.76). Test - retest reliability is reported as .89 across one week and .70 across one year (Cook et al.).

Social Problem Solving Inventory - Revised

The Social Problem Solving Inventory (SPSI) was developed by D'Zurilla and Nezu (1990) and measured specific components of problem solving based upon their problem solving model, outlined in Chapter One. According to D'Zurilla and Nezu a multidimensional measure of problem solving was required to allow specific components to be isolated, studied and compared as it seems likely that some individuals may have deficits in a particular area, for example, generating alternative solutions, but overall be quite effective problem solvers.

Following factor analysis the SPSI has been revised by D'Zurilla (personal communication, 1993) and in its present form contains 52 items and five unidimensional scales. The Social Problem Solving Scale - Revised (SPSI-R) is used in the present study (refer Appendix A). Two scales, positive and negative problem orientation, measure an emotional approach to problems and the other three scales measure different problem solving styles. The problem solving skills outlined in Chapter One are incorporated in a scale named Rational Problem Solving style, which D'Zurilla (personal correspondence) describes as a rational, deliberate, systematic use of effective problem solving skills and techniques. Impulsive/Careless style measures a deficient problem solving style that can be described as hurried, impulsive and careless

while the Avoidance scale measures a style that is characterised by passivity and procrastination (D'Zurilla, personal correspondence). Thus the version used in this study incorporates:

1. Positive Problem Orientation scale

2. Negative Problem Orientation scale

3. Rational Problem Solving Scale

      i Problem definition and formulation subscale

      ii Generation of Alternative Solutions subscale

      iii Decision making subscale

      iv Solution implementation and verification

4. Impulsivity/Carelessness

5. Avoidance Style.

So far validation information has not been reported for the SPSI-R. The original scale, which did not include Impulsivity/Carelessness and Avoidance, was reported (D'Zurilla and Nezu, 1990) as having test-retest coefficients (three weeks apart) of .87, .83, and .88 for the total inventory, the Problem Orientation Scale and the Problem Solving Skills Scale, respectively. The alpha coefficients for internal consistency of the same measures were .94, .94 and .92, respectively.

The SPSI was reported to correlate well with the Problem Solving Inventory (Heppner and Petersen, 1982) and with the Means - Ends Problem Solving Procedure (Platt and Spivack, 1975, cited by D'Zurilla and Nezu 1990).

As both conceptual and empirical evidence is unavailable on Impulsivity/Carelessness and Avoidance, as defined by D'Zurilla, those two scales are not addressed in the present study.

PROCEDURE

Having approached and received cooperation from the seven private sector organisations and the State Services Commission, the battery of measures was compiled along with a letter explaining the purpose of the study (refer Appendix B). Some of the organisations also attached an individual letter to their members encouraging participation in the study. The questionnaires were then given to those organisations for distribution and to the mature students. The questionnaires were returned directly to the researcher.

Individualised feedback as outlined below was then sent to those participants who had indicated that they wished to receive it. A sample report is attached in Appendix C.

Feedback to Participants

Participants were offered a profile of their individual scores in return for their participation. This offer was made to encourage participation. To take up the offer, the researcher required sufficient information to match specific questionnaires with respondents. Participants were assured that the individual information generated would remain confidential to the researcher, and no use would be made of individual profiles in the course of the research.

For the sake of immediacy the profiles were generated and returned to the participants prior to full data analysis, along with an explanation and broad discussion of the implications of the variables. In preparing this feedback, the objectives were that it be clear, concise, accurate, as meaningful as possible and comprehensible. Additionally it was essential to provide sufficient conceptual information to ensure that any interpretations made were reasonable. Raw scores were clearly meaningless (Anastasi 1988), so for ease of interpretation it was decided to provide individual results, for each scale, in the form of a percentile presented as bar graphs.

Data Preparation

In the OASQ, there are three positive and three negative events. For each event an item asks the respondents to score the perceived cause for the event on each of the eight dimensions and to indicate how important the event is perceived to be. To determine the scores for each dimension, the three relevant items, that is, one item for each event, were summed and divided by three to give a mean for the dimension, with a range of 0 to 6.

Internality, foreseeability, and personal control were recoded so that for all dimensions low scores reflect the more optimistic pole of the dimension for positive events and the more pessimistic pole for the negative events. That is, low scores reflect a greater degree of internality, stability, globality, personal control and foreseeability, and a lesser degree of externality, chance and colleague control.

The MSQ items were recoded to a scale of 1 to 5 (from 0 to 4), so that the measure was on the same scale as that found in other studies.

DATA ANALYSIS STRATEGY

Statistical analysis was carried out with the SPSS-x programme (Norusis, 1985). Prior to data analysis, variables were examined and screened for outliers, normality and linearity, and assumptions were met.

Descriptive statistics, including means, standard deviations and alpha coefficients were computed for each of the measures and to examine the basic characteristics of the OASQ. Issues associated with deriving an index were then explored, followed by tests of the hypotheses.

Deriving an Index

Paired sample *t* tests were used to determine whether attributions for positive and negative events were significantly different.

To investigate which dimensions should be incorporated into a single score of attributions, evidence was required from a number of analyses. Firstly, from the intercorrelations between the dimensions, which suggested something of the structure of attribution and whether those dimensions were independent, as this has a bearing on deriving a single score measure of attribution.

To take account of the intercorrelations between dimensions, a series of multiple regressions between the dimensions of attributional style and the dependent variables was performed. Those regressions suggested how the dimensions combined and which dimensions were significant in predicting the dependent variables. These analyses provided some indications about the structure of attribution and the components from which to compute an index or single score.

Factor Analysis (FA) was used to further elucidate the structure of attributional style and to confirm inferences made on the basis of earlier analysis. FA is a statistical technique applied to a single set of variables when the researcher is interested in discovering which variables in the set form coherent subsets that are relatively independent of one another. The factors are thought to reflect underlying processes that have created the correlations among variables, in this case that underlying process is attribution. In the FA, eight variables were used, that is, each of the dimensions measured. Tabachnick and Fidell (1989) suggest a ratio of five cases to each variable is "comforting" in factor analysis, and this sample easily exceeds that ratio. The factors were expected to be strong and distinct. Each of the factors was correlated with the dependent variables.

Hypothesis Testing

Three indices each suggesting a positive attributional style were calculated, the rationale for each of the indices was based on the results obtained in the earlier stages. The intercorrelation between the indices of attribution with job satisfaction tested the first hypothesis and an intercorrelation between the attribution indices with the components of problem solving tested the second hypothesis.

To test the third hypothesis required a comparison between the intercorrelations of the individual dimensions with the dependent variables, and an index of attribution with the dependent variables.

The fourth hypothesis, that the importance dimension moderates relationships between attributions and the dependent variables was tested by first dividing the sample into two groups, low importance and high importance, and carrying out t tests to determine whether there were significant differences in attributional dimensions for those groups. The relationships between attributions and the dependent variables were then calculated for the two groups.

CHAPTER FIVE

RESULTS

All 233 cases were available for analysis but where there were missing data that case was deleted from the computations. Therefore, sample size and degrees of freedom vary slightly between analyses.

DESCRIPTIVE STATISTICS

Table 2 reports the means, standard deviations and alpha coefficients for the SPSI-R and the MSQ.

Table 2   Means, Standard Deviations, Alpha Coefficients and Range of SPSI-R and MSQ

Scales	$\underline{n}$	Mean	S.D	Alpha	Scale Range
Positive Problem Orientation	232	14.04	2.86	.63	0 - 20
Negative Problem Orientation	231	6.08	4.3	.80	0 - 40
Rational Problem Solving	231	46.74	10.33	.88	0 - 80
Impulsivity	230	8.55	4.87	.80	0 - 40
Avoidance	229	4.36	3.67	.83	0 - 28
SPSI-R	224	79.76	12.00	.75	0 - 208
Job Satisfaction	222	79.48	10.79	.89	20 - 100

Means and Alpha coefficients have not previously been reported for the SPSI-R. The alpha coefficient for Positive Problem Orientation of .63 does not reach a "rule of thumb" desirable level of .80, perhaps because there are only five items contributing to the scale. The remainder of the alpha coefficients are acceptable. As noted on Page

43, Impulsivity and Avoidance are not included in the present study and therefore, no further results are reported for them.

The mean for job satisfaction is higher than that reported by Weiss et al (1967) of 74.85 but is comparable to a sample of 271 scientists and engineers (79.5) reported by Arvey and Dewhirst (1976). The alpha coefficient is comparable to that reported by the latter authors (.90).

Table 3 shows the means, standard deviations and alpha coefficients for the eight dimensions of attributional style and for the importance variable.

Table 3 **Means, Standard Deviations and Alpha Coefficient for Nine Attributional Scales (Possible Range 0-6)**

Scales	Positive Events				Negative Events			
	$\underline{n}$	mean	s.d.	alpha	$\underline{n}$	mean	s.d.	alpha
Internal	233	1.29	.61	.43	230	2.25	.99	.55
Stable	231	1.72	.98	.49	229	2.47	.94	.38
Global	230	1.79	1.03	.63	227	3.09	1.29	.62
External	232	3.20	.93	.56	230	3.26	1.00	.43
Chance	233	1.19	.92	.70	230	1.52	.99	.53
Personal Control	231	1.50	.73	.58	229	2.46	1.03	.48
Colleague Control	232	2.86	.98	.57	230	2.52	1.07	.46
Foreseeability	233	1.48	.74	.52	230	2.04	.96	.54
Importance	233	1.14	.91	.71	230	1.48	1.00	.63

With the possible range for the scales being between 0 and 6, means that tend towards 1, suggest scores are skewed towards the lower end of the scale, that is, respondents have not utilised the full range of the scale. This may suggest further refinement of the

OASQ is required, with different items that will increase the spread of scores over the entire range.

Reliability for each dimension is relatively low (.38 to .71) perhaps resulting from only three events (positive and negative), being measured for each dimension. The internal reliability for the total questionnaire is .84.

DERIVING A SINGLE SCORE

There were significant differences for attributions for positive and negative events. Externality was the only dimension where the difference was not significant ($t = -6.5$ $df = 228$ p $= .51$) as shown in Table 4. Consequently in deriving an index, attributions for positive and negative events were not combined.

Table 4   **Paired Sample *t* Tests for Attributions for Positive and Negative Events**

Dimensions	n	t	df
Internality	230	-12.66***	230
Stability	228	-9.56***	227
Globality	226	-13.28***	225
Externality	229	-.65	228
Chance	230	-5.03***	229
Personal Control	228	-12.32***	227
Colleague Control	229	4.36***	228
Foreseeability	230	-8.90***	229
Importance	230	-5.75***	229

Note: Two tailed probability tests

*** p < .001

The data analysis generated few significant relationships between attributions for negative events and the dependent variables, (refer to Table 13) therefore, results for

Table 5   Correlations between Attributional Dimensions - Positive

Dimensions	Internal	Stable	Global	External	Chance	Personal Control	Colleague Control	Foresee-ability	Importance
Internal	1.00	.26***	.26***	.31***	.30***	.53***	.22**	.38***	.26***
Stable		1.00	.57***	.25***	.37***	.19*	.18*	.38***	.49***
Global			1.00	.17***	.33***	.32***	.15*	.38***	.43***
External				1.00	.29***	.24***	.65***	.15*	.16*
Chance					1.00	.31***	.20**	.30***	.31***
Personal Control						1.00	.11	.39***	.31***
Colleague Control							1.00	.06	.05
Foreseeability								1.00	.33***

n = 222

* p < .05; ** p < .01; *** p < .001

negative events are not reported further. Intercorrelations between the dimensions for positive events are shown in Table 5.

All except two of the correlations in Table 5 are significant, however they are not particularly large. This suggests that the dimensions are each tapping a different facet of the attributional construct. The three intercorrelations that exceed .50, (Personal Control and Internal $r = .53$; Stable and Global $r = .57$; and Colleague Control and External $r = .65$) may suggest some redundancy, or that the dimensions are overlapping.

A series of multiple regressions of the dimensions on to the dependent variables was carried out, and results are shown in Tables 6 and 7.

Table 6   **Regression Analysis of Attributional Dimensions on Job Satisfaction and Components of Problem Solving**

	Multiple R	R^2	F	$\underline{n}$
Job Satisfaction	.32	.10	3.09**	217
Positive Problem Orientation	.43	.18	6.23***	226
Negative Problem Orientation	.31	.09	2.92**	225
Rational Problem Solving	.33	.11	3.39**	225

** $p < .01$; *** $p < .001$

As shown in Table 6 the multiple regressions generated significant results for all of the dependent variables.

Table 7   **Multiple Regression Coefficients (Unstandardised) and Unique Variance of Attributional Dimensions on Job Satisfaction and Components of Problem Solving**

Predictors	Job Satisfaction		Positive Problem Orientation		Negative Problem Orientation		Rational Problem Solving	
	B	sr^2	B	sr^2	B	sr^2	B	sr^2
Foreseeability	.68	.04	.09	.02	-.01	-.00	-1.39	-.08
Colleague Control	-2.03*	-.14*	-.09	-.02	.14	.02	-.03	-.00
Chance	-1.47	-.11	-.21	-.06	.56	.10	.50	.04
Internal	-1.92	-.09	-.37	-.06	.33	.04	-1.18	-.06
Global	-.35	-.03	-.71**	-.20**	.29	.05	-.80	-.06
Personal Control	-2.25	-.12	-.49	-.10	.92	.12	-2.00	-.11
Stability	-.60	-.04	-.06	-.02	.27	.05	-1.06	-.08
External	2.54*	.16*	-.22	-.05	-.17	-.03	.07	.01

Note: sr^2 is the unique variance of each IV

* $p < .05$; ** $p < .001$

52

For this part of the analysis, the most relevant feature of the regressions is the way in which the dimensions combine to predict the dependent variables. Table 7 shows the B weights and sr^2 (the unique variance) of each of the dimensions. The B values represent the weight of each predictor in the regression equation, and the unique variance for a predictor, is the unique contribution of the independent variable to total variance, that is, the amount by which R^2 would be reduced if that independent variable was deleted from the equation.

Few of the dimensions are significant predictors of the dependent variables. However, interpreting the contributions of independent variables is ambiguous when they are intercorrelated, because an IV which is important but shares variance with another IV may be nonsignificant although the two IV's in combination make a large contribution to R^2 (Tabachnick and Fidell, 1989). Therefore, in interpreting the contribution of the IV's, the intercorrelations between them must be taken into account. It can be noted in Table 7, that there is no general or consistent pattern of weightings of the dimensions in predicting the dependent variables. Since Negative and Positive Problem Orientation are related constructs that are affective in nature, one would expect the regression equation to reflect that. As there is no consistent pattern of predictors evident, the regression coefficients do not inciate the weightings that may be appropriate in deriving an index.

A factor analysis was performed to explore the underlying processes associated with the OASQ. Both orthogonal and oblique rotation were trialled, and the same three factors emerged with similar loadings suggesting some independence of the factors. The orthogonal solution is used for further analysis and the loadings are shown in Table 8.

The Factor analysis accounted for 54% of the variance and in terms of Goodness of Fit the solution had no residuals above p =.05.

Interpreting only those loadings greater than .50, the first factor refers to consistency, both cross-situational consistency and consistency over time. It includes stability and globality. The second factor refers to the extent to which the cause is attributed to influences outside the individual, that is, it incorporates the external and colleague control dimensions. The third factor emphasises causes within the individual and personal control, the dimensions loading onto this factor being internality and personal control.

Table 8   Factor Loadings for Attributional Dimensions for Positive Events

Dimension	Factor 1	Factor 2	Factor 3
Stability	**.81**	.154	.075
Globality	**.66**	.056	.235
Externality	.12	**.84**	.19
Colleague Control	.10	**.74**	.05
Internality	.17	.20	**.62**
Personal Control	.17	.06	**.78**
Chance	.40	.21	.28
Foreseeability	.44	.01	.42
Eigenvalue	2.64	1.02	.65
Percent of Var	33%	12.8%	8.2%

Kaiser-Meyer Olkin Measure of Sampling Adequacy = .73

Bartlett Test of Sphericity = 497.16 p < 0.001

n = 227

Each dimension loads onto a factor with a weight of above .40. However, the coefficients used to estimate factor scores, as shown in Table 9, suggest that foreseeability and chance are trivial when calculating factor scores; less than .10 for chance and less than .15 for foreseeability. This, in turn, suggests that those ￢ dimensions may be redundant.

Table 9   Factor Score Coefficient Matrix

Dimensions	Factor 1	Factor 2	Factor 3
Stability	.62	-.02	-.18
Globality	.28	-.04	.00
External	-.09	.67	.02
Colleague Control	-.01	.32	-.07
Personal Control	-.07	-.09	.60
Internal	-.04	.01	.29
Chance	.09	.02	.05
Foreseeability	.12	-.06	.14

Table 10 shows the correlations between each of the three factors and the dependent variables.

Factors 1 and 3 have a greater relationship with the dependent variables than Factor 2 which is associated with the external and colleague control dimensions. The pattern of correlations suggests that they may be expendable.

Table 10   Correlations Between Factor Scores and Dependent Variables

	Factor 1	Factor 2	Factor3
Job Satisfaction	-.15*	-.02	-.23***
Positive Problem Orientation	-.29***	-.17*	-.26***
Negative Problem Orientation	.22***	.06	.25***
Rational Problem Solving	-.26***	-.06	-.24***

$\underline{n}$ = 209

*p   < .05; ***p < .001

This solution makes both theoretical and logical sense, and along with the solution of Furnham, Sadka and Brewin (1992), provides further empirical support for the role of internal, global and stable as dimensions of attributional style.

TESTING THE HYPOTHESES

To test the hypotheses a single score of attribution was required and there is no existing theory which suggests the best method of deriving that single score. The analyses did not indicate a weighting, so the components of the indices were equally weighted. Three indices were calculated, the first being a summation of internal, stable and global, which is a replication of the dimensions used by Abramson et al. (1978) and by Seligman and Schulman (1986), additionally the previous analyses (multiple regression and factor analysis) support those dimensions as relevant and important; the second index is a summation of stable, global and personal control, on the basis that these variables appeared in the previous analyses to be the most consistent and important in analysing variance; and the third was a summation of all eight dimensions. Pearson Product Moment Correlations were calculated to assess the relationship between the indices and the dependent variables. Those correlations test the first two hypotheses, that is, firstly, that those subjects with a positive attributional

style will report higher levels of job satisfaction than those with a less positive attributional style and secondly, that those subjects with a positive attributional style will report a higher Positive Problem Orientation and greater Rational Problem Solving skills than those with a less positive style. The correlations are reported for each of the indices in Table 11, and for comparison purposes, Multiple R for the regressions are also included.

Table 11   Correlations for Attributional Style Indices and the Dependent Variables (and Multiple R for Attributional Dimensions and the Dependent Variables)

Variables	Job Satisfaction	Positive Problem Orientation	Negative Problem Orientation	Rational Problem Solving
Index 1[a]	-.20**	-.38***	.27***	-.30***
Index 2[b]	-.22**	-.39***	.29***	-.32***
Index 3[c]	-.22***	-.39***	.30***	-.30***
Multiple R for all dimensions	.37	.43	.31	.33

$\underline{n}$ = 209

[a] Index 1 = internal + stable + global; [b] Index 2 = stable + global + personal control;

[c] Index 3 = summation of all dimensions

** $p < .01$ *** $p < .001$

The correlations between the indices of attributional style and the dependent variables were compared to the correlations between the individual dimensions and the dependent variables as a test of hypothesis 3, "that a single score is preferable to

individual dimensions, in establishing relationships between attributions and job related affective variables as implied by Carver's (1989) latent variable approach". The correlations between the individual dimensions and the dependent variables are reported in Table 12.

Table 12   Correlations Between Attributional Dimensions, Job Satisfaction and Components of Problem Solving

Dimensions	Job Satisfaction	Positive Problem Orientation	Negative Problem Orientation	Rational Problem Solving
Positive Events				
Internal	-.21**	-.28***	.19*	-.20**
Stable	-.15*	-.26***	.19*	-.23***
Global	-.12	-.34***	.24***	-.28***
External	-.05	-.23***	.11	-.11
Chance	-.20**	-.20**	.28***	-.14*
Personal Control	-.22***	-.27***	.25***	-.24***
Colleague Control	-.13	-.18**	.10	-.09
Foreseeability	-.09	-.18**	.18**	-.25***
Negative events				
Internal	-.09	.01	-.13	.03
Stable	.19**	.07	-.07	.05
Global	.09	-.05	-.11	.01
External	-.01	-.01	-.02	-.01
Chance	-.05	-.11	.03	-.02
Personal Control	-.01	-.03	-.08	-.05
Colleague Control	-.05	.03	-.01	.09
Foreseeability	-.01	-.06	-.02	-.08

n = 205
* p < .05 **p   < .01 ***p < .005

As noted earlier, few of the correlations between dimensions for negative events and the dependent variables are significant, whilst many more of the correlations between positive events and the dimensions are significant.

To test the fourth hypothesis, importance was split at the median. Those subjects scoring above the median for importance became a group labelled high importance and those scoring below the median were labelled low importance. There were significant differences between the means for the two groups on all the dimensions other than colleague control, as shown in Table 13.

Table 13   Mean Differences Between High and Low Importance Groups on Attributional Dimensions

	High Importance		Low Importance			
	mean	s.d.	mean	s.d.	t	df
Internal	1.12	.600	1.47	.567	4.52***	227
Stable	1.39	.909	2.11	.911	5.94***	221
Global	1.45	.971	2.18	.950	5.72***	223
External	3.07	.999	3.33	.885	2.15***	229
Chance	.979	.928	1.45	.837	4.09***	229
Personal Control	1.29	.702	1.73	.687	4.84***	223
Colleague Control	2.81	1.05	2.91	.889	.79	229
Foreseeability	1.24	.689	1.76	.702	5.62***	222

*** p < .001

This suggests that the attributions made by those subjects who considered the events important were different from attributions made by those who perceived the events as less important. The high importance group made attributions for positive events which were more internal, stable, global, foreseeable and under personal control; their attributions were less external, and less related to chance than those in the low importance group. (Note that for internal, stable, global, personal control and foreseeability, an attribution high on those dimensions has a low score and for external, chance and colleague control a low score suggests an attribution that is low on those dimensions.)

Correlations between the dependent variables and the index comprising Stable, Global and Personal Control were also calculated for each of the two groups, and are reported in Table 14.

Table 14   Correlations Between An Index of Attributional Style and the Dependent Variables for the Importance Groups.

	High Importance	Low Importance	Total Sample
Job Satisfaction	-.26**	-.15	-.22**
Positive Problem	-.38***	-.23*	-.39***
Negative Problem	.31***	.19	.29***
Rational Problem	-.31***	-.23*	-.32***
	$\underline{n} = 117$	$\underline{n} = 92$	$\underline{n} = 209$

* p < .05 ** p < .01 *** p < 001

The relationship between attribution and the dependent variables is stronger for the high importance group than it is for the low importance group. However, the strength

of the relationship (between attribution and the dependent variables) for the total sample and for the high importance group is similar, suggesting that importance is not moderating the relationship to any great degree.

CHAPTER SIX
DISCUSSION

This chapter consists of a discussion of the results as they relate to the hypotheses followed by issues concerning the meaning and measurement of causal attribution. Limitations of the present study and implications of the findings for industrial psychology are then addressed.

The hypotheses require a composite score or index of attribution which indicates a positive attributional style. The rationale for deriving three such indices of attribution is discussed on page 66.

THE HYPOTHESES

The first three of the four hypotheses were supported by the results of the present study, while the fourth was not.

All three indices supported the first hypothesis, that those subjects with a positive attributional style would report higher levels of job satisfaction, as evidenced by the correlations between the indices of attributional style and job satisfaction reported in Table 11 (r was between -.20 and -.22 p < .01). Although the correlation is low it is both significant and in the expected direction.

Carver (1989) has questioned the justification for creating a single score or index, and concludes that the components of the single score need to be tested separately to ensure that they are indeed necessary and important. The components of the indices in this study are, internal, stable and global for the first index; personal control, stable and global for the second; and a summation of all eight dimensions for the third index. When the correlations between job satisfaction and those components are inspected

(Table 12), as recommended by Carver (1989), it is apparent that it is internality and personal control that are largely responsible for the observed relationship between job satisfaction and attribution. Stability and globality have only weak relationships with job satisfaction. The correlation between both internality and personal control, with job satisfaction, is comparable to that of the correlation between job satisfaction and the composite index. Had those correlations been lower an interaction effect would be suggested. This exemplifies the value of examining both the individual components of attribution and the index, and has implications for future research and theory development. In developing a theory of attribution, the expected relationship of each attributional dimension to the outcome must be specified.

Internality is measured in unidimensional locus of control scales, and locus of control has consistently been shown to be related to work related constructs such as motivation, effort, performance, and satisfaction (Spector, 1982). Weiner (1986) suggests that each causal dimension is uniquely related to specific feelings, and he posits that locus of causality (internal - external) influences self-esteem and pride. Therefore, it is may be those feelings which are responsible for the relationship with job satisfaction, rather than those associated with other dimensions.

All three indices supported the second hypothesis, that subjects with a positive attributional style would report higher positive problem orientation, greater rational problem solving skills and a lower negative problem orientation, as evidenced by the correlations between the indices of attribution and the components of the problem solving model (Table 11). Although the correlations are not high they are both significant and in the expected direction.

In the present study, attribution is most strongly related to Positive Problem Orientation, which is a generally positive emotional response to problem solving, which is likely to facilitate problem solving. D'Zurilla and Nezu (1990) suggest that

the most important component of problem orientation could well be a perception of control, the belief that one is capable of solving a given problem effectively, which in turn, is related to expectancy. The individual dimensions may relate to Positive Problem Orientation in a way similiar to that put forward by Weiner (1986), who suggests that stability is related to expectancy of future success, globality to stimulus generalisation or cross situational expectancy, and internality to feelings of self esteem. Thus, individuals who make internal, stable and global attributions for positive events, enhance their feelings of self esteem and their expectation of future success. The results of this study suggest that this process of attribution and its effect is applicable to Positive Problem Orientation.

The relationships between the indices of attribution and Negative Problem Orientation, although significant are not as strong as that for Positive Problem Orientation, yet these two scales are clearly related, in that both are concerned with a subjective approach to problem solving. This may suggest that attributions for positive events are more directly related to positive or good feelings and that there are other variables implicated in less positive or inhibitive feelings. The dimensions most strongly related to Negative Problem Orientation are Personal Control, Global and Chance.

Rational Problem Solving incorporates the specific skills identified by D'Zurilla and Nezu (1990), that is 1) problem definition 2) generation of alternative solutions 3) decision making and 4) solution implementation. The correlations between the indices of attribution with Rational Problem Solving are less than those for Positive Problem Orientation. This suggests that the relationship between attribution and emotion is more direct than that between attribution and specific skills.

The third hypothesis, that a single score is preferable to individual dimensions in establishing relationships between attributions and job related affective variables was supported. Attribution studies, using instruments such as the ASQ, do not, as a rule,

report results for the individual dimensions and, contrarily, a single index has not been reported for the OASQ.

A latent variable approach, as suggested by Carver (1989), implies that each dimension taps a feature of some underlying process which is not directly measurable and therefore a combination of the dimensions would be superior to any of the individual dimensions in assessing attribution. Comparing the intercorrelations between a) the indices of attributional style and the dependent variables (Table 11) and b) the individual dimensions and the dependent variables (Table 12), suggested that an index of attribution was a more consistent and superior predictor of outcomes than any of the individual dimensions and this offers some support for attribution as a latent variable.

Because there is little theory underlying attribution, it does seem, that, as Carver (1989) urges, it is important to examine the contributions of each dimension as well as the single score. The inferences that can be drawn from the individual dimensions may elucidate specific relationships, for example, as discussed above, inspection of the correlations between the individual dimensions and job satisfaction suggested that it was not attribution, per se, that was responsible for the relationship between job satisfaction and attribution, but rather locus of control.

The present study did not support the fourth hypothesis, that the importance of an event would moderate the relationship between attributions and the dependent variables. There were significant differences on the dimension scores for those who ranked the events high on importance and those who ranked them low on importance (Table 13). However, when the correlations between an attribution index and the dependent variables for the high importance group and the total sample were inspected (Table 14), the difference was negligible. This may result from the restricted range on the importance items. That is, with a possible range of 0 (extremely important) to 6

(not at all important), the mean for the whole sample on importance was 1.14, with a standard deviation of .91. This suggests that all participants rated the events as being very important, including those subjects falling in the low importance group. Therefore, although the differences on the dimension means were significant they were not particularly large. Consequently when correlating an index of attributional style with the dependent variables, there was little difference between the total sample and the high importance group. This is consistent with the finding of Peterson et al. (1982) in their study of depression, in which importance did not consistently mediate a relationship between attribution and depression.

Although it is possible that importance or the valence of the event does moderate relationships between spontaneous attributions and outcomes in the real world, that may not be apparent in instruments such as the OASQ and the ASQ, because the events selected for such instruments will be ones that are likely to be very important to the respondent. Such events are selected because measures of attribution would be meaningless if events were selected for which individuals do not normally ascribe causes. There is evidence that attributions are made spontaneously when the event is either negative, unexpected or of high importance (or valence) to the individual (Weiner 1985). Consequently, it may be inappropriate to explore whether the importance of the event is moderating relationships with instruments such as this. However, it is reasonable, while the instrument is being researched, to ensure that the events selected for it, are important to most of the respondents.

ISSUES CONCERNING THE MEANING AND MEASUREMENT OF ATTRIBUTION

Deriving a Single Score

In deriving an index of attribution, results from a number of analyses were considered.

The multiple regression with the individual dimensions as the predictors accounted for considerably more variance than any single dimension, which suggests that some combination of dimensions may be a more effective measure than the individual dimensions. Therefore, it must be determined, whether all or only some dimensions should be included in that composite score, how those dimensions be combined and whether attributions for positive and negative events should be combined.

In determining which dimensions should be incorporated into the indices it was assumed that attributional style is a latent variable, the dimensions each measuring a different component of that construct. Therefore, the dimensions will intercorrelate to some extent. However, if the correlation between two dimensions is very high, it could suggest that one of those two dimensions is redundant or that the two dimensions are overlapping the same facet of attribution. If a dimension does not correlate at all with the other dimensions, it may suggest it is not measuring a facet of attributional style.

The present researcher concluded that colleague control could be excluded from an index of attribution because it correlated quite strongly (.65) with externality, it had only one significant correlation with a dependent variable (with Positive Problem Orientation, $r = -.182$ $p < .05$) which though significant is very low. To further investigate the value of that dimension in assessing attribution, its weights in the multiple regression equations were of interest. Colleague control is significant in predicting job satisfaction, but has negligible impact on the components of problem solving. This may well be a consequence of the job satisfaction questionnaire containing five items, out of a total of twenty, that relate directly to colleague and supervisory relationships, for example, "the way my co-workers get along with each other". The factor analysis offered further support for the conclusion that colleague control was not important in assessing attribution, in that, although it loaded on to Factor 2 along with externality, Factor 2 contributed minimally to the total variance in

a regression analysis involving the factor scores as predictors and job satisfaction and problem solving as dependent variables (Table 10).

Externality was also considered expendable in deriving an index, predominantly because Factor 2 accounted for little variance in the multiple regressions. Similiar conclusions were drawn for chance, and foreseeability. They were not significant in any of the multiple regression equations, and in the factor analysis their loadings were considerably lower than those of the other dimensions (less than .45, whereas the other dimensions had loadings greater than .60).

Therefore, in creating two of the three indices, colleague control, chance, foreseeability and externality were not included. Correlations between the indices and the dependent variables then confirmed that the impact of those dimensions was negligible, as the correlation between the indices excluding them, was comparable with the index that included them. In summary, the results suggest those dimensions are expendable.

In considering how the dimensions should be combined, that is, whether they should be summed or have a weighting applied prior to summing, there was no evidence to indicate that if a weighting was appropriate, what that weighting should be. The regression coefficients varied depending on the dependent variable, that is, there was no consistent pattern of weightings within the equations. Had there been a consistent pattern, the coefficients would suggest the weights that should be applied in deriving a single score. Thus, the indices were derived by applying equal weightings to the dimensions.

Attributions for positive and negative events were significantly different in the present study. Positive events were shown to be more internal, stable, global and foreseeable, and under greater personal and colleague control, less related to chance and more

important than negative events. This is consistent with self serving bias research, which usually focuses on only the internal - external dimension as discussed on page 18. Further, Peterson (1991) notes that attributions for good events tend to be independent of attributions for bad events. Consequently, in forming a single score of attribution there appears to be no justification for combining attributions for positive and negative events.

From these considerations, it was decided to form three separate indices, made up of attributional dimensions of positive events only as it was for those that significant relationships were observed. The first comprised internality, stability and globality, which as well as being supported by the analyses, was also replicating the dimensions used by Abramson et al. (1978). The second index comprised personal control, stability and globality on the basis that these dimensions appeared to be consistent predictors, and the third was formed predominantly for comparison purposes and incorporated all eight dimensions.

That the three indices were comparable in assessing relationships with the dependent variables suggests that none of them was a precise measure of attribution, but it is reasonable to assume that together the three dimensions (or eight in the case of the third index) are measuring an underlying construct that approximates attribution. The relationships of the indices to the dependent variables are in the expected direction and of a size that is consistent or comparable to other studies. The preliminary analyses exploring the structure of the dimensions generated data that were explicable and consistent with what is known about attribution. For example, stability and globality tended to correlate, there were significant differences between attributions for positive and negative events and the factor analysis elicited logical and interpretable factors based on what is already known. Theoretical developments are required to improve the precision of the measure. Peterson (1991) notes that because the ASQ has become a popular instrument for measuring attributional style, and because controllability is

not included in it, that dimension has tended to be neglected. The present study suggests that controllability (personal control) warrants further attention as a dimension of attributions.

Internality and Externality - Dichotomous Categories or One Continuum?
The question of whether internality and externality are dichotomous categories has not yet been settled empirically. Weiner, (1986) suggests that "the domination of the internal - external distinction arrived in psychology from the work of Rotter (1966) who was concerned with causal beliefs" (p. 45). Perhaps as a result of Rotter's work it has been generally accepted that internal and external fall on a simple continuum, and this assumption has persisted without further testing. Within the ASQ, internal - external is presented as one dimension, whilst in the OASQ, they are presented as two separate dimensions.

The results of the present study suggest that they are dichotomous categories. If internal and external were opposite poles of one dimension, it would imply that individuals attribute events to <u>either</u> an internal <u>or</u> an external cause. Therefore, they would be highly and positively correlated (in the present study, a low internal score indicated a high degree of attribution to internal causes). In the present study the intercorrelation between the internal and external dimensions was not particularly high, although it was significant ($r = .31$ $p < .001$).

If internal and external are dichotomous it may be a result of attributions that suggest some relativity or comparison between the individual and other people. For example, if an individual perceives that success in job seeking is caused by "being the best candidate because of my personal skills", that attribution is internal. At the same time, it can be perceived as an external attribution, "the other candidates did not have the same level of skills". This suggests that internal and external are not perceived as

being a matter of degree, (degree of internality - externality) but rather as separate categories, in which attributions can fall concurrently.

The Salience of Globality to Attribution

According to Weiner (1986) the concept of globality has high face validity as a dimension but empirical studies have not identified it as salient to the attribution process and he questions whether globality is salient to attribution. The results of the present study suggest that globality should be incorporated in a measure of attribution because it correlates moderately well with the other dimensions of attributional style and has a comparatively high correlation with stability (.57). It has a significant weight in the multiple regression equation that predicts Positive Problem Orientation. Further, as an individual dimension, it correlates in the expected direction with the dependent variables. The factor analysis confirms its relationship with stability, and that factor accounts for the most variance of the three factors, therefore, it appears that in this study, globality is salient to attributional style. Along with Weiner (1986), Peterson and Villanova (1988) suggest that stability and globality may, in fact, be a single dimension as they are highly correlated. The results of the present study offer some support for the notion of stability and globality together forming an enlarged dimension of generalisability, where stability refers to temporal generalisation and globality refers to stimulus generalisation.

LIMITATIONS OF THE PRESENT STUDY

The present study relies upon correlational analysis to support the hypotheses and therefore, does not address the direction of causal relationships between attribution and job satisfaction or problem solving. A reasonable case can be made for a bi-directional relationship between them. That is, as an individual's job satisfaction or problem solving orientation or skills increase, their attributional style becomes more positive and a more positive attributional style enhances the individual's job satisfaction or problem solving. Andrisani and Nestel (1976) provide some evidence

that this, indeed, may be the case for locus of control. Their study was longitudinal, involving nearly 3,000 American men, and they concluded that occupational advancement and salary increases are systematically related to increasing internal locus of control. On the other hand, Seligman and Schulman (1986) specifically addressed the issue of causality and provide some evidence that it was attributions that led to success rather than success causing a more positive attributional style. The question of causality needs to be studied further.

The generalisability of the results reported in this study is limited. Respondents came from a small range of New Zealand organisations, and although respondents did not specify their geographical location, on the basis of the organisations involved in the present study, it is likely that most respondents came from large urban areas and from relatively large organisations (in New Zealand terms). Additionally, managers may, as a consequence of their position, hold an attributional style that is more (or less) positive than that seen in other occupations, and these results of this study may not apply to other occupations.

The low internal reliability of the OASQ must be taken into account when considering the results and conclusions of the present study. Unless otherwise noted the following comments relate to the alpha coefficients for positive events only, as it is the positive events for which significant results were obtained in the present study.

The alpha coefficients for the dimensions ranged from .43 for internality to .71 for importance. It is most likely that the low internal consistency is a result of measuring the dimensions on only three positive and three negative events. Using more events seems to consistently increase the alpha coefficients in measures such as the OASQ. Furnham et al (1992) reported alpha coefficients ranging from .56 for colleague control to .79 for stability and chance using the original OASQ which comprised five positive and five negative events. Internal reliability has consistently been improved

when more items have been used. However the results of this study are both consistent with other findings and explicable, so it is reasonable to assume that although the internal reliability is low, the conclusions drawn are sound.

Internality and personal control (alpha of .58) seem the least reliable of the dimensions. This may suggest that internality and personal control are more situationally specific than the other dimensions.

APPLICATION TO INDUSTRIAL PSYCHOLOGY

Although the correlations between the indices of attribution and the dependent variables are not particularly high, they seem sufficient to justify further research attention on attribution in the industrial domain. Using instruments such as the OASQ for, say, selection will improve the selection decisions. The amount by which the decision will be improved depends not only on the coefficient but also the percentage of individuals who were successful before the introduction of the instrument (selection ratio) and the cut off score that is set on the predictor (Landy 1989). Seligman and Schulman (1986) demonstrated in their study of insurance agents how seemingly low to moderate correlations can have considerable impact on productivity or proficiency, as outlined in Chapter Three.

Seligman and Schulman (1986) hypothesised that a positive attributional style would be related to increased performance for insurance sales agents, on the basis that those agents would regularly be confronted with rejection, and if rejection is perceived as a negative event the proposals within the reformulated learned helplessness model may apply. That is, the way in which the rejection was explained would bear upon their future tenacity in selling insurance. Their results offered some support for that hypothesis, but, in different occupations a positive style is not necessarily going to be the optimal style. An effective manager may be one who takes responsibility for negative events and takes action to either minimise their impact or avoid their

recurrence. This would suggest that for negative events a style where attributions were internal but unstable may be more effective and this is an area for further research.

Weiner (1986) reports that failure, or negative events, generate a greater array of affects than success does, for example the overwhelming response to a positive event is the individual reporting "happiness" but for negative events, anger, depression, fear and frustration were the dominant affects. If negative events elicit a greater variety of emotion, they may then be more psychologically informative, which may suggest why much of the attributional literature focuses upon negative events. However, the present study found relationships between attributions for positive events and the dependent variables, and few between attributions for negative events and the dependent variables, which is consistent with Furnham et al (1992). This may suggest that in the industrial domain, it is causal attributions for positive events that render the most information.

CONCLUSION

The results of the present study suggest that it would be premature to apply the construct of attribution to occupational psychology, without further refinement of the attribution measure. In the case of the OASQ, refinement is required to both increase the reliability and the variance accounted for by the items. That refinement and theoretical development are probably interdependent as, at this stage, there is no comprehensive theory relating attribution to job performance.

Attribution is at least indirectly related to job related constructs such as problem solving and job satisfaction. It appears that attribution is more likely to be related to affective constructs than to measures of skills, although it may have a moderating relationship with specific skills. Further, the affective variables it relates to most

directly, may be those which, in turn, are related to future expectancies, such as the problem orientation variables measured in this study.

Perhaps most importantly, the present study suggests that it is reasonable to derive an index or single score for the attributional construct. A single score was a more consistent and superior predictor than any of the individual dimensions. A single score would also be considerably more meaningful in an applied context, than the individual dimensions. Nevertheless, the contribution of the individual dimensions must also be assessed, particularly while there is no comprehensive theory linking causal attribution to job related variables.

The three indices which were derived were comparable, in assessing relationships, yet two of those indices incorporated only three dimensions while the third incorporated all eight dimensions. It would appear that using fewer dimensions is preferable on the grounds of parsimony and simplicity, and there seems to be no advantage to using more than three dimensions. Deciding which dimensions are the superior measures of attribution is presently ambiguous. The present study indicates that colleague control, externality, chance and foreseeability can be excluded and that it may be appropriate to combine stability and globality.

Attribution may be a useful construct for applying to the industrial psychology domain once further theoretical development has taken place. The present study, though not contributing to that theoretical development specifically, has drawn attention to a number of issues that require resolution, and suggests directions for further research.

REFERENCES

Abramson, L.Y., Seligman, M.E.P., & Teasdale, J. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 87, 49-74.

Anastasi, A. (1988). Psychological testing (6th ed.). New York: Macmillan Publishing.

Andrisani, P., & Nestel, G. (1976). Internal-external control as contributor to and outcome of work experience. Journal of Applied Psychology, 61, 156-163.

Arvey, R.D., & Dewhirst, H.D., (1976). Goal setting attributes, personality variables, and job satisfaction. Journal of Vocational Behaviour, 9, 179-189.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84, 191-215.

Bandura, A. (1982). Self-efficacy mechanism in human agency. American Psychologist, 37, 122-147.

Baumgardner, A.H., Heppner, P.P., & Arkin, R.M. (1986). Role of causal attribution in personal problem solving. Journal of Personality and Social Psychology, 50, 636-643.

Bradley, C., Brewin, C.R., Gamsu, D., and Moses, J. (1984). Development of scales to measure perceived control of diabetes mellitus and diabetes related health beliefs. Diabetic Medicine, 1, 213-218.

Brewin, C.R., & Shapiro, D. (1984). Beyond locus of control: Attribution of responsibility for positive and negative outcomes. British Journal of Psychology, 75, 43-50.

Butler, L., & Meichenbaum, D. (1981). The assessment of interpersonal problem-solving skills. In P.C. Kendall & S.D. Hollens (Eds.), Assessment strategies for cognitive-behavioural interventions. New York: Academic Press.

Caldwell, D.F., & O'Reilly, C.A. (1982). Task perceptions and job satisfaction: A question of causality. Journal of Applied Psychology, 67, 361-369.

Carver, C.S. (1989). How should multifaceted personality constructs be tested? Issues illustrated by self-monitoring, attributional style and hardiness. Journal of Personality and Social Psychology, 56, 577-585.

Carver, C.S., & Scheier, M.F. (1991). Unresolved issues regarding the meaning and measurement of explanatory style. Psychological Inquiry, 2, 21-24.

Cook, J.D., Hepworth, S.J., Wall, T.D., & Warr, P.B. (1981). The experience of work. New York: Academic Press.

Cutrona, C.E., Russell, D., & Jones R.D. (1984). Cross-situational consistency in causal attributions: does attributional style exist?. Journal of Personality and Social Psychology, 47, 1043-1058.

Department of Statistics. (1990). Women in New Zealand. Wellington: Government Printer.

D'Zurilla, T.J., & Nezu, A. (1982). Social problem solving in adults. In P.C. Kendall (Ed.), Advances in cognitive-behavioural research and therapy. 1. New York: Academic Press.

D'Zurilla, T.J., & Nezu, A. (1990). Development and preliminary evaluation of the social problem-solving inventory. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2, 156-63.

Feather, N. (1983). Causal attributions for good and bad outcomes in achievement and affiliation situations. Australian Journal of Psychology, 35, 37-48.

Forsterfling, F. (1985). Attributional retraining: A review. Psychological Bulletin, 98, 495-512.

Furnham, A., & Procter, E. (1989). Belief in a just world: Review and critique of the individual difference literature. British Journal of Social Psychology, 28, 365-389.

Furnham, A., Sadka, V., & Brewin, C.R. (1992). The development of an occupational attributional style questionnaire. Journal of Organisational Behaviour, 13, 27-39.

Furnham, A., & Steele, H. (1993). Measuring locus of control: A critique of general, children's, health- and work-related locus of control questionnaires. British Journal of Psychology, 84, 443-479.

Harvey, J.H., & Weary, G. (1981). Perspectives on attributional processes. Iowa: Wm C Brown.

Heppner, P.P., Baumgardner, A., & Jackson, J. (1985). Problem solving self-appraisal and attributional style: are they related?. Cognitive Therapy and Research. 9, 105-113.

Heppner, P.P., & Peterson, C.H. (1982). The development and implications of a personal problem-solving appraisal. Journal of Counselling Psychology, 29, 66-75.

Iaffaldno, M.T., & Muchinsky, P.M. (1985). Job satisfaction and job performance: a meta analysis. Psychological Bulletin. 97, 251-73.

Ickes, W., & Layden, M.A. (1978). Attributional styles. In J.H. Harvey, W. Ickes, & R.F. Kidd (Eds.), New directions in attribution research. Vol 2. New York: John Wiley & Sons.

James, L.R., & Jones, A.P. (1980). Perceived job characteristics and job satisfaction: An examination of reciprocal causation. Personnel Psychology. 33, 87-135.

Landy, F.J. (1989). Psychology of work behaviour. (4th ed.). Calif: Brooks/Cole.

Locke, E. A. (1976). The nature and causes of job satisfaction. In M.D. Dunnette, (Ed.), Handbook of industrial and organisational psychology. Chicago: Rand McNally.

Lofquist, L.H., & Dawis, R.V. (1969). Adjustment to work: A psychological view of man's problems in a work-oriented society. New York: Appleton - Century - Crofts.

Mathews, A., & MacLeod, C. (1994). Cognitive approaches to emotion and emotional disorders. Annual Review of Psychology, 45, 25-50.

McFarland, C., & Ross, M. (1982). Impact of causal attributions on affective reactions to success and failure. Journal of Personality and Social Psychology, 43, 937-946.

Meyer, J.P. (1980). Causal attribution for success and failure: A multivariate investigation of dimensionality, formation, and consequences. Journal of Personality and Social Psychology, 38, 704-718.

Meyer, J.P., & Koelbl, S.L.M. (1982). Dimensionality of students' causal attributions for test performance. Personality and Social Psychology Bulletin, 8, 31-36.

Michela, J.L., Peplau, L.A., & Weeks, D.G. (1982). Perceived dimensions of attributions for loneliness. Journal of Personality and Social Psychology, 43, 929-936.

Nezu, A.M., & Perri, M.G. (1989). Social problem-solving therapy for uni-polar depression: An initial dismantling study. Journal of Consulting and Clinical Psychology, 57, 408-413.

Norusis, M.J. (1985). SPSS^x advanced statistics guide. New York: McGraw-Hill.

Peterson, C. (1991). The meaning and measurement of explanatory style. Psychological Inquiry. 2 (1), 1-10.

Peterson, C., & Seligman, M.E. (1985). The learned helplessness model of depression: Current status of theory and research. In E.E. Beckham & W.R. Leber (Eds.), Handbook of depression: Treatment, assessment and research. Homewood: Dorsey.

Peterson, C., Semmel, A., Von Baeyer, C., Abramson, L., Metalsky, G., & Seligman, M. (1982). The attributional style questionnaire. Cognitive Therapy and Research. 6, 281-300.

Peterson, C., & Villanova, P. (1988). An expanded attributional style questionnaire. Journal of Abnormal Psychology, 97, 87-89.

Porter, L.W., & Lawler, E.E. (1968). Managerial attitudes and performance. Homewood Il: Dorsey.

Reitz, H.J. (1987). Behaviour in organisations (3rd ed.). Illinois: Irwin.

Rotter, J.B. (1966). Generalised expectancies for internal versus external control of reinforcement. Psychological Monographs, 80, (1, Whole No. 609).

Schachter, S., & Singer, J.E. (1962). Cognitive, social and physiological determinants of emotional state. Psychological Review, 69, 379-399.

Schneider, B. (1985). Organisational behaviour. Annual Review of Psychology, 36, 573- 611.

Seligman, M., Abramson, L., Semmel, A., & Von Baeyer, C. (1979). Depressive attributional style. Journal of Abnormal Psychology, 88, 242-247.

Seligman, M., & Schulman, P. (1986). Explanatory style as a predictor of productivity and quitting among life insurance agents. Journal of Personality and Social Psychology, 50, 832-838.

Spector, P. (1982). Behaviour in organisations as a function of employees locus of control. Psychological Bulletin, 91, 482-497.

Staw, B.M., & Ross, J. (1985). Stability in the midst of change: A dispositional approach to job attitudes. Journal of Applied Psychology, 70(3), 469-480.

Tabachnick, B.G., & Fidell, L.S. (1989). Using multivariate statistics (2nd ed.). New York: Harper & Row.

Tett, R.P., & Meyer, J.P. (1993). Job satisfaction, organisational commitment, turnover intention and turnover: Path analysis based on meta analytic findings. Personnel Psychology, 46, 259-290.

Weiner, B. (1985). An attributional theory of acheivement motivation and emotion. Psychological Review, 92, 548-573.

Weiner, B. (1986). An Attributional theory of motivation and emotion. New York: Springer-Verlag.

Weiner, B., Frieze, I.H., Kukla, A., Reed, L., Rest, S., & Rosenbaum, R.M. (1971). Perceiving the causes of success and failure. New Jersey: General Learning Press.

Weiner, B., Russell, D., & Lerman, D. (1978). Affective consequences of causal ascriptions. In J.H. Harvey, W. Ickes, & R.F. Kidd (Eds.), New directions in attribution research. Vol 2, New York: John Wiley & Sons.

Weiss, D.J., Dawis, R.V., England, G.W., & Lofquist, L.H. (1967). Manual for the minnesota satisfaction questionnaire. Minnesota: University of Minnesota.

Wimer, S., & Kelly, H.H. (1982). An investigation of the dimensions of causal attribution. Journal of Personality and Social Psychology, 43, 1142-1162.

APPENDIX A

HYPOTHETICAL SITUATIONS QUESTIONNAIRE

Over the course of our career we all experience a number of positive and negative outcomes. In this section you are asked to vividly imagine you are in a series of hypothetical situations and you are asked to write the single most likely cause of the hypothetical event. You will then be asked to rate that cause on nine scales.

You are now asked to vividly imagine you are in the situation where you apply for a promotion and get it. Write down the single most likely cause of this event on a separate piece of paper.

We ask you now to rate this cause on each of the following scales.

1. To what extent was the cause due to something about you?

    Totally   6   5   4   3   2   1   0   Not at all
    due to me   due to me

2. In the future, at work, will this cause again influence what happens?

    Will never   6   5   4   3   2   1   0   Will always influence
    again influence   what happens
    what happens

3. Is the cause something that just affects problem-solving or does it influence other areas of your life?

    Influences *just this* 6   5   4   3   2   1   0   Influences *all areas* of
    situation   of my life

4. To what extent was the cause something to do with other people or circumstances?

    Totally due to   6   5   4   3   2   1   0   Not at all due to other
    other people or   people or circumstances
    circumstances

5. To what extent was the cause due to chance?

    Totally due to   6   5   4   3   2   1   0   Not all due to chance
    chance

6. To what extent was the cause controllable by you?

    Totally controllable 6   5   4   3   2   1   0   Not at all controllable
    by me   by me

7. To what extent was the cause controllable by your colleagues?

    Totally controllable 6   5   4   3   2   1   0   Not at all controllable
    by my colleagues   by my colleagues

8. To what extent do you think you could have foreseen the cause?

    Totally foreseeable 6   5   4   3   2   1   0   Not at all foreseeable
    by me   by me

9. How important would this situation be if it really happened to you?

    Not at all important 6   5   4   3   2   1   0   Extremely important

Please vividly imagine you can't get all the work done that others expect of you. Write down the single most likely cause of this event on another piece of paper.

10. To what extent was the cause due to something about you?

| Totally due to me | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all due to me |

11. In the future, at work, will this cause again influence what happens?.

| Will never again influence what happens | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Will always influence what happens |

12. Is the cause something that just affects problem-solving or does it influence other areas of your life?

| Influences *just this* situation | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Influences *all areas* of of my life |

13. To what extent was the cause something to do with other people or circumstances?

| Totally due to other people or circumstances | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all due to other people or circumstances |

14. To what extent was the cause due to chance?

| Totally due to chance | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not all due to chance |

15. To what extent was the cause controllable by you?

| Totally controllable by me | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all controllable by me |

16. To what extent was the cause controllable by your colleagues?

| Totally controllable by my colleagues | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all controllable by my colleagues |

17. To what extent do you think you could have foreseen the cause?

| Totally foreseeable by me | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all foreseeable by me |

18. How important would this situation be if it really happened to you?

| Not at all important | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Extremely important |

Please vividly imagine you are turned down at a job interview.

19. To what extent was the cause due to something about you?

Totally due to me	6	5	4	3	2	1	0	Not at all due to me

20. In the future, at work, will this cause again influence what happens?

Will never again influence what happens	6	5	4	3	2	1	0	Will always influence what happens

21. Is the cause something that just affects problem-solving or does it influence other areas of your life?

Influences *just this* situation	6	5	4	3	2	1	0	Influences *all areas* of of my life

22. To what extent was the cause something to do with other people or circumstances?

Totally due to other people or circumstances	6	5	4	3	2	1	0	Not at all due to other people or circumstances

23. To what extent was the cause due to chance?

Totally due to chance	6	5	4	3	2	1	0	Not all due to chance

24. To what extent was the cause controllable by you?

Totally controllable by me	6	5	4	3	2	1	0	Not at all controllable by me

25. To what extent was the cause controllable by your colleagues?

Totally controllable by my colleagues	6	5	4	3	2	1	0	Not at all controllable by my colleagues

26. To what extent do you think you could have foreseen the cause?

Totally foreseeable by me	6	5	4	3	2	1	0	Not at all foreseeable by me

27. How important would this situation be if it really happened to you?

Not at all important	6	5	4	3	2	1	0	Extremely important

Imagine that you very successfully lead a group project with a positive outcome.

28. To what extent was the cause due to something about you?

| Totally due to me | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all due to me |

29. In the future, at work, will this cause again influence what happens?

| Will never again influence what happens | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Will always influence what happens |

30. Is the cause something that just affects problem-solving or does it influence other areas of your life?

| Influences *just this* situation | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Influences *all areas* of of my life |

31. To what extent was the cause something to do with other people or circumstances?

| Totally due to other people or circumstances | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all due to other people or circumstances |

32. To what extent was the cause due to chance?

| Totally due to chance | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not all due to chance |

33. To what extent was the cause controllable by you?

| Totally controllable by me | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all controllable by me |

34. To what extent was the cause controllable by your colleagues?

| Totally controllable by my colleagues | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all controllable by my colleagues |

35. To what extent do you think you could have foreseen the cause?

| Totally foreseeable by me | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all foreseeable by me |

36. How important would this situation be if it really happened to you?

| Not at all important | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Extremely important |

Please vividly imagine you are given a poor annual review by a superior.

37. To what extent was the cause due to something about you?

Totally due to me	6	5	4	3	2	1	0	Not at all due to me

38. In the future, at work, will this cause again influence what happens?

Will never again influence what happens	6	5	4	3	2	1	0	Will always influence what happens

39. Is the cause something that just affects problem-solving or does it influence other areas of your life?

Influences *just this* situation	6	5	4	3	2	1	0	Influences *all areas* of of my life

40. To what extent was the cause something to do with other people or circumstances?

Totally due to other people or circumstances	6	5	4	3	2	1	0	Not at all due to other people or circumstanc

41. To what extent was the cause due to chance?

Totally due to chance	6	5	4	3	2	1	0	Not all due to chance

42. To what extent was the cause controllable by you?

Totally controllable by me	6	5	4	3	2	1	0	Not at all controllable by me

43. To what extent was the cause controllable by your colleagues?

Totally controllable by my colleagues	6	5	4	3	2	1	0	Not at all controllable by my colleagues

44. To what extent do you think you could have foreseen the cause?

Totally foreseeable by me	6	5	4	3	2	1	0	Not at all foreseeable by me

45. How important would this situation be if it really happened to you?

Not at all important	6	5	4	3	2	1	0	Extremely important

Please vividly imagine that you are given a special performance reward at work.

46. To what extent was the cause due to something about you?

| Totally due to me | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all due to me |

47. In the future, at work, will this cause again influence what happens?

| Will never again influence what happens | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Will always influence what happens |

48. Is the cause something that just affects problem-solving or does it influence other areas of your life?

| Influences *just this* situation | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Influences *all areas* of of my life |

49. To what extent was the cause something to do with other people or circumstances?

| Totally due to other people or circumstances | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all due to other people or circumstances |

50. To what extent was the cause due to chance?

| Totally due to chance | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not all due to chance |

51. To what extent was the cause controllable by you?

| Totally controllable by me | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all controllable by me |

52. To what extent was the cause controllable by your colleagues?

| Totally controllable by my colleagues | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all controllable by my colleagues |

53. To what extent do you think you could have foreseen the cause?

| Totally foreseeable by me | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Not at all foreseeable by me |

54. How important would this situation be if it really happened to you?

| Not at all important | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Extremely important |

Instructions

Below are a series of statements that might describe the way some people might think, feel and behave when they are faced with problems in everyday living. We are talking about important problems that could have a significant effect on your well-being or the well-being of your loved ones, such as a health-related problem, a dispute with a family member, or a problem with your performance at work or in school. Please read each statement and carefully select one of the numbers below which indicates the extent to which the statement is true of you. Consider yourself as you typically think, feel, and behave when you are faced with problems in living these days and place the appropriate number in the parentheses ( )

0 = Not at all true of me
1 = Slightly true of me
2 = Moderately true of me
3 = Very true of me
4 = Extremely true of me

55. ( ) I spend too much time worrying about my problems instead of trying to solve them.

56. ( ) I usually feel threatened and afraid when I have an important problem to solve.

57. ( ) When making decisions, I do not usually evaluate and compare the different alternatives carefully enough.

58. ( ) When I am attempting to decide what is the best solution to a problem, I often fail to take into account the effect that each alternative is likely to have on the well-being of other people.

59. ( ) When I am trying to find a solution to a problem, I often think of a number of possible solutions and then try to combine different solutions to make a better solution.

60. ( ) I usually feel nervous and unsure of myself when I have an important decision to make.

0 = Not at all true of me
1 = Slightly true of me
2 = Moderately true of me
3 = Very true of me
4 = Extremely true of me

61. ( )   When my first efforts to solve a problem fail, I usually think that if I persist and do not give up too easily, I will be able to find a good solution eventually.

62. ( )   When I am attempting to solve a problem, I usually act on the first idea that comes to mind.

63. ( )   When I have a problem I usually believe that there is a solution for it.

64. ( )   I usually wait to see if a problem will resolve itself first, before trying to solve it myself.

65. ( )   When I have a problem to solve, one of the things I do is analyze the situation and try to identify what obstacles are keeping me from getting what I want.

66. ( )   When my first efforts to solve a problem fail, I get very angry and frustrated.

67. ( )   When I am faced with a difficult problem, I often doubt that I will be able to solve it on my own no matter how hard I try.

68. ( )   When a problem occurs in my life, I usually put off trying to solve it for as long as possible.

69. ( )   After carrying out a solution to a problem, I do not usually take the time to evaluate all of the results carefully.

70. ( )   I usually go out of my way to avoid having to deal with problems in my life.

71. ( )   Difficult problems make me very upset.

72. ( )   When I am attempting to decide what is the best solution to a problem, I try to predict the overall outcome of carrying out each alternative course of action.

73. ( )   I usually confront my problems "head on," instead of trying to avoid them.

74. ( )   When I am attempting to solve a problem, I often try to be creative and think of original or unconventional solutions.

0 = Not at all true of me
1 = Slightly true of me
2 = Moderately true of me
3 = Very true of me
4 = Extremely true of me

75.　( )　When I am attempting to solve a problem, I usually go with the first good idea that comes to mind.

76.　( )　When I attempt to think of possible solutions to a problem, I cannot usually come up with many alternatives.

77.　( )　I usually prefer to avoid problems instead of confronting them and being forced to deal with them.

78.　( )　When making decisions, I usually consider not only the immediate consequences of each alternative course of action, but also the long-term consequences.

79.　( )　After carrying out a solution to a problem, I usually try to analyze what went right and what went wrong.

80.　( )　After carrying out a solution to a problem, I usually examine my feelings and evaluate how much they have changed for the better.

81.　( )　Before carrying out a solution to a problem in the actual problematic situation, I often practice or rehearse the solution in order to increase my chances of success.

82.　( )　When I am faced with a difficult problem, I usually believe that I will be able to solve the problem on my own if I try hard enough.

83.　( )　When I have a problem to solve, one of the first things I do is get as many facts about the problem as possible.

84.　( )　I often put off solving problems until it is too late to do anything about them.

85.　( )　I think that I spend more time avoiding my problems than solving them.

86.　( )　When I am attempting to solve a problem, I often get so upset that I cannot think clearly.

87.　( )　Before I try to think of a solution to a problem, I usually set a specific goal that makes clear exactly what I want to accomplish.

0 = Not at all true of me
1 = Slightly true of me
2 = Moderately true of me
3 = Very true of me
4 = Extremely true of me

88. ( ) When I am attempting to decide what is the best solution to a problem, I do not usually take the time to consider the pros and cons of each solution alternative.

89. ( ) When the outcome of my solution to a problem is not satisfactory, I usually try to find out what went wrong and then I try again.

90. ( ) I hate having to solve the problems that occur in my life.

91. ( ) After carrying out a solution to a problem, I usually try to evaluate as carefully as possible how much the situation has changed for the better.

92. ( ) When I have a problem I usually try to see it as a challenge, or opportunity to benefit in some positive way from having the problem.

93. ( ) When I am attempting to solve a problem, I usually think of as many alternative solutions as possible until I cannot come up with any more ideas.

94. ( ) When I am attempting to decide what is the best solution to a problem, I usually try to weigh the consequences of each solution alternative and compare them against each other.

95. ( ) I often become depressed and immobilized when I have an important problem to solve.

96. ( ) When I am faced with a difficult problem, I usually try to avoid the problem or I go to someone else for help in solving it.

97. ( ) When I am attempting to decide what is the best solution to a problem, I usually consider the effect that each alternative course of action is likely to have on my personal feelings.

98. ( ) When I have a problem to solve, one of the things I do is examine what sort of external circumstances in my environment might be contributing to the problem.

99. ( ) When making decisions, I usually go with my "gut feeling" without thinking too much about the consequences of each alternative.

0 = Not at all true of me
1 = Slightly true of me
2 = Moderately true of me
3 = Very true of me
4 = Extremely true of me

100. ( ) When making decisions, I generally use a systematic method for judging and comparing alternatives.

101. ( ) When I am attempting to find a solution to a problem, I try to keep in mind what my goal is at all times.

102. ( ) When I am attempting to find a solution to a problem, I try to approach the problem from as many different angles as possible.

103. ( ) When I am having trouble understanding a problem, I usually try to get more specific and concrete information about the problem to help clarify it.

104. ( ) When my first efforts to solve a problem fail, I tend to get discouraged and depressed.

105. ( ) When a solution that I have carried out does not solve my problem satisfactorily, I do not usually take the time to examine carefully why it did not work.

106. ( ) I think that I am too impulsive when it comes to making decisions.

JOB SATISFACTION QUESTIONNAIRE

Ask yourself: how satisfied am I with this aspect of my job?

VS (4) means I am very satisfied with this aspect of my job.

S (3) means I am satisfied with this aspect of my job.

N (2) means I can't decide whether I am satisfied or not with this aspect of my job.

DS (1) means I am dissatisfied with this aspect of my job.

VDS (0) means I am very dissatisfied with this aspect of my job. Please continue to darken the appropriate space on the answer sheet.

ON MY PRESENT JOB, THIS IS HOW I FEEL ABOUT:

		VDS 0	DS 1	N 2	S 3	VS 4
107.	Being able to keep busy all the time.	( )	( )	( )	( )	( )
108.	The chance to work alone on the job.	( )	( )	( )	( )	( )
109.	The chance to do different things from time to time.	( )	( )	( )	( )	( )
110.	The chance to be "somebody" in the community.	( )	( )	( )	( )	( )
111.	The way my boss handles his workers.	( )	( )	( )	( )	( )
112.	The competence of my supervisor in making decisions.	( )	( )	( )	( )	( )
113.	Being able to do things that don't go against my conscience.	( )	( )	( )	( )	( )
114.	The way my job provides for steady employment.	( )	( )	( )	( )	( )
115.	The chance to do things for other people.	( )	( )	( )	( )	( )

ON MY PRESENT JOB, THIS IS HOW I FEEL ABOUT: (cont'd)

		VDS 0	DS 1	N 2	S 3	VS 4
116.	The chance to tell people what to do.	( )	( )	( )	( )	( )
117.	The chance to do something that makes use of my abilities.	( )	( )	( )	( )	( )
118.	The way company policies are put into practice.	( )	( )	( )	( )	( )
119.	My pay and the amount of work I do.	( )	( )	( )	( )	( )
120.	The chances for advancement on this job.	( )	( )	( )	( )	( )
121.	The freedom to use my own judgment.	( )	( )	( )	( )	( )
122.	The chance to try my own methods of doing the job.	( )	( )	( )	( )	( )
123.	The working conditions.	( )	( )	( )	( )	( )
124.	The way my co-workers get along with each other.	( )	( )	( )	( )	( )
125.	The praise I get for doing a good job.	( )	( )	( )	( )	( )
126.	The feeling of accomplishment I get from the job.	( )	( )	( )	( )	( )

DEMOGRAPHICS

AGE: _____ Yrs

SEX: _____ ☐ M   ☐ F

WORK EXPERIENCE: _____ Yrs

YEARS OF SCHOOLING: _____ Yrs

Complete the following with respect to your primary occupation:

MONTHS SUPERVISORY EXPERIENCE: _____ . _____ Months

DO YOU WORK FULL ☐ OR PART-TIME ☐ ?

DO YOU ADMINISTER A BUDGET? _____ Yes   _____ No.

MY POSITION _____ LINE _____ ADVISORY

MY JOB DEALS: a)   MAINLY WITH PEOPLE _____ % 0=100

b)   MAINLY WITH THINGS _____ % 0-100

(POLICIES, TECHNOLOGY, PROCEDURES)

a) + b)   SHOULD SUM TO 100%

MY JOB IS PRIMARILY IN THE VERBAL AREA   ☐
        (PERSONNEL, PUBLIC RELATIONS, ETC)

QUALITATIVE   ☐
(FINANCE, FORECASTING, ETC) AREA

50/50 BOTH   ☐

MY WORK WOULD BE PRIMARILY IN THE FOLLOWING FUNCTIONAL SECTOR
(ONLY ONE)

ADMINISTRATION/MANAGEMENT ☐

FINANCE/ACCOUNTING ☐

MARKETING ☐

PUBLIC RELATIONS ☐

PERSONNEL/HRM/HRD/EAP ☐

ADVERTISING ☐

PRODUCTION ☐

QUALITY CONTROL ☐

I'M IN THE: PRIVATE ☐ SECTOR

PUBLIC ☐ SECTOR

HOURS VOLUNTEER WORK/WEEK _____ Hours

IN A GIVEN WEEK:

I SPEND _____ HOURS ON MY JOB (CAN BE AT WORK/HOME)

OCCUPATION: (BE SPECIFIC - ie IF PUBLIC SERVANT, (WHAT IS YOUR
FUNCTION, eg TEACHER, NURSE)

_____

SALARY RANGE	$NZ	Less than		20,000	☐ 100
		20,000	-	24,000	☐
		25,000	-	29,000	☐
		30,000	-	34,000	☐
		35,000	-	39,000	☐
		40,000	-	44,000	☐
		45,000	-	49,000	☐
		50,000	-	54,000	☐
		55,000	-	59,000	☐
		60,000	-	64,000	☐
		65,000	-	69,000	☐
		70,000	-	74,000	☐
		75,000	-	79,000	☐
		80,000+			☐

THE WORK I DO IS IN THE FOLLOWING INDUSTRY:

AGRICULTURE ☐

MANUFACTURING ☐

SERVICE ☐

TRANSPORTATION ☐

COMPUTER/TELECOMMUNCATIONS ☐

PETROLEUM ☐

CHEMICAL ☐

TEACHING ☐

HOME MAKER ☐

LEGAL ☐
OTHER, PLEASE SPECIFY _____

_____ ☐

RETAIL ☐

APPENDIX B

MANAGER CHARACTERISTICS SURVEY

Thank you for agreeing to take part in this survey. The survey is part of a cross-cultural survey comparing characteristics of managers in Canada, New Zealand, Australia and the United Kingdom.

It is being co-ordinated by Dr Michael McCarrey, Visiting Professor from the University of Ottawa. The New Zealand section of the survey is being carried out by Helen Walker for her MA thesis, under the supervision of Dr Judy Brook (Associate professor, Massey University).

You are asked to complete the attached questionnaire. This incorporates:

i) a hypothetical job situations questionnaire, in which you describe the reasons you believe certain job outcomes are likely to occur [1]
ii) a measure of personal attributes
iii) a measure of problem solving skills, and
iv) a measure of job satisfaction

Your personal profile of the managerial characteristics being measured will be made available to you along with some interpretive information. The results will provide information useful to executive career development planning, by suggesting your characteristic decision making style, problem solving approach and skills, and linking these to job satisfaction. It is expected the personal profiles will be available towards the end of March.

Please make up a non-obvious five digit number (eg not 12345) and write it on the questionnaire. This code number will be used for coding the data into the computer. So that you can be advised of your personal profile, note the code number on a separate sheet of paper, along with your name and address and return that either with the questionnaire or under separate cover the Helen Walker, Psychology Department, Massey University, Palmerston North.

Your results will be completely confidential. The questionnaire is filled in anonymously and returned directly to Massey University in the attached envelope. Individual results are not reported within the research, only group trends. Your participation is voluntary and appreciated by the researchers. Thank you for your co-operation.

Dr Michael McCarrey
Dr Judy Brook
Helen Walker

---

[1] The personal attributes measure was not included in the present thesis

APPENDIX C

Dear Survey Participants

MANAGERIAL CHARACTERISTIC SURVEY

Preliminary data analysis of the Manager Characteristic Survey is underway. I have attached your personal profile of the characteristics measured as they relate to the 250 New Zealand managers that participated in the survey.

Your results are shown graphically and it will be necessary to look at the following notes to determine what a high or low score suggests, as high scores are not necessarily desirable; it is also important to look at the pattern of your results in the context of these notes.

As you may recall you completed:

i)   a hypothetical job situations questionnaire, designed to measure **explanatory style,** which is defined below

ii)   a measure of **personal attributes**[1] which measures both relationship and task orientation

iii)   a self report, **problem solving** skills questionnaire, and

iv)   a measure of **job satisfaction**

My thesis predicts that people with an optimistic explanatory style are likely to have a higher sense of job satisfaction and superior problem solving skills. Logically it seems that the combination of these variables suggests an overall performance index as they are closely related to motivation to take action, a sense of control and decision making, which together contribute to managerial skills.

The following notes firstly explain the dimensions measured on the graphs and secondly, describe the sample and the scores (percentile scores)

---

[1] The personal attributes measure was not included in the present thesis

1. The Graphs:

Explanatory Style People tend to generate a reason or an explanation for the things that happen to them or around them. Explanatory style refers to a characteristic way an individual may explain those events.

An **optimistic explanatory style** is one in which the person explains **positive** events as having causes which lie within the person (rather than the environment), and which are likely to recur over time and relate to many situations; for example explaining personal success as a result of ability. (This is labelled as Internal/ Stable/ Global on the graph). Additionally, an optimistic explanatory style is also characterised by the individual perceiving the cause as being under personal control, for example, his or her own effort (labelled personal control/ foreseeability).

A **pessimistic explanatory style** is characterised by the same explanatory characteristics but for **negative** outcomes rather than positive ones; a pessimistic explanatory style has been linked with depression.

The external/ chance/ other control dimension measures the extent to which the individual considers that the events which occur are related to factors outside their own control. Usually those with a more optimistic explanatory style will score lower on this dimension. The importance factor on the graph is an index of how salient positive and negative outcomes are to the individual.

Individuals with an optimistic explanatory style are likely to be more motivated, exert more effort, and achieve greater career success while those with a pessimistic style tend to take a more passive role and report lower job satisfaction. Research suggests an optimistic explanatory style is positively related to performance, satisfaction and effort in the work place. However, it can also be noted that one's explanatory style may relate to situational factors, for example, those individuals in positions of higher responsibility have greater control over their environment than people with less responsibility.

There are three graphs relating to explanatory style, the first gives your scores (as a percentile of the sample - which is described below) for explanations for events with a positive outcome and this provides an index of optimistic explanatory style by considering both the internal/

stable/ global and personal control/ foreseeability dimensions. The second graph details your scores for explanations for events with a negative outcome and provides an index of pessimistic explanatory style and the third is a combination of the first two.

Personal Attributes:

As noted above, this part of the questionnaire measured task and relationship orientation. The dimension labelled instrumental refers to task or skill orientation while expressiveness measures a more person centred orientation. Effective managers are likely to score highly on **both** dimensions, suggesting a range of strategies for managing both the task and interpersonal relationships. Different situations will require a different emphasis in the strategies adopted.

Problem Solving Skills:

This is a "self report" measure, however research suggests that it correlates fairly well with more objective measurements of problem solving. The specific components of problem solving that were measured are orientation to problem solving (both positive and negative orientation) which relates to a subjective feeling about one's ability to solve problems; and then specific problem solving skills:-

1. Problem Definition and Formulation - the extent to which the individual obtains relevant, factual information about the problem, clarifies the nature of the problem and identifies a set of problem related goals.

2. Generation of Alternative Solutions - this measures the degree to which as many possible solutions are generated which is particularly relevant to more complex problems, on the basis it maximises the likelihood of the best solution being identified.

3. Decision Making - this relates to the next phase of problem solving in identifying the best of the alternatives.

4. Solution Implementation and Verification - measures whether the solution to the problem is evaluated in terms of both positive and negative effects.

5. Impulsivity and Carelessness - this is characteristic of those who make "knee jerk" decisions often to be rid of the problem as quickly as possible. High scores on this dimension suggest an impulsive overly rapid decision making approach.

3

6. Avoid Problem Solving - this is similar to a negative problem orientation and is characterised by procrastination.

One's orientation to problem solving is more influential in dealing with simple, low risk problems; whereas the skills specific to problem solving have more impact on more difficult, high risk problems.

Job Satisfaction:

Job satisfaction was measured on two dimensions - intrinsic and extrinsic sources of satisfaction. The former relating to sources of satisfaction within the job itself, its challenge, variety etc and the latter to sources external to the job such as salary, colleagues etc. Interestingly the job satisfaction reported by this sample of New Zealand managers has a lower average than the average reported in other studies.

2. Results

Percentiles: The attached results are expressed in percentiles. Percentiles indicate the relative position of a person to the rest of the sample. An individual scoring the 50th percentile is in the middle of the sample while a person at the 90th percentile has a score equal to or higher than 90 percent of the sample. Fifty percent of the sample will fall below the fiftieth percentile.

The Sample: It is important to note that this sample is made up of people who have already been relatively successful in their careers by attaining a managerial position, and indeed the sample is not necessarily reflective of managers generally as many of the participants were selected by their organisation to participate. Consequently, the percentiles noted in these scores are unlikely to be pertinent to a general population.

Explanatory style and problem solving skills can be modified or changed through training, and if this is the case it is likely the other characteristics that have been measured will also be impacted upon.

I have kept these notes as brief as possible, but hopefully have included sufficient information for you to interpret your own results. Should you have any queries or concerns regarding your results please contact me in writing at Massey University.

4

I would like to take this opportunity to thank you for your participation in this survey.
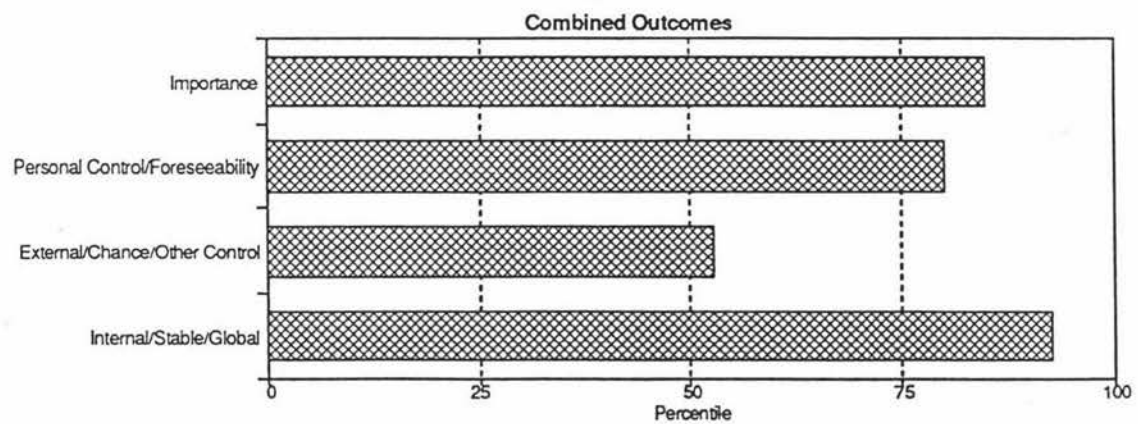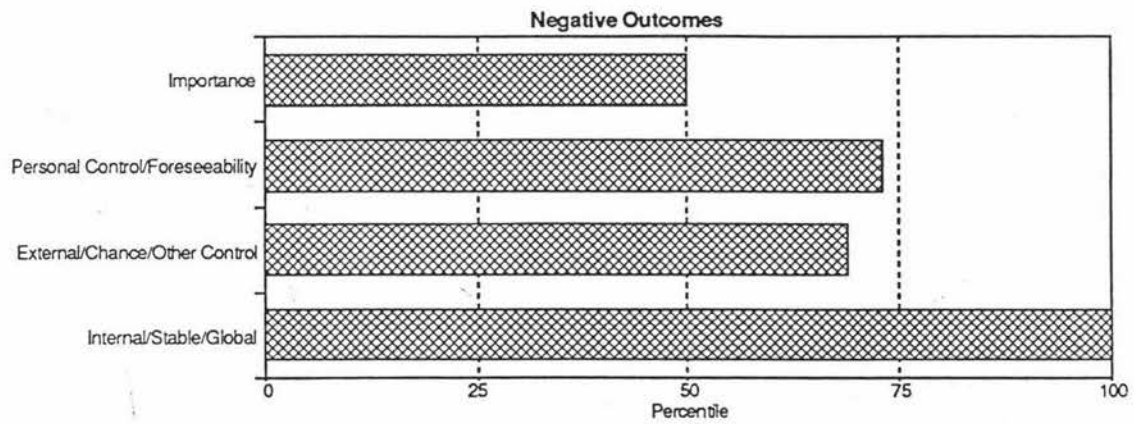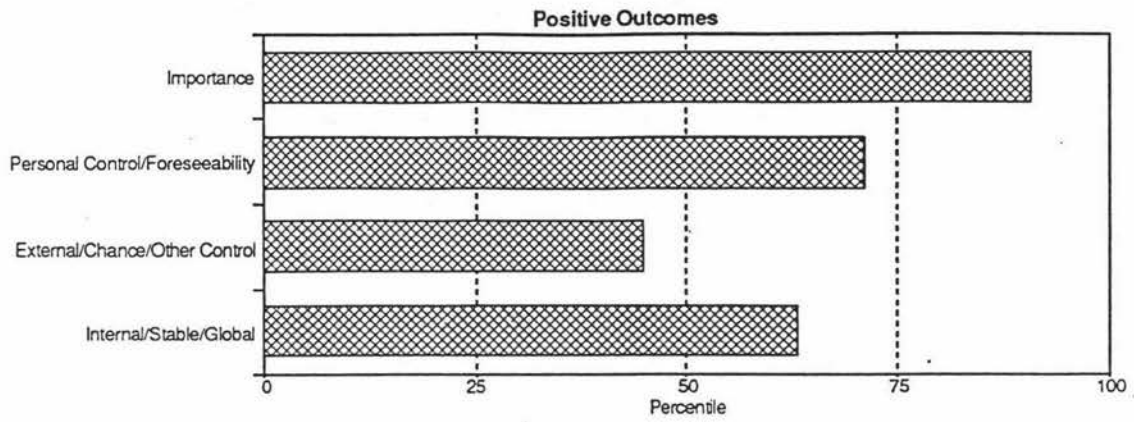
Yours faithfully

Helen Walker

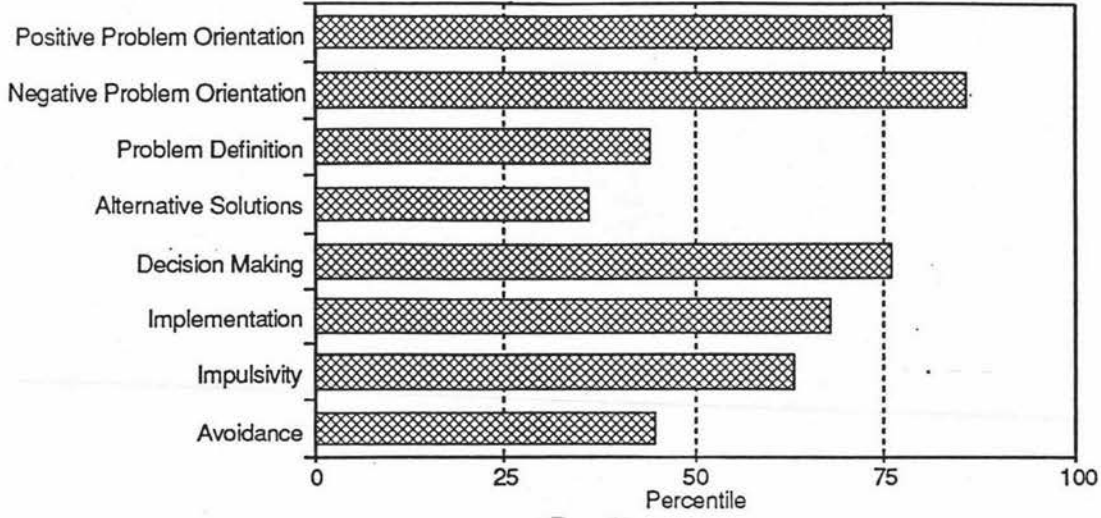# MANAGERIAL CHARACTERISTICS SURVEY

Code No.   13059
Explanatory Style

Positive Outcomes
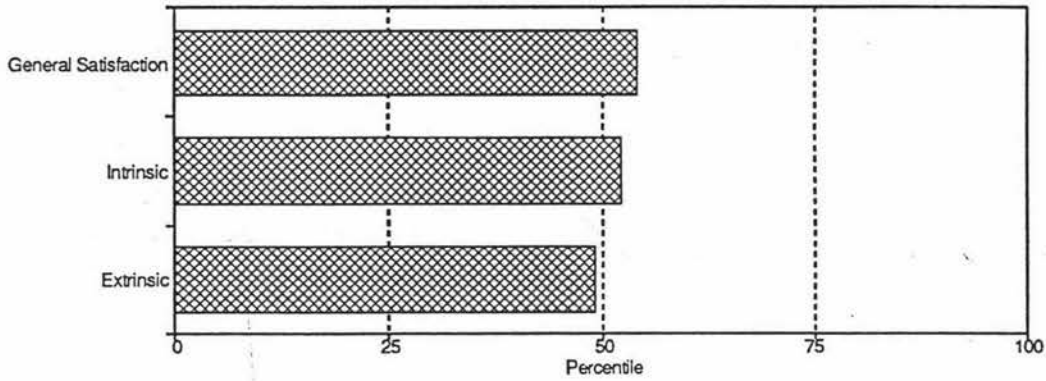

Negative Outcomes

Combined Outcomes

MANAGERIAL CHARACTERISTICS SURVEY
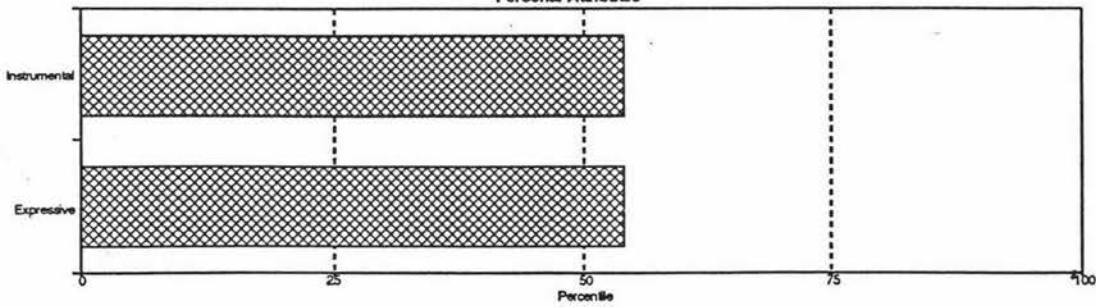
Code No.   13059

Problem Solving

Job Satisfaction

Personal Attributes

Massey University Library

Thesis Copyright Form

Title of thesis: Attribution - Its Application to Job Satisfaction + Problem Solving

(1) (a) I give permission for my thesis to be made available to readers in Massey University Library under conditions determined by the Librarian.

(b) I do not wish my thesis to be made available to readers without my written consent for .... months.

(2) (a) I agree that my thesis, or a copy, may be sent to another institution under conditions determined by the Librarian.

(b) I do not wish my thesis, or a copy, to be sent to another institution without my written consent for .... months.

(3) (a) I agree that my thesis may be copied for Library use.

(b) I do not wish my thesis to be copied for Library use for .... months.

Signed Hu Walker

Date 19/12/94

* * * * * * * * * * * *

The copyright of this thesis belongs to the author. Readers must sign their name in the space below to show that they recognise this. They are asked to add their permanent address.

NAME and ADDRESS   **DATE**