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THE ROLE PLAYED BY HARDINESS AND ATTRIBUTIONAL
STYLE IN THE DYNAMICS OF STRESS AND COPING
PROCESSES AMONGST TEACHERS.

By
JULIAN LEON

B Soc Sc.

B Soc Sc (Hons) Religious Studies.

BA(Hons) Psychology

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SUPERVISOR: DR.R.OXToby

ABSTRACT

Research seems to indicate that individuals may be more psychologically hardy when they view stressors as challenging instead of threatening, when they are committed more than alienated from their life tasks and where the person has an internal locus of control. The Hardy person copes to solve problems and reduce emotional strain and attributes positive outcomes to themselves and negative outcomes to chance. This study examines the relationship between hardiness, attributional style and coping processes amongst teachers. Fifty seven female and fifteen male teachers all working at a private school in Cape Town voluntarily participated in the study. The respondents fell into four age ranges; 20-30, 30-40, 40-50 and 50-65. Twenty five percent [18 subjects] work in the High School, forty three percent [31 subjects] work in the Middle School and thirty one percent [23 subjects] work in the Primary School. Subjects responded to three instruments. The Personal Views Survey, the Attributional Style Questionnaire and the Ways of Coping Scale. Results yielded support for the assertion that subjects high in hardiness generally use more transformational coping than subjects lower in hardiness. Results also indicated that subjects high in commitment, a sub-component of hardiness, were more likely than subjects lower in commitment to have an internal locus of control.

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1. INTRODUCTION

This thesis examines the role played by subjective mediators in the activation of coping processes in response to demanding events and in determining the nature of those coping processes. It further attempts to understand how subjective mediators play a determining role in respect of whether demanding events are experienced as stressful to the individual or not.

According to Suls and Rittenhouse (1987) research into personality and physical health outcomes changed in the 1970's after correlation between life events and illness revealed statistically insignificant outcomes. In other words, it became apparent that it was false to state that for all people certain seemingly difficult life events would be experienced specifically as stressful. The emphasis shifted towards personality variables as moderators of the life event- illness relationship. This was done in an attempt to account for the variability of response to life events. It was fortuitous that the life event model failed because this led to the need to explain this variability. The Life Events model failed in its predictive power to account for individual variation. What confirmed this failure was the success of the concept of the Type A behaviour pattern/personality disposition in predicting coronary heart disease (Friedman & Rosenman, 1959). There has thus been a shift away from trying to understand stress as *simply* an objective external event towards a conceptualisation that it might also be an internal event requiring the understanding of subjective mediators.

Thus the quest turned towards identifying specific subjective mediators which intervene between stress and health outcomes. The relationship between subjective mediators and behaviour is complex; the relationship between subjective mediators and health outcomes (psycho-neuro-immunology) is exceedingly complex in nature. The bold claim that personality variables intervene directly between stress and illness must be subjected to rigorous research before such claims can be completely validated and understood. Whilst acknowledging the problems in this regard, the importance of personality - illness research remains. Suls & Rittenhouse (1987), state that associations between personality and illness are valuable for purposes of identifying "at risk" groups, for generating more holistic and comprehensive theories of disease and for emphasising the great value that the study of *individual differences* has for the discipline of psychology.

The present research attempts to understand how people perceive themselves, the world and the possibilities of dealing with the world (Semmer, 1997) and how these subjective mediators

constituting personal perceptions, appraisals and self-cognitions can be understood as promoting or inhibiting successful coping with life demands (Maddi, 1990, p124).

Specific personality dispositions and cognitive self-constructs are thought to facilitate adaptive coping through the action of being resistance resources. These personal resources result in *both cognitive appraisals and coping behaviours* that serve to reduce strain derived from life events, and thus enhance physiological and psychological well being. The personality disposition of hardiness, comprising the sub-factors, commitment, control and challenge is considered to be a primary resistance resource. Attributional style, being the way people explain the cause of aversive, uncontrollable events is seen to be an important perceptual mediator that either inhibits or promotes the utilisation of the dispositional resource hardiness and is a critical aspect of the cognitive appraisal of life events. Coping processes, (either transformational or avoidant, cognitive and behavioural, problem focused and emotion focused) are central to the understanding of how resistance resources are translated into coping which facilitates the minimisation of strain.

Research into individual differences attempts to identify and isolate specific subjective mediators, a class of which is, personal resistance resources. These may account for differing coping responses to stress. Research has indicated that resistance resources, such as personality hardiness, mitigate the adverse effects of stressful life events (Parkes & Rendall, 1988). Much research effort has focused on the identification of factors that act as buffers against stress (Ganellen & Blaney, 1984).

Kobasa, Maddi & Kahn (1982) developed the concept they term Hardiness. This is an attempt to pinpoint specific personality and cognitive constructs of the self-system that promote mastery and resilience to demanding life events, and further to translate this formulation into a psychometric instrument. Kobasa noted that researchers have been looking continually at the causal relationship between stress and illness. The inherent *stressfulness* of modern life has resulted in a focus by researchers into the measurement and definition of stress (Kobasa, 1979).

Research indicates that hardiness functions as a resilience producing resource in respect of stressful life events and that the most beneficial "health preserving effects" of hardiness occur when life event stress increases (Kobasa, Maddi & Kahn, 1982). The authors acknowledge that other resistance resources exist and play an important role in mediating stress and illness, such as social support (Cobb, 1976). Nonetheless, it is still necessary to determine if there is a difference between hardiness and other resistance resources, and this requires continuing research specifically into hardiness.

In examining hardiness Hull, Van Treuren & Prossom (1988) suggested that attributional style might mediate the effects of hardiness sub-components on health. In addition, the authors suggested that future research would need to examine the mediating effects of hardiness by other variables such as "secondary appraisal processes and different coping styles" (Hull et al 1988, p 512).

The present research examines hardiness amongst teachers; its relationship to attributional style, how teachers explain the cause of aversive uncontrollable events, and the relationship between these two factors and individual coping processes. The aim of the present study is to ascertain if a discernible relationship can be demonstrated between hardiness and attributional style and coping processes.

It is expected that teachers, who generally operate in a very demanding and stressful environment, particularly in South Africa, will exhibit higher levels of hardiness, representing measures of commitment, control and challenge. In addition, they will exhibit a greater degree of internal locus of control for controllable events and external locus of control for uncontrollable events. Further, they will exhibit a greater tendency to cope with stress with transformational, rather than avoidance coping strategies.

The findings of the study will be discussed with a view to establishing the limitations of the hypotheses. The research will point to further areas that need to be considered or taken into account in ongoing research.

2. REVIEW OF LITERATURE

2.1 Research Into Resilience And Vulnerability

Antonovsky (1979) states that stress is ubiquitous in modern lifestyles. It is important however to remember that stress does not necessarily only refer to unusual or extreme circumstances. According to Strumpfer (1990, p 266), stress also refers to the normal repetitive difficulties of life experienced by ordinary people in a demanding world. Stress also refers to the *daily hassles* that cumulatively create stress (Kanner, Coyne, Schaefer and Lazarus, 1981). If it is accepted that stress is pervasive, and sometimes the demands of life may tax or exceed an individual's resources, it is nevertheless not true to state without exception that demanding events will inevitably result in an *experience of stress* for the individual. In addition it is important to note that some people feel more stressed than others do in the face of comparable circumstances or life events.

One of the tasks of this thesis is to examine and offer explanations for what lies behind the variability in response to the *ordinary*, but still difficult, demands of life.

We could simply focus on the question why is it then that some individuals cope or *survive* (Strumpfer, 1990) better than others? However this thesis suggests that it is possible not simply to understand why some individuals cope and seem to be resilient, but also why some individuals seem not to cope effectively and experience vulnerability. Thus the understanding of this variability must consider subjective mediators leading to both resilience and vulnerability. Indeed Rutter (1981) calls for the study of individual differences in stress research looking at the interaction between person and environment that resulted in either vulnerability or resilience. Thus part of the question relating to variability means that it needs to be asked what (if any) are the resources that provide certain individuals with "resilience in the face of adversity?" (Rutter, 1987).

It is precisely because of the fact that individual responses to events result in different outcomes that the need to understand individual differences has emerged. Rutter's (1987) research endeavours focused on vulnerability, risk and the presence of protective mechanisms. He noted that there was an immense variation in individual responses to stress. The concerns around these issues find resonance in the words of Garmezy (1983) who stated that "it is likely that the next decade will witness a significant growth in research that may pass under many banners; stress resistance, ego resilience, protective factors, invulnerability" (Garmezy, 1983, p, 73). Again, it must be borne in mind that in addition to identifying resistance resources that result in resilience, it is

equally important and possible to identify subjective mediators that eventuate in vulnerability. This formulation should not simply be construed as the absence of resistance resources, but rather the presence of other cognitions, perceptions and self-beliefs that prohibit successful coping.

Research, however, has tended to focus on the attempt to identify and isolate resistance resources. This search for factors promoting resilience, in part an ideological reaction to the perception that medicine and the medical model focuses only on the identification of pathological symptoms, has resulted in the coining of the term *salutogenesis*. A pioneer in this research is sociologist, Aaron Antonovsky.

According to Antonovsky (1979) the development of the salutogenic approach was first inspired when he noted seemingly atypical responses to acute and chronic stress amongst concentration camp survivors, and socio-economically disadvantaged people who maintained a fairly high level of health in spite of the prevalence of ubiquitous stress in their lives. In this regard Garmezy (1983) citing Moskowitz (1983), also speaks of Holocaust survivors stating "...their affirmation of life, the quality of stubborn durability, their hardiness of spirit and their quiet dignity are part of this persistent endurance.....despite their occasional personal despair" (Moskowitz, 1983 cited in Garmezy, 1983, p.52). Despite Antonovsky's stated agenda to identify resistance resources he does recognise that 'health' and 'illness' are situated on a multi-dimensional continuum (Antonovsky, 1979, 1987). Salutogenesis, Antonovsky claims, looks at the factors pushing an individual to either end of such a continuum. His focus was the conceptualisation of situations where individuals, faced with the identical stressors, reacted either by withdrawal or by successfully meeting the challenge that was presented. Thus Antonovsky advocated the study of individual differences and coping, as he puts it; "...it compels us to devote our energies to the formulation and advance of a theory of coping" (Antonovsky, 1979, p.246). His search for resistance factors was premised on the conviction that subjective interpretations of events were more critical in causing the person to become stressed than were the actual events themselves.

2.2. Subjective Mediation Of Experience.

Rutter (1981) , speaking about the direction of future research into resilience and stress, described three areas that needed investigation. Firstly, he called for a more discriminating model of stress theory. Secondly, he called for research linking stress to developmental precursors, and finally, he called for the study of *individual differences in stress research that looked at the interaction between person and environment that resulted in either vulnerability or resilience.*

In looking at individual differences, Rutter (1987) discussed cognitive processes that mediate an individual's capacity to cope effectively. He suggested that therapeutic interventions must aim to facilitate the acquisition of coping resources that allow the individual to gain specific skills which promote effective dealing with the rigours, demands and strain of life (Rutter, 1987, p.10). He maintained that it was essential to understand how people think about themselves and their experiences, and thus to try to make sense of the ways in which they actually deal with the situations that emerge in their lives. The implication, Rutter explained, is that the analysis of past traumatic experiences, intra-psychic conflicts and defences are a necessary, but insufficient goal in the long term. Irrespective of what a person has experienced, what is also required is a critical analytical model that displays personality and cognitive processes and coping and appraisal strategies that either inhibit or promote current functioning.

If, as Rutter states, the cognitive processes involved in the appraisal and response to life events are so important, then the absence or limited capacity to apply successful cognitive constructs will have implications for psychological functioning.

If research into the relationship between personality and cognitive processes and functioning is to reveal information that can be translated into operational interventions then it is essential that a theory of personality and cognitive processes is well defined and meaningful. A theory of self-cognition must provide a detailed explication as to the specific constructs involved, as definable and operational cognitive processes, along with hypothesised pathways of action.

Rutter (1987) explained how cognitions and appraisal processes link to psychological outcomes. When the ways in which individuals cope with the demands of life is observed, it becomes possible to make sense of the cognitive constructs that underlie the coping strategies. Specifically, Rutter states that cognitive processes mediate the coping strategies a person brings to bear on life's events. He stated that the way in which we appraise our life circumstances and the ways in which we react and cope with experiences of all kinds, are greatly influenced by how we think about ourselves and our environment. Maddi (1990) corroborates this view stating that personality factors motivate through their influence on how persons think about themselves and their world. Peterson, Maier & Seligman (1993) demonstrated the link between cognitions of learned helplessness and physical well being.

Bowlby (1961) further corroborates this view by giving the example of children who experience parental loss in childhood. The loss itself becomes secondary to the creation of a negative cognitive structure that, as he puts it, provides a vulnerability to respond with depression to later loss events. A depressive response to experience in itself is a well-documented and researched

cognitive structure (Beck 1967, Seligman, Abramson, Semmel and von Baeyer 1979). Beck (1967) explained that depression is also a cognitive state. The *belief* that an individual is helpless and powerless to influence the negative experience that he has, is precisely the cognition that prevents the individual from embarking on coping strategies that might end the depressive reaction.

Rutter (1987) argues that to simply label people as for example inhibited or outgoing or emotionally stable or unstable is wholly inadequate when trying to understand personal functioning. What must be examined are the thought processes underlying this functioning. This would include how people react to their given attributes, how they think about themselves and how these concepts are put together into a *coherent* and conceptual whole. Rutter views people's behaviour as predictable in terms of an understandable *psychological coherence* rather than as a generalisation of behaviour (Rutter, 1987). An example of this is to be found in the individual's appraisal of stress. Some of the cognitions that mediate coping are related to the individual's capacity to define the *salience* of particular events, that is, events are given personal significance by the individual, either negatively or positively (Patterson and McCubbin, 1987). A person's actions can thus be coherent psychologically, but may seem to make little sense in terms of manifest behaviour.

The probable importance of cognitive mediation in vulnerability and resilience has implications for the potential positive role that new experiences can bring in changing people's views of themselves, their environment and their relationships with others. An experience need not be pleasant, but if successfully coped with, it can prove to be protective and hence may increase resilience in the future (Rutter, 1987).

Rutter (1987) suggests that cognitive processing may be seen in four domains:

- the self-system with the influence of mediators such as self-efficacy, self esteem and locus of control;
- the regulation of susceptibility to the influence of certain experiences by cognition;
- the importance that cognition plays in peoples interpretation of experiences;
- and the role that cognition plays as a causal factor in psychiatric illness.

For the purposes of the present study the first three statements have significance.

Tennen & Affleck (1987) suggest that current research into personality and health, "converge on the conclusion that peoples views of themselves, the world, others and the future, predict their vulnerability to illness and may even predict how long they live." (p,377)

2.3 Salutogenesis And Pathogenesis: Health & Disease Processes

Pathogenesis in psychology means that there is an emphasis on the abnormal aspects of human functioning. This seems to be because clinical psychology, has been viewed as the leading branch of applied psychology and thus set the theoretical tone to the rest of the field.

At the heart of the pathogenic paradigm is the assumption that diseases are caused by physical and psychosocial agents. In its sophisticated sense, pathogenesis looks at multiple causes of disease. Also fundamental to the pathogenic model is the concept of homeostasis. Disease is viewed as an aberration that is understood to be a deviation from homeostasis.

The salutogenic paradigm looks specifically for the normality in the abnormal in order to understand and make more use of these factors. Salutogenesis also focuses on the drive towards mastery, competence and self-actualisation. Salutogenesis regards stress as a normal part of living ordinary lives. In fact Antonovsky (1979) commented that each of us is so bombarded with so many stresses that it is remarkable that we survive. He thus asked; "whence the strength?" and suggested that people must possess "generalised resistance resources". It is this strength in the face of stress that particularly interests salutogenesis. The implication of the salutogenic paradigm is that it does away with the dichotomy of grouping people as either healthy or ill. As a consequence of looking at health and illness, all people become the subject of study.

The central concept of salutogenesis adopts the view that stressors may have salutary consequences, that is, stressors are neutral in their health consequences. The consequences depend on the person's response to the stress event. It is the perception of a threat to our physical or psychological well-being and the feeling that we cannot cope that initiates a stress response to an otherwise potentially neutral event. Thus it is the interpretation of an event that elicits the physiological stress response. Salutogenesis chooses to focus on the unique and variable ways that individuals perceive life and the significance of events. This is the search for individual coherence.

Research, referred to as *risk research* examines risk factors that may result in disease or disorder. This identifies vulnerability. Research into resilience on the other hand examines risk factors that are overcome and thus result in positive adaptive behaviour. This field of research emerged from epidemiological medicine (Haggerty, Sherrod, Garmezy & Rutter, 1994). The breadth of this research covers disciplines from biology to psychology, and examines aspects ranging from pre-natal factors through socio-economic status of families to the presence of Attention Deficit / Hyperactivity Disorder. The authors highlight another aspect of research being "the actualising

power of stressful experiences via the ameliorating force of identifiable protective factors and personality dispositions" (This has direct bearing on the present research (Garmezy, 1994, in Haggerty et al, 1994, p10).

Antonovsky (1979, 1987) coined the term *salutogenesis*. This orientation focuses on the presence of health, unlike the *pathogenic* orientation of research, which focuses upon symptomatology and the disease process. A pathogenic approach focuses predominantly on the disease itself, taking an etiological approach, and often fails to take into account an understanding of the subjective aspects of the ill person. Specifically, ignoring subjectivity runs the risk of failing to consider the impact that subjective aspects might have in inhibiting or promoting resistance resources. In contrast the salutogenic approach focuses on the impact on health and illness of the individual's subjective worldview. Salutogenesis, according to Strumpfer (1990) focuses on psychological constructs that emphasise the origins and maintenance of health and wellness.

Antonovsky addressed the phenomenon of being able to overcome stressors by identifying "resistance resources" or "neutralisers" as mediators in stressful events that, if left unresolved, would otherwise have debilitating effects upon the individual. Initially he noted that such resources would include; the existence of social support, health practices, constitutional strengths, and personality dispositions. Antonovsky (1979) viewed social support resources as one of the most promising resources warranting further investigation.

- Subjective mediators: an explication

It is necessary at this point to make a clarification. This thesis examines the possible factors that may account for demanding events being experienced as stressful. To this end, a very specific aspect of research is being examined, that is, subjective mediators possessed by the individual that may play a part in how an individual perceives and thus **subjectively experiences** events. This thesis is not examining all the factors that may account for people being resilient..

Grotberg (1997) speaking about the International Resilience Project listed the factors thought to be linked to resilience. The long list comprises three categories.

- external supports and resources;
- internal strengths;
- social interpersonal skills.

This thesis does not argue that only subjective mediators or internal strengths account for variability in response to demanding events, rather, that the experience of stress is in the final instance, a subjective event.

It follows then that the subjective experience of stress is a necessary factor that must be present in order for a person to be stressed. This implies that if a person was to find themselves in a type of situation that would cause most other people to experience great stress, and yet this person did not have any subjective experience of stress, then this person could not be said to be stressed. This situation could not be said to be a stressful situation for this person. A person can be said to be stressed only if that person feels stressed. Thus *is* stressed and *feels* stressed are interchangeable terms. It is precisely this subjective factor that is being investigated.

There is a wide range of factors that can cause people to become stressed; physical environment, socio-economic status, physiological wellbeing, genetic predisposition's, any other relevant factors of a person's particular life situation, actual event occurrence in response to which the person comes to feel stressed, and the individual's psychological characteristics. The most important of all these factors for the purposes of understanding stress and coping in the present research are the individual's psychological characteristics. It is argued that this component mediates the effects of all the other factors. What is being referred to here are those internal psychological characteristics that play a role in mediating the interpretations and emotional responses that people have in relation to external events. These psychological characteristics have two components, they being cognition and affect. Cognition entails comprehension, understanding, or beliefs. Affect entails emotion, sensation, and how one feels. These two components are inextricably intertwined and therefore should not be separated out. These constitute subjective states. They represent amongst others, beliefs about the nature of the world, beliefs about causal relations; such as what causes external physical occurrences; and what causes other people to think feel and act the way they do. These two beliefs play a central role in determining peoples expectations. Subjective states also include beliefs about one's own abilities, one's own abilities to influence external material events and to influence people; beliefs about ones abilities to learn skills, beliefs about emotional capacities, and beliefs about the expectations that others have of one. Subjective states also include a person's needs, goals, priorities, and motivations and would constitute and explain a person's *intentionality*.

There are specific aspects of subjective mediators that are of central significance in understanding their role in mediating stress and coping. These include the actual nature of the mediators along with the degree to which they correspond to reality. In other words, are a person's beliefs about reality in the world and his or her own capacities true.

Subjective mediators determine two things. Firstly a person's interpretation of external states of affairs and secondly, they determine how a person **feels** in relation to their interpretation of external affairs. (I am stupid, how do I feel about this, I'm ok, or people don't like stupid people.) In

combination a person's subjective mediators, together with stated effects of those mediators determine a coping strategy a person will choose.

It should be accepted axiomatically that all people are motivated to avoid distress and desire to seek well-being. These are different but they can both be salient and present. Thus it is important to understand classes of coping strategies.

Individuals' coping strategies include actions designed directly to meet demands or challenges made on them, as opposed to avoiding the demand or challenge. Secondly coping can involve adopting an attitude or an appraisal that attempts to bring about a frame of mind that reduces the subjective experience of stress/distress. Coping also includes behaviour that attempts to reduce the level of distress that an individual may feel, but without dealing directly with the actual problem itself. And finally, coping includes avoiding demands without changing them but taking oneself away from the problem. It is only possible to make sense of an individual's coping strategies by knowing the context in which coping is demanded or occurs and the actual subjective mediators an individual brings to the demand situation.

Understanding a person's subjective mediators and the coping strategies they tend to choose in response to circumstances is only part of what is needed to understand individual responses to stress. The actual circumstances of an individual's life, the actual objective facts of their external reality, as well as the individual's psychological realities or internal world, and their genuine capacities and abilities need to be understood. Only once an individual's subjective mediators, external realities, their capacities and abilities are known, can we evaluate their coping strategies.

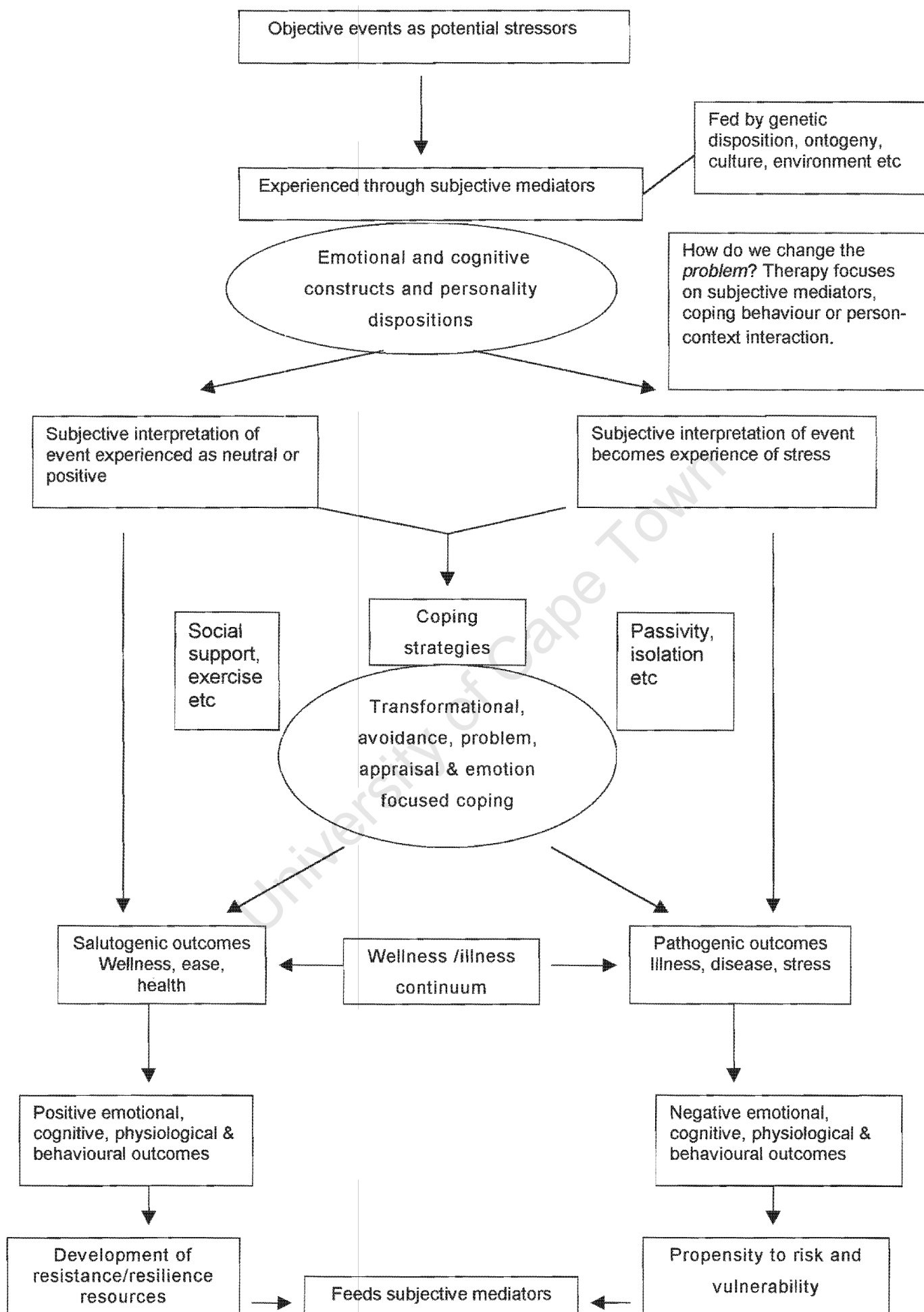
Subjective mediators and coping strategies that do in fact minimise distress and/or increase well-being can be said to be *sources of resilience*. Those mediators and coping strategies that do not minimise distress and do not result in well-being can be said to be *sources of vulnerability*. In general it might be found that subjective mediators and coping strategies that are realistic in terms both of external circumstances and an individual's subjective reality, will prove to be sources of resilience. Mediators and coping which are unrealistic will tend to become sources of vulnerability. For example a strong sense of commitment can be both a source of resilience and a source of vulnerability. Likewise, avoidance might in fact be a source of resilience, whilst self-efficacy might in fact be a source of vulnerability.

Stress itself is not necessarily a source of vulnerability. It is often appropriate for an individual to interpret an event in such a way that leads them to feel stressed. The very presence of stress serves as a source of motivation for survival requiring an active resolution of the stress. Therefore

talk of stress buffers as resistance resources is potentially misleading. Sometimes a person who fails to feel stressed will as a consequence fail to activate appropriate coping strategies and might thereby find themselves in a compromised set of circumstances. The term coping can be misleading too. Coping implies attempts to overcome what is experienced as a demanding state of affairs and thus the conceptualisation of coping needs to accommodate situations where people are presented with what they interpret as exciting opportunities as well as stressful demands. Feedback in the development of subjective mediators needs to be accounted for as well. Coping strategies are the consequence of a person's given subjective mediators and coping strategies in turn impact on the individual's subjective mediators and the further choice of coping strategies. Changes in subjective mediators can come about by successful action that creates positive feedback. With each new coping event a person brings a potentially modified set of mediators with which to experience the next event.

Finally this formulation, to recapitulate, is motivated by the attempt to explain variability, by providing an account of the underlying subjective structures that people have in common. It is not being suggested that there exists one common human nature, rather it is an attempt to show those structures, which all people possess but the character of which might vary, from one person to another.

Figure 1 below (Subjective Mediation of Experience and Coping Model) demonstrates the possible role of subjective mediators in the experiencing of events as stressful or not.



From a salutogenic perspective subjective mediators that promote wellness should be the object of research, particularly resistance resources that buffer against the effects of stress.

2.4 Salutogenic Constructs: Resistance Resources

A number of factors have been posited as being resistance resources. They are all generalised personality orientations which look at health maintenance through stress resolution (Antonovsky, 1991).

Five constructs will be presented here briefly.

- The **Sense of Coherence** construct (Antonovsky, 1979),
- The **Self-Efficacy** construct which focuses on human task performance (Bandura, 1977).
- **Locus of Control** which assesses the individual's attribution of the causality of events (Rotter, 1966).
- **Dispositional Optimism** which represents an index of personal positive outcome expectancies (Scheier & Carver, 1987) and;
- The construct of **Personality Hardiness** which originated from a questioning of how people come to live life with vigorous commitment (Kobasa, 1979).

Antonovsky's sense of coherence is comprised of the following factors:

- comprehensibility or the extent to which stimuli deriving from the external/internal environment make cognitive sense.
- manageability or the degree to which one perceives resources to be at one's disposal.
- meaningfulness or the motivational element, this implies that for the individual making the effort and having commitment are worthwhile in relation to the demand being experienced.

Antonovsky noted that a strong sense of coherence rests on the individual perceiving their environment, both inner and outer as predictable and comprehensible. Such an individual would identify difficulty to be external. This notion has a strong conceptual similarity with attributional style (Petersen et al, 1982) this being how the individual explains aversive uncontrollable events in his life. Antonovsky (1979) stressed that a sense of coherence is not to be equated with being in control, but rather that the control or the location of power is in its legitimate place.

Bandura (1982) examined self-efficacy, which is the understanding of what influences task performance. The main influencing factors herein is an individual's symbolic representations. These self-perceived abilities are then translated into actions. Bandura saw the source of these representations as five specific capacities comprising; symbolising, vicarious learning or modelling,

forethought, self-regulation and self-reflection. Bandura understood self-efficacy to be related to judgements about how effectively a person could execute courses of action required for dealing with situations specifically involving unpredictable and stressful elements. Research indicates that if people believe that they can cope with stress they are more likely not to experience stress as taxing their bodies and consequently have stronger immune systems (Bandura, 1987, cited in Peterson et al, 1993).

Rotter (1966) was also concerned with predicting behaviour. He defined locus of control as being the perception an individual has "... that the event is contingent upon his own behaviour or his own relatively permanent characteristics, we have termed this a belief in internal control" (Rotter, 1966, p1). Locus of control thus looks at the link between thought, behaviour and outcome. Antonovsky (1991) also noted that there are also macro-social aspects to the kind of internality that would predict successful coping. He believed that within our individualistic existence the most major tasks in life, within interpersonal relationships, work and health matters are in fact collective in nature.

Scheier & Carver (1987) describe dispositional optimism as a belief wherein the individual expects desired outcomes to be attainable, even when the attainment is difficult or stressful. Thus dispositional optimism is an index of personal positive outcome expectancies. The authors have demonstrated through research that optimists utilise problem focused coping behaviour when confronting threatening events.

When looking at Kobasa's concept of hardiness, Antonovsky notes that she did not see hardiness in terms of its salutogenic value but viewed it philosophically as the; "very core of full humanity" (Antonovsky, 1991, p87). Kobasa drew on the existential concepts of challenge, commitment and control, which together constitute a personality style of stress-resistance or hardiness. Antonovsky (1991) notes that Kobasa based her understanding of personality theory on existential psychology, which views the individual as a biological, social and psychological being whose primary task is the search for and the establishment of meaning. Antonovsky thus notes that for personality to exist, the construction of meaning is a survival imperative. Kobasa (1979) based her hardiness construct on the existential concept of the authentic personality, explaining how an integration of the concepts of commitment, control, and challenge allow for a style of stress-resistance and allow an individual to approach 'authentic being'. In this sense dispositional hardiness is different. The hardy person responds to controllable or uncontrollable stress with an appropriate coping response, not with a belief that they are invulnerable or that bad things will not happen to them.

A critical observation made by Tennen & Affleck (1987) has bearing on many resistance resources

or salutogenic factors. Resilience cannot mean invulnerability. In terms of dispositional optimism the authors argue that someone who believes or expects only good outcomes, is clearly harbouring an illusion, because as they put it, things do go wrong, no matter how optimistic one is. This concern has a basis in empirical research. The term "positive illusions" coined by Taylor (1989) refers to the tendency of non-depressives to be over optimistic in their expectancies of success whilst depressives tend to not to be depressive pessimists, but what the author refers to as *depressive realists* (Taylor, 1989).

Antonovsky (1979) stressed the importance of these salutogenic factors whose presence or absence he maintained explained movement on the health-illness continuum.

2.5 Salutogenic Factors: Unifying Principles.

There are many psychological constructs that by their definition may be salutogenic in nature and they all appear to contain a leitmotif according to Antonovsky (1991). A concern with personality constructs that mobilise the coping resources that people bring to bare upon the stressful demands of life eventuating in wellness at a psychological and physical level. In detail Antonovsky suggests that salutogenic constructs conform to five principles.

- salutogenic constructs focus on successful coping;
- they are transactional in that the successful coping behaviour is linked with the nature and context of the specific demand situation;
- these constructs result in the individual having a generalised set of beliefs about him or her and about their world. It is these beliefs that shape the individual's appraisal of and response to stressful events;
- in each instance successful coping or avoidance of illness under stress is linked to individuals being "high" in these salutogenic factors;
- these factors have a collective orientation in that they may be applied to collectives as well as to individuals.

The resistance resources highlighted above are by no means the entire range of factors that may be said to conform to a salutogenic conceptualisation.

2.6 Theoretical Issues In Personality & Stress Research.

The study of risk and resilience is the study of complex multi-factorial and developmental phenomenon that are involved in the stress outcome relationship.

The 1980's saw a shift from research into risk for psychopathology to the study of prevention and intervention (Gore & Eckenrode, 1994). The study of resilience focused upon the presence of

protective factors. Protective factors encompass two areas: personal factors such as health, temperament, personality, self-esteem and mastery beliefs and environmental factors such as socio-economic status and social support. This division served to differentiate what the individual brings to an encounter as opposed to what is part of the objective environment (Gore & Eckenrode, 1994).

The relationship between subjective mediators and stress buffers or moderators is only one aspect of the wide study of risk factors encompassing both vulnerability and resilience. This dimension of research finds its place in the area of stress and coping outcomes as part of the wider rubric of person - environment interactions (Rutter, 1981).

Suls & Rittenhouse (1987) documented the history of psychosomatic research or the study of the relationship between personality and health.

The psychoanalytic view of the existence of seven psychosomatic diseases, with their associated unconscious conflicts, was an approach based upon specificity. Specific unconscious conflicts predisposed individuals to specific diseases (Suls & Rittenhouse, 1987 & in Aldwin, 1994). This psychogenic approach had weaknesses because in using retrospective research it becomes difficult to determine whether a trait is a cause or an outcome of an illness. Personality was not a variable at this point, the unconscious conflict could occur in different personality types.

The next general trend was to examine the relationship between certain kinds of events, such as loss or bereavement, but still without looking at specific personality dispositions (Engel & Schmale, 1967). The key mechanism here was seen to be the appraisal and reaction to loss, which created hopelessness, which in turn created physiological responses. This approach failed to explain why only some people with loss experience became ill and could not explain the particular form of the illness. Another form of this approach was the Life Events Model. Here, according to the theory, an arithmetic accumulation of stressful objective life events increases the risk of illness (Holmes & Rahe, 1967). The general eroding of the biological organism under these life changes could also not explain the different specific illness manifestations and further could not explain why some people do not react stressfully to major life events/changes.

Research into personality and physical health outcomes shifted in the 1970's. This was due to the fact that correlations between life events and illness revealed statistically insignificant outcomes. The emphasis shifted towards personality variables as moderators of the life event- illness relationship. One of the key conceptual links in this shift was the need to understand individual differences in reaction to stressful life events, since equal stressors seemed to produce unequal

responses in people. Research into personality and health remains a complex phenomenon (Holroyd & Coyne, 1987).

The mechanisms of action or pathways are by no means certain or proven, indeed Krantz and Hedges (1987, p 351) warn that "continued close attention to the pitfalls in personality and health outcome research as well as the maintenance of a critical attitude by readers", is needed.

Holroyd & Coyne (1987) describe three orientations of research into personality and health outcomes:

- Firstly, traits as contributors to patho-physiology. This approach suggests that personality factors have a causal role in the development of illness through effects on neuro-endocrinal and immunological responses, thus causing damaging physiological changes. The two examples cited relate to Type A behaviour and coronary disease and the inhibited power motive linked through the sympathetic nervous system to the onset of disease. This approach focused upon the psycho-neuro-immunological nexus linking the nervous, neuro-endocrine and immune systems to stress, cognitions and personality (Jemmet, 1985, 1987).

Aldwin (1994) offers the following graphic representation of proposed psycho-neuro-immunological pathways linking stress to health outcomes. Stress, it is hypothesised, may have effects on health outcomes not only via negative affect, but also by direct action on immune and neuro-endocrine systems. Aldwin suggested that the most useful way to conceive of stress and health outcomes at this point in research was to say that stress had an *activating effect* and not necessarily having negative physiological effects. It is these activating effects that form the cusp of research questions in stress and health outcomes.

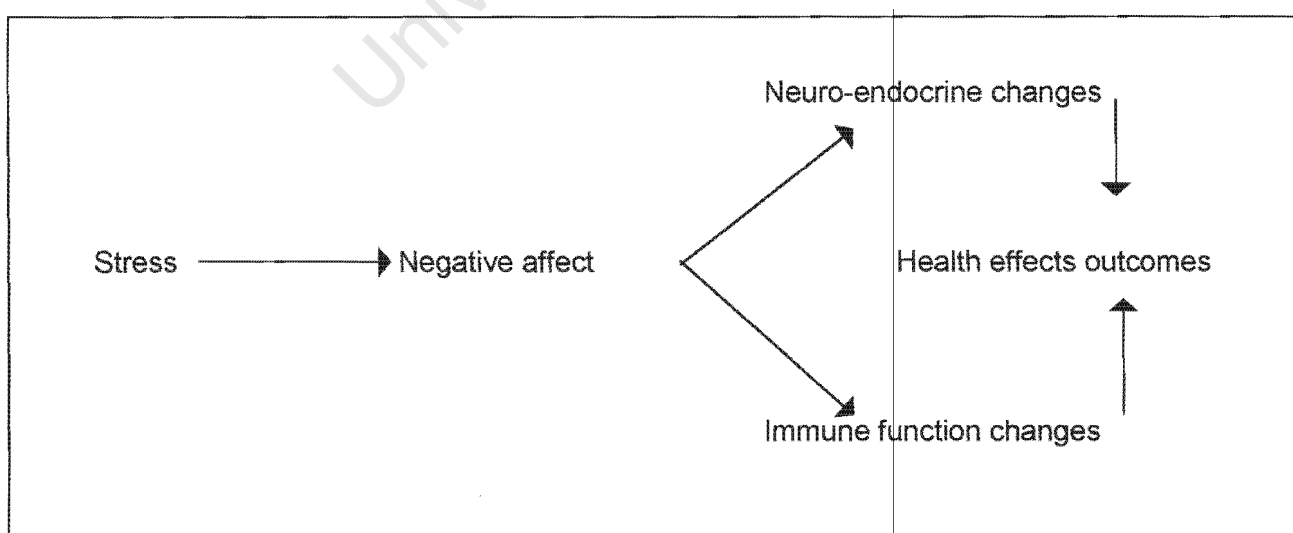


Figure 2. Proposed psycho-neuro-immunological pathways model (Aldwin, 1994).

- The second orientation looked at traits as coping styles. Here the focus was upon how the individual's coping abilities, in the face of life demands, contribute to health and act as stress moderators or resistance resources. Examples of this approach are dispositional optimism (Scheier & Carver, 1987), hardiness (Kobasa, Maddi & Kahn, 1982) and attributional style (Peterson et al, 1982). The conceptual key is that personal characteristics moderate the relationship between stress and illness. Inadequate coping, it is argued, leads to unhealthy physiological and behavioural responses, which lead to illness.
- The third orientation looks at traits and illness behaviour, the belief that physiological outcomes have psychological causes.

Critics of some research into personality and illness argue that the posited associations between traits and outcomes have demonstrated poor predictive value, are not easily reproducible, and do not possess the scientific robustness required by epidemiologists. In addition, sometimes the measures of health used are self-reported symptoms or illness behaviour as opposed to actual objectively documented illness (Holroyd & Coyne, 1987). Perhaps the major difficulty in personality-stress research is the pinpointing of the mechanisms of action. As Krantz and Hedges (1987) explained, few if any researchers deal with:

- stress and personality;
- biological mechanisms or reactions and ;
- health status change.

The authors maintained that in order to make sense of claims relating to personality and health, these three factors should be included in research.

One of the most common research strategies in this field is the seeking of relationships between protective features or resistance resources and health outcomes, usually in the form of a statistical interaction between coping and other personal processes and stress/illness outcomes. Establishing such a relationship should be the departure point rather than the terminus of this type of research. Rutter argued that the next step in such endeavours was to establish the underlying process or causal mechanisms of these demonstrated statistical relationships, utilising more complex models that involve multiple protective features (Rutter, 1990). Specifically Gore & Eckenrode (1994) suggested that part of the complexity of resistance resources is recognising that in some instances protective factors are only effective in the presence of other protective factors. Research on the effects of social support demonstrated this point. It was found that there were positive effects against stress. These positive effects were only evident with the concurrent presence of high levels of internal locus of control amongst subjects. This effect demonstrated the

complexity of multiple interactions amongst resistance resources (Riley & Eckenrode, 1986).

The overriding concern expressed by critics of personality-health outcome research, is the problem of over-simplification of multivariate risk factors in the disease process, the repeatable reliability of defined personality constructs as distinct from other personality constructs and the direction of the personality - illness relationship. Holroyd & Coyne (1987) elucidate these concerns by asking whether "depression is best seen as the pathway from personality variables to physical illness? Or are elevations in both pessimism and attributional style best viewed as state-dependent aspects of being depressed?" (P368).

In summary the notion that personality variables intervene directly between stress and illness must be subjected to rigorous research design before this assertion can be completely understood.

3. Hardiness: Recent Inquiries Into Resilience.

Kobasa (1979) developed the concept termed hardiness. In her work, Kobasa was attempting to pinpoint specific personality and cognitive constructs of the self-system that promote mastery over and resilience to stressful events, and further, to translate this formulation into a psychometric instrument (Kobasa, 1979).

3.1 The Construct Of Hardiness

Kobasa (1979) conceptualised hardiness as a constellation of the personality dispositions of commitment, control and challenge.

- Commitment, is the level of involvement that an individual brings to his efforts. Committed individuals display a generalised sense of purpose which in turn allows them to identify and find meaningful the events and persons in their environment. Their investment in themselves and their social relationships results in them not giving up easily when under pressure, and hence their approach involves being active rather than being passive and/or avoidant. (Peterson, Maier & Seligman, 1993)
- Challenge is the belief that life demands are incentives for growth rather than threats to personal integrity and security. This belief influences the individual to perceive and appraise difficult events as stimulating. Demanding events are thus seen as opportunities to enhance the self. The individual's response to the demands are adaptive and transformative (Kobasa, Maddi & Kahn, (1982). Challenge therefore facilitates coping through the action of effective appraisal or re-appraisal of demanding events.
- Control is the feeling or tendency to act as if one has influence or power in the face of demanding life situations. The individual perceives him or herself as having definite influence

through the application of knowledge, imagination, skill and choice. The individual is therefore more likely to experience events as being the result of his or her actions. This in turn perceptually enhances stress resistance coping. A sense of control thus leads to actions aimed at altering events so that they are then consistent with ongoing personal life plans.

Kobasa (1979) saw hardiness as the *composite* of the three factors commitment, challenge and control. The issue of hardiness as a composite arises because it was postulated that the three sub-components of the hardiness factor interact with each other to produce a unique effect on health; "which is different from the separate effect of the three sub-components" (Orr & Westman, 1990).

The tenets of existential personality theory impacted upon the development of the personality construct of Hardiness. Orr & Westman (1990) suggest that the hardy personality is characteristically similar to the authentic personality.

Kobasa first introduced the concept of Hardiness in 1979. Orr and Westman (1990) pointed out that within ten years of the first mention of the concept; "it had been cited in hundreds of papers published in 103 different Journals and had been featured in the research design of 52 studies" (Orr & Westman, 1990, p.64). The personality construct of hardiness as a concept has evoked much interest as researchers have noted its relationship to health-related outcomes particularly in stressful situations (Ouellette, 1993).

When characterising the personality structures of those that did not fall ill when exposed to stress, Kobasa (1979) noted that such individuals were best characterised by the term 'hardiness'. Initial research into the relationship between hardiness and health by Kobasa (1979) found that in spite of individuals' experiencing life stresses many individuals did not become ill. Kobasa looked at personality as a conditioner of the effects of stressful events on illness onset. She found that business executives exhibiting high stress/low illness measures were more 'hardy', had a stronger sense of self-commitment, a vigorous non-threatened attitude towards their environment, a sense of meaningfulness, and an internal locus of control. This was in direct contrast to executives exhibiting high stress/high illness measures.

Kobasa (1979) proposed that increased stress levels can result in increased opportunities, and therefore facing stress, may enhance future coping prospects. She spoke of individuals with high stress scores who apparently did not get ill. This, she stated, motivated her to probe into the mediating factors that influence the way people react to stress, hence her research into hardiness and health outcomes. Kobasa (1979) turned to the original work of Selye (1976). His physiological

model of stress attempted to show the causal link between stressful life events and the onset of illness. Kobasa (1979) referred to Seyle (1976) when trying to understand what factors might act as mediators in the stress-strain process. She proposed physiological predisposition, early experiences, social resources, and personality to be the most important mediators.

The hardy personality is hypothesised to moderate the effect of stress by four actions:

- the activation and mobilisation of transformational coping (Antonovsky, 1991);
- the hardy personality perceives and evaluates situational stress positively;
- the hardy personality actively engages in the recruitment of social resources (support);
- hardiness acts to reduce psychological strain and negative physiological outcomes (Orr & Westman, 1990, p76).

Allred & Smith (1989) stated that the stress-buffering effect of hardiness occurs because dispositionally hardy persons respond to potential stressors with positive cognitions or appraisals which relate to both the level of threat present and to their ability to cope effectively. This view was corroborated by Rhodewalt & Agustdottir (1984) who found that hardy subjects were more likely than non-hardy subjects to perceive reported life events as positive and under their complete control, even though both groups were experiencing similarly demanding events. Scheier & Carver (1987) believed that hardiness serves as a buffer against stress because of "the undercurrent of optimism in certain of its constituents" (p,185). The uniqueness of hardiness according to Orr & Westman (1990, p,66) is "in presenting a global existential personality theory as opposed to an isolated list of variables, the terms of which are transformed into operational definitions susceptible to empirical testing". Antonovsky (1991) underscored the importance of this point.. He noted that there were scores of psychosocial variables that seemed to be linked to health maintenance. "Progress," the author stated, "in psycho-social epidemiology will depend to a great extent on our ability to convert long lists of variables into coherent theories or models" (Antonovsky, 1991).

Even if one does not accept the theoretical underpinnings of existential psychology, the hardiness model is an attempt to unify multiple variables operationally.

Summary Of Hardiness Research

Examining research into hardiness it was noted that some research fails to demonstrate the stress buffering effects of hardiness. Manning, Williams & Wolfe (1988) found that as stress increased subjects high in hardiness produced fewer positive outcomes than subjects low in hardiness. This contradicts research that hardiness functions as a resilience resource particularly when life event stress increases (Kobasa, Maddi & Kahn, (1982).

Hull, Van Treuren & Virnelli (1987) noted that that when using prospective research designs Kobasa and her colleagues have demonstrated that hardiness was a significant predictor of health "even when prior illness, constitutional pre-disposition, Type A coronary prone behaviour and social support are included as independent predictors" (Hull et al, 1987, p 518).

Research evidence suggests that hardiness is positively related to physical and mental health and that it buffers the negative effects of stress and strain (Kobasa, 1979; Kobasa, Maddi & Courington, 1981; Kobasa, Maddi & Khan, 1982; Kobasa, Maddi & Pucetti, 1982; Maddi & Kobasa, 1984). Hardiness is negatively correlated with anxiety and depression (Allred & Smith, 1989; Funk & Houston, 1987) and most of the scales of the MMPI explain (Maddi & Khoshiba, 1994) but, it is positively related to well being and adjustment (Hull, Van Treuren & Virnelli, 1987; Orr & Westman, 1990).

In an attempt to address earlier methodological concerns Kobasa et al (1982), implemented a longitudinal study as the previous study employed a retrospective design which did not allow for a causal interpretation. The personality data in the initial study could have been the result of stress, illness or their interaction. The longitudinal study which Kobasa et al (1982) carried out, allowed for the accumulation of substantial amounts of stressful life events and illness symptoms, as well as allowing for more accurate prospective claims for personality and personality/stress interactions measured prior to illness. Kobasa conducted a prospective design investigation over a five-year period testing the hypothesis that hardiness - commitment, control and challenge - functions to decrease the effects of stressful life events in producing illness symptoms. Results of the study supported the hypothesis by showing main effects on illness for both stressful life events and hardiness and interaction effects for those independent variables. Hardiness thus was shown to function as a "resistance resource" in the face of stressful events.

In other research it was established that hardiness moderates stress and does this by the mechanism of an "adaptive stress appraisal process" High hardiness subjects rated stressors as less threatening than low hardiness subjects who felt less control over their circumstances and more threatened by them (Wiebe, 1991).

Kobasa stated that cognitive processes have both appraisal and action aspects. In terms of appraisal, cognitive processes determine the way stimuli are experienced and what meaning they are given. In terms of action, cognitive pre-dispositions "energise a particular set of activities experienced as appropriate" (Kobasa et al, 1982). Kobasa, Maddi and Kahn (1982) then confirmed this in a later retrospective study looking at the main and buffering effects of hardiness on reported

illness. Significant main effects for hardiness and a significant interaction effect for hardiness and stress were found.

Kobasa and Puccetti (1983) looked at stressful life events, perceived support from one's boss and hardiness. They only found a significant main effect for hardiness. The F-statistic for hardiness and stress was not large enough to be statistically significant.

Following these initial studies numerous researchers have sought to explore hardiness and its relationship to health outcomes. The initial studies tended to generalise about the relevance of hardiness to health across many occupational groups. Later researchers contributed by confirming and expanding the original results to new contexts. Those studies that have not been able to provide empirical support are useful in that they reveal future areas that need to be investigated if the conceptualisation of hardiness is to be resolved (Oulette, 1993).

Manning, Williams, and Wolfe (1988) who conducted research with working adults found that hardiness actually enhanced stress. They found that as stress increases, people scoring high on hardiness, showed a greater increase in negative outcomes. This finding directly opposes previous research, which found hardiness to be relatively independent of the stressors it is supposed to buffer. Manning et al (1988) noted that hardy subjects were not as likely to report environmental demands. They were able to prove that hardiness had a meaningful, direct effect on psychological and emotional well being which influenced work performance.

Schmied and Lawler (1986) revealed contradictory results in their study of a group of working women. They found no significant main effect for hardiness and no significant interaction for hardiness x stress. This raised serious questions about the gender influence on hardiness and the applicability of hardiness for subjects of different gender.

Kuo and Tsai (1986) researched immigrants' health, with the intention of demonstrating positive immigration outcomes, as well as factors resulting in successful adaptation. They found that aspects of hardiness found in Asian immigrants reduced adaptation difficulties, and lowered development of depression.

Holt, Fine and Tollefson (1978) examined elementary school teachers, school districts, and training institutions. They found that hardiness influenced the levels of burnout amongst teachers. These results provided support for the assertion that interventions designed to encourage active responses to stress were needed.

Bartone, Ursano, Wright & Ingraham (1989) used hardiness to investigate the health risks of male and female disaster assistance workers. The findings from such research provided important treatment and prevention implications for individuals whose employment involve helper roles. The study aimed to investigate major areas of stress, the relationship between the degree of exposure to stressors and health, and risk factors / resistance resources that moderate the effects of stress. They found that social support and personality hardiness interacted to decrease the effects of stress.

Okun, Zautra and Robinson (1988) studied subjects suffering from rheumatoid arthritis. They used hardiness to focus on the positive personality characteristics in women suffering from rheumatoid arthritis and were able to show relationships between hardiness, objective and perceived health status.

Pollock (1989) also used hardiness research to explain the ability of certain adults (with chronic illnesses) being able to adapt better than others. Pollock noted that researchers needed to consider life-span implications of hardiness when focusing on a particular age group.

Numerous studies relating to hardiness have been conducted with nurses. This was done to understand both patient recovery, and also to use hardiness to understand and relieve burnout in nurses (Oulette, 1993). The following studies all showed a link between negative hardiness components and burnout among nurses (Keane, Ducette and Adler, 1985; Mcranie, Lambert and Lambert, 1987; Rich and Rich, 1987). Topf (1989b) noted that hardiness was an effective resistance resource for the stress of noise in critical care units.

Westman (1990) conducted a longitudinal study investigating the impact of stress and hardiness on training performance of Israeli defence cadets. They found that stress influenced performance significantly for cadets who scored low in hardiness.

Oulette (1993) in her review of hardiness research, emphasised an important issue that emerged from the study of hardiness in new groups. She questioned whether the current conceptualisations and measurements of hardiness could be applied to various subject groups. Oulette posited that researchers may need to recast hardiness depending on the distinctive psychological, social, and biological demands of specific age groups.

Research into hardiness continues, Oulette (1993) described the present point at which researchers find themselves as being "a dialectic awaiting synthesis... and that the synthesis is not immediately at hand" (Oulette, 1993, pg. 79.).

3.2 Hardiness: Existential Roots

The concept of hardiness finds its theoretical origins in existential personality theory. Hardiness may be equated to the *authentic* personality. In order to make sense of the theory underlying the principles of hardiness, it is necessary to explicate existential theory.

Psychologists began to take an interest in existential philosophy because of the relevance to psychology of the philosophical study of anxiety, guilt, freedom, choice, meaning, responsibility and alienation.

Although there are many strains to be found in the thought of different existentialist philosophers, all existentialist philosophy takes as centrally axiomatic, the subjective life of the human being.

Existential psychology developed, in part, as a reaction to psychological and sociological theories that offered mechanistic, reductionistic and deterministic explanations of human feelings and behaviour. Existentialism reacted to three dominant theories;

- Freud's explanation of actions and feelings in terms of unconscious and irrational drives or instincts;
- Skinner's behaviourism where behaviour is viewed as a consequence of the conditioning of responses to stimuli;
- Marx's theory of the control of the means of production determining ideological superstructures which determine individuals' values and beliefs.

The existentialist philosophers that Kobasa and Maddi (1977) acknowledge as having most influenced their thinking are: Soren Kierkegaard, Martin Heidegger, Jean-Paul Sartre, William James, Karl Jaspers and Paul Tillich. The psychologists that the authors cite as having significantly contributed to the development of existential psychology are: Ludwig Binswanger, Medard Boss, Viktor Frankl, Rollo May, R. D. Laing and Eugene Gendlin.

It is useful to delineate some of the central concepts developed by these psychological thinkers in order to understand the significance of subjectivism to the theory.

Sartre claimed that each person possesses a set of ultimate beliefs, desires, hopes, fears and aspirations that shape their overall purpose in life and thereby define what he called their "fundamental project." A person's choices are guided by their fundamental project, so it follows, Sartre argues, that in order to properly understand the actions of others, we need to understand their fundamental projects.

Binswanger believed that existential concepts were useful in identifying and curing mental illness. He developed a technique of psychotherapy called Daseinsanalyse, which entailed an analysis of the human capability of giving meaning to existence. Each individual was said to have a unique matrix of meanings through which they interpret and interact with the world. Binswanger used the term *existential a priori* to refer to this subjective set of interpretations, attitudes, expectations and values which underpin each person's direction in life and their way of life.

Frankl developed a technique of psychotherapy, known as logotherapy, in which "the person is encouraged to ferret out what is meaningful for him in a seemingly indifferent and meaningless world." (Frankl, 1982).

Gendlin emphasised the therapeutic value of helping a person to focus on their inner experience as a way of facilitating the person's appreciation of the presence within himself or herself of "felt meaning".

The pre-eminence of the realm of subjective construing of reality and individual *intentionality* is central to existential psychology

Kobasa and Maddi (1977) have extracted what they regard as valuable from these various aforementioned authors, and have developed these ideas into an integrated and coherent existential theory of personality development.

Brief Explication Of Existential Personality Theory

A brief explication of existential personality theory and development is necessary to understand the theoretical underpinning of the concept hardiness.

- **Childhood through adolescence**

Development is not an automatic maturational process that occurs simply as a consequence of a person growing older. Optimal or ideal development is difficult, and if it is to occur in childhood it requires appropriate parental stimulation, support and encouragement. This necessary support is said to entail the following:

A child should be allowed and encouraged to do as much as possible for him or herself according to what is appropriate for the child's age, ability and disposition. At the same time, however, a child should not be pressurised to perform against their will and should not be criticised when their

efforts do not meet with success. Parents should value the development of self-reliance in their child and should respect the child's need to experiment, to grow and to develop a sense of individuality. Furthermore, parents should allow their child to have many and varied experiences in the biological, psychological and social domains. Nevertheless, the child should not be completely free of constraints. The imposition of limits leads the child to realise that his or her freedom is not absolute and that there are things beyond his or her control.

Parenting that adequately approximates this ideal, facilitates the development of a sense of individuality, purpose and competence in the child, and will incline the child towards adopting an attitude of self-reliance.

An individual who has had the benefit of facilitative development in their primary developmental phase will henceforth be referred to as an authentically inclined individual. One who has had an inhibiting developmental experience will be referred to as an inauthentically-inclined individual.

An inauthentically inclined individual will emerge into chronological adulthood without a strong sense of their individuality and worth, and hence without a strong sense of purpose. Such a person's further development will thus be jeopardised. The degree to which their capacity for further development will have been compromised, will be determined by the extent to which early development was lacking or damaged.

- **The path of self determined development.**

The authentically inclined young adult embarks on a less sheltered encounter with the world. Given this exposure to a less supportive environment, failure will inevitably ensue. This authentically inclined individual is capable of learning and growing in response to these failures. This capacity is the most distinguishing feature of the authentically inclined individual.

- **Characteristics of individuals who reach the authentic stage of development.**

The authentic person has clear values, preferences, viewpoints, goals, priorities and commitments. This is expressed in summary form by saying that the authentic person has a well-defined personality and a distinctive individuality. Kobasa and Maddi (1977) stated that the authentic person will not be conventional. The implication is that their opinions are the product of careful reflection on all they have observed and experienced, as opposed to having been influenced by others into holding conventional viewpoints. The inauthentic person is described by Kobasa and Maddi (1977) as superficial, conventional and vague. The authentic person accepts the *givens* of their life, their past history, their physical attributes, their current circumstances; but also their abilities and the realistic influence they have or do not have over events, others, their own feelings and aspirations.

Since the authentic person has clarity of purpose and priorities and a realistic appraisal of their abilities, circumstances and influence, it can be said that the authentic person has greater freedom to choose alternative courses of action and a greater likelihood of achieving their goals than the inauthentic person has. The inauthentic person is governed to a high degree by their "creature needs" and they struggle to defer these needs / rewards for the sake of longer-term satisfaction.

The authentic person realises the distinction between, as well as the appropriate role of, biological, psychological and social needs. The authentic person meets all their needs in an integrated and sustainable way and thereby achieves deep and lasting satisfaction. The authentic person does not pursue the satisfaction of any one need in such a way that it excludes the pursuit of other needs or increases the likelihood of regrettable consequences.

The authentic person sees the value and appropriate role of both intimate and contractual relationships. The authentic person is capable of both types of relationships and enters such relationships out of choice and with self-control and influence. In contrast the inauthentic person lacks freedom, depth and richness in relationships, they tend to be passive role players.

The authentic person is able to distinguish constructive and appropriate criticism from destructive or malicious criticism. Authentic persons can tolerate differences in others. Authentic persons although they have clear goals and priorities are capable of flexibility, adaptability and pragmatism. The authentic person is uncontrolled by others, yet is socially responsible, aware of their own needs, yet self disciplined, individualistic but capable of intimacy. In addition the authentic person is aware of life's difficulties, but equally aware that failure to recognise and attempt to overcome these difficulties has severely negative consequences. One could say then, that the authentic individual confronts anxiety because they understand that not to do so will, in the long term, lead to depression and despair.

The authentic person is realistic about the belief that they can influence events in the world. They recognise and accept that anxiety and difficulty are characteristics of life and that failure to confront these, as a challenge, will ultimately lead to a loss of personal power and despair. And finally that the only alternative to live ones life fully is to succumb to despair, thus commitment to engage in the possibilities of life is demanded

It therefore becomes clear that the theoretical underpinnings of hardiness are to be found in the tenets of existential personality theory. The instrument [Personal Views Survey] that is designed to measure hardiness measures the subjective mediators discussed in this section.

Kobasa's interest in hardiness was based on her desire to say something about peoples' general orientation in life (Oulette, 1993). Antonovsky encouraged researchers to recognise the existential roots of the hardiness construct.

Existential psychologists are concerned with getting an individual from the "inauthentic" mode to the "authentic" mode, or moving people along the authentic - inauthentic continuum (Orr & Westman, 1990, p 65). Personality development is seen as a lifetime issue and results from the interaction of psychological, social and biological factors.

Ellenberger (1958) described the therapeutic task as "seeing that the patients make their own responsible choices and make themselves the beings they decide to become by transcending themselves. The psychotherapeutic encounter of patient and therapist aids in bringing about a decisive inner experience for the patient to gain a new *Weltanschauung* on life, and to reorganise the personality. The moment of *decision*, of *kairos*, is the *critical turning point*".

The subjective element of individual choice in respect of attitudes and values contributing to meaning making is central to existential theory. Kierkegaard maintained that; "man is not a ready made being.. man constructs himself through his choices, because he has the freedom to make vital choices, primarily the choice of authentic existence, that modality in which man assumes the responsibility of his own existence" (Cited in Sahakian, 1976, p426).

Man has the freedom to take a stand towards conditions but he does not have freedom from the conditions (Frankl, 1982). The existential view thus sees people being able to control and shape their lives through the active process of decision making and emphasises the continual process of personality development.

Kobasa and Maddi detailed forms of existential sickness, all of which involve a breakdown of meaningfulness as a result of psychological, social and biological stresses (Kobasa & Maddi, 1977). As a result of this Maddi, Kobasa and Hoover (1979) developed a questionnaire measure of the various forms of existential illness - The Alienation - Commitment Test. This test measures various aspects of meaninglessness across relationships to work, persons, social institutions, family members and self.

Kobasa & Maddi (1977) noted that there are two areas of personality research that are relevant to authentic and inauthentic being. The first being the extent to which a person believes that they are in control of their lives, or whether they believe that their life is under the control of someone or

something external. These concepts are relevant in that the authentic individual, perceives themselves as being able to influence their experiences, and sees life as a series of conscious decisions. The second area of research having bearing on existential personality theory involves the extent to which one presents oneself in a socially desirable light. This tendency in extreme would be associated with inauthenticity and alienation.

It is thus clear that hardiness emerges directly from the principles of existential psychology with a strong emphasis on the individual having personal choice and the capacity to appraise the salience and meaning of experience.

3.3 Hardiness And Stress: Proposed Pathways Model.

Maddi and Kobasa (1984) sought to demonstrate how resistance resources or buffers could account for the individual differences in stress/illness outcomes. The authors explain the proposed pathway wherein hardiness moderates the effects of stress in the figure below.

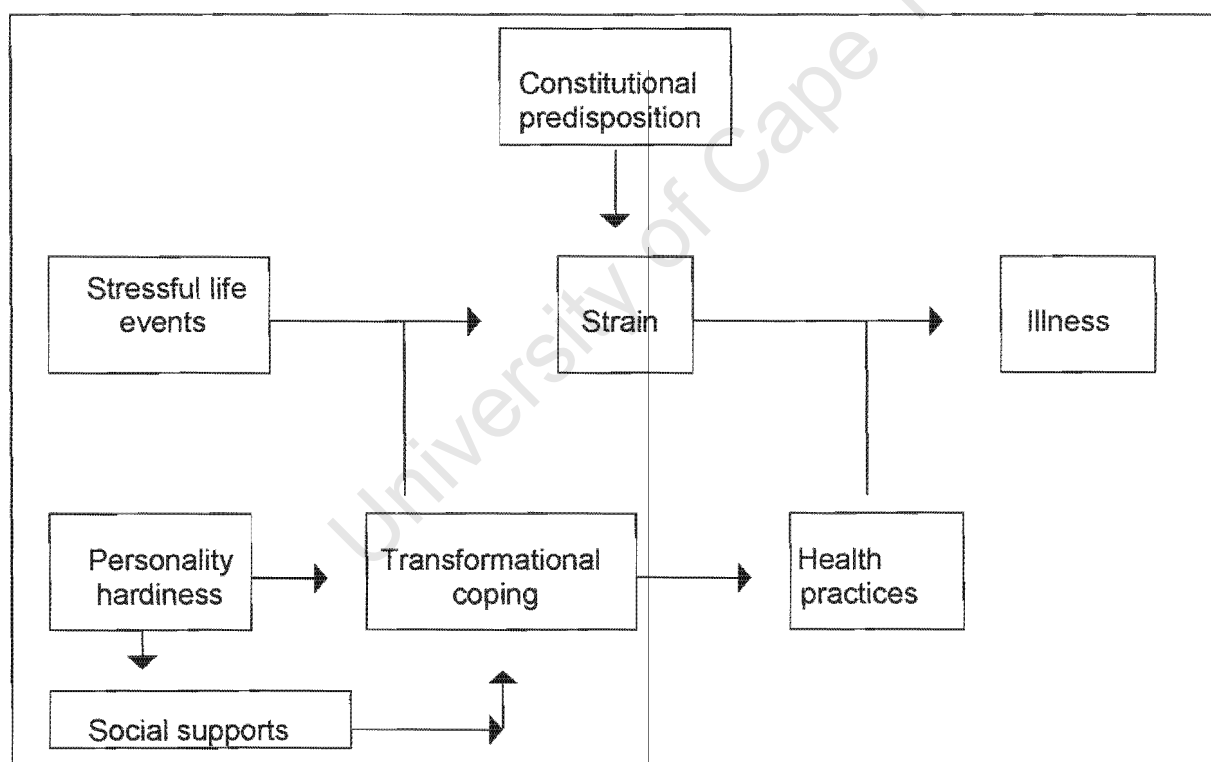


Figure 3. Hardiness: Factors affecting health/illness (Kobasa & Maddi, 1984).

The model looks at the process of psycho-social stressful events producing strain which results in illness. Strain is when the body is in a state of sympathetic arousal (fight or flight reaction). When this is prolonged it can result in physical and or psychological illness. Strain is evident physically by rapid heartbeat, chest pains, sweaty palms and psychologically, by anxiety, loss of appetite and

irritability. The model takes this process and looks at the ability of 'resistance resources' to moderate at various stages within the health - illness process. The model also describes how these resources impact upon the individual engaging in coping. This takes place through either transformational coping, (altering the event to make it less stressful, thus decreasing strain), or regressive coping, (seeing things pessimistically and then seeking to avoid them, thus doing nothing to change the actual stressful event). The moderators interact in the process at different stages, and while they all produce some level of resistance to the degree to which stress produces strain, their qualitative impact varies. Maddi & Kobasa (1984) noted that constitutional predisposition, health practices, personality hardiness, and social support seem to be the most influential moderators in the stress - illness model. The qualitative variation of the impact of the various moderators is determined by the position of their interaction within the process. Constitutional predisposition impacts upon the size of the strain reaction, and its link to illness. Hence the less inherent the physical weaknesses an individual possesses, the less will be the strain that results from stress and the lower the risk of illness.

Kobasa, Maddi & Courington (1981) observed the phenomenon described above in their research. When looking at subjects whose parents displayed a high incidence of illness, they found that the subjects themselves, also showed high incidence of illness, that is, showed a constitutional predisposition, when compared with subjects whose parents did not display such incidence of illness.

Health practices such as diet control and exercise moderate slightly differently. They produce a buffer effect and in this way decrease the existing strain without necessarily impacting upon the resolution of the actual problem.

The other resistance resources, personality hardiness and social support, function to decrease the ability of a stressful event to produce strain, by increasing the probability of the person facing events with transformational, rather than avoidant coping and thus dealing directly with the problem.

Maddi & Kobasa (1984) found personality hardiness to be the most important of the resistance resources. It proved to be the strongest predictor of individuals choosing to face stressful events with transformational coping. This in turn buffers the impact of stress, thus whilst reducing the strain, also directly impacts on the resolution of the stress event. The impact of hardiness is based on the tendency of the hardy person to appraise stressful situations, even though they are stressful, as opportunities for challenge rather than threat and also to have the tendency to cope with stressors successfully. Thus hardiness "reduces the appraisal of threat and increases the

expectation of successful coping" Florian, Mikulincer & Taubman (1995).

Maddi and Kobasa (1984) offer the following model as an illustration of this process.

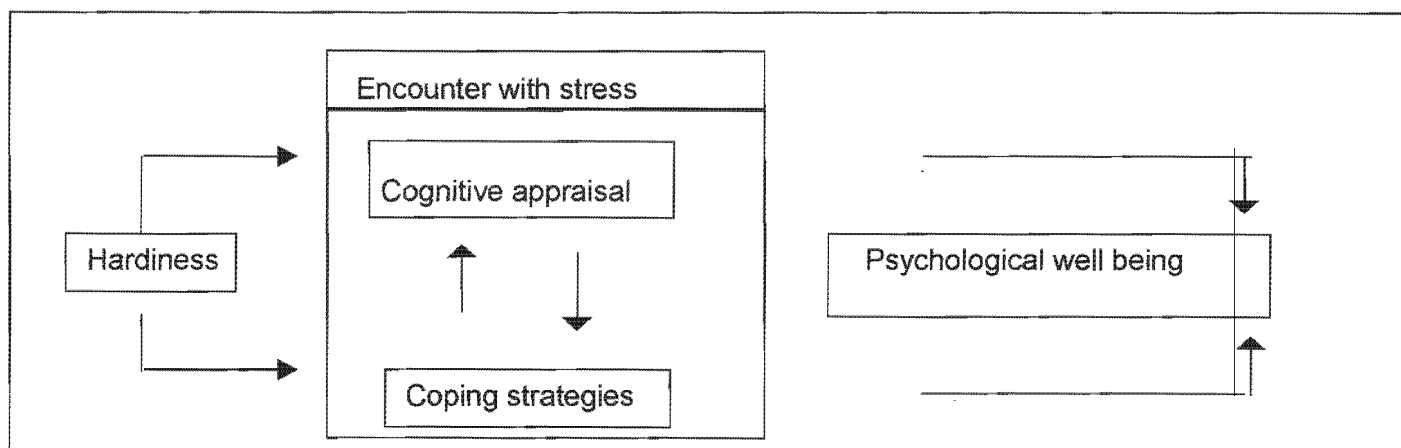


Figure 4: Kobasa's mediation model (in, Florian, Mikulincer & Taubman, 1995).

In summary the model can be explained as follows "people who have a vigorous sense of commitment, control and challenge tend to react to and appraise stressful events (in ways that) result in transformational coping rather than regressive coping with the stressor" (Maddi & Kobasa, 1984, p,32).

Maddi & Kobasa (1984) note that the development of hardiness takes place early in life mainly through parent -child interactions. The authors state "it is family atmosphere, rather than background, that breeds personality hardiness. The desirable atmosphere involves a varied environment including many tasks of moderate difficulty. In addition, it involves parental warmth and support of youngsters' efforts to perform tasks, to express individuality and to construe the variation of experience as richness and possibility" (Maddi and Kobasa 1984, p 58). They also note that individuals who, for various reasons, lack sufficient hardiness to cope with debilitating stress can acquire these skills through counselling that focuses on increasing transformational coping awareness and on developing re-appraisal strategies that deal with the interpretation of life events.

Specifically the authors maintain that hardiness can be learned at any stage in life. Four techniques are described as helping to build personality hardiness:

- focusing, a technique developed by Gendlin (1978) designed to "avoid everyday conventionalities to reach a sense of meaning that is more personal. This shift from the conventional to the personal is a prerequisite for significant personality change" (Maddi and Kobasa, 1984, p61).

- situational reconstruction, this is a method of re-conceptualising a stressful experience by examining ways in which it could have been different both positively and negatively and examining both the context and the individual actions of the person to see how the outcome could have been better.
- compensatory self-improvement, this technique aims to help the person recognise those things that are givens or are unchangeable about life. It teaches people to compensate by exercising commitment, challenge and control in other areas of their lives.
- paradoxical intention (Frankl, 1975), this is utilised to "muster and mobilise self-detachment in general...in particular a specific aspect of self-detachment namely the human sense of humour" (Frankl, 1975, p112). This technique is used to help the individual regain a sense of control. The theory being that by exaggerating symptoms, detachment is generated and a sense of control and perspective is re-established.

Trying to account for the structural dynamics is central to understanding the value of hardiness. Hardiness does not imply a rigid coping style whether positive or negative rather, it implies that particular coping strategies are chosen on the basis of them being the most appropriate to deal with the stressor being confronted. Hence the critical importance of cognitive appraisal in the coping process.

A central point made by Antonovsky is that a distinction must be made between the individual having a resistance resource as a potential asset, and the actual mobilisation and utilisation of a resource. The value of having a resistance resource is that it promotes the actual mobilisation of the most appropriate resource in the face of a given stressor (Antonovsky, 1987).

If hardiness is a resistance resource that mediates the deleterious effects of stress and is negatively related to burnout in occupations with high stress and responsibility, it would be reasonable to conclude that similar effects would be demonstrated amongst teachers.

4. Coping

It is clear that the way people cope with stress is considered to be as important if not more important than the actual objective stress experience itself when it comes to understanding the impact of stress on the individual (Aldwin, 1994). Indeed Folkman & Lazarus (1988) state "...the ways people cope with stress (may be) even more important to overall morale, social functioning and health/illness than the frequency and severity of episodes of stress themselves." (p, 5).

Antonovsky (1991) stated that; "the first and major criterion for the selection of resistance resources or salutogenic strengths is a focus on successful coping." (p, 69).

It is thus clear that central to understanding the significance of hardiness or resilience is the realisation that all people are confronted with demands that may 'tax or exceed' their apparent resources. Thus omitting an understanding of coping processes in relation to personality hardiness makes the entire issue quite hollow.

Lazarus defined coping as "efforts, both action orientated and intra-psychic to manage (master, tolerate, reduce, minimise) environmental and internal demands, and conflicts, among them those which tax or exceed a person's resources" (Lazarus, 1966).

Coping strategies have been conceptualised in two ways. One approach seeks to understand coping in terms of its focus, problem or emotion focused. The second approach focuses upon the methods of coping. Coping is thus described as being approach and transformative or acquiescent, regressive and avoidant (Patterson and McCubbin, 1987). Certain authors seem to be comfortable equating problem and emotion focused coping with approach and avoidance coping, using these terms synonymously and interchangeably (Moos, Brennan, Fondacaro & Moos, 1990, p31-32). What emerges however, is that both formulations of coping, whether approach and avoidance or problem and emotion focused comprise cognitive and behavioural components (Moos and Schaefer, 1993). Therefore it must be borne in mind that coping refers to those strategies that the individual brings to bear upon problems irrespective of whether the coping strategies produce effective outcomes or not (Folkman, 1984).

The Ways of Coping Questionnaire developed by Folkman and Lazarus (1988) is the instrument that will be used in the present research. The eight coping strategies it measures comprise approach and avoidant coping both having cognitive and behavioural components. Positive re-appraisal, accepting responsibility and self-control are categorised as cognitive approach coping. Seeking support, problem solving and confrontation are categorised as behavioural approach coping. Distancing is categorised as cognitive avoidance coping and escape-avoidance is categorised as behavioural avoidance coping (Folkman and Lazarus, 1988).

Clearly this categorisation must be viewed in a situational specific context. Not all distancing can be understood as avoidant behaviour, especially if one holds in mind the functions of coping which include, not only problem solving but, emotion-focused and appraisal -focused coping strategies designed to reduce the subjective emotional distress caused by a stressful demand. Thus Maddi, (1990) states "it is a conceptual error to equate transformational coping with problem-focused coping and regressive coping with emotion-focused coping. More likely both transformational and

regressive coping use a combination of problem-focused and emotion-focused coping" (Maddi, 1990, p,134).

It can be misleading to categorically link specific types of coping to indices of adaptive functioning because of situation specific contexts and personal situational appraisal. Nonetheless research does link avoidant coping to measures of dysfunctional adaptation (Moos & Schaefer, 1993).

4.1 Functions And Structure Of Coping

Coping is understood to have two primary functions. Firstly-emotion focused coping and secondly problem-focused coping. Rutter (1981) maintained that coping must have the dual function of problem solving and the management of emotional distress. Patterson and McCubbin (1987) suggested that besides problem-focused coping and emotion-focused coping, a third function could be discerned; appraisal-focused coping. The primary function of appraisal-focused coping is the cognitive endeavour to make the stressor more controllable.

Folkman (1984) stated that in most stressful situations both functions of coping are usually used. Indeed the authors note that often the effectiveness of problem coping hinges on the effectiveness of emotion coping. The reason for this being that it is important "to have at least some control over one's emotions when trying to manage or alter a troubling situation.... requiring cognitive focus to problem solve." (Folkman, 1984, p, 845). Folkman & Lazarus (1980) through research ascertained that in situations appraised as controllable and changeable, the use of problem-focused coping increased. However in situations appraised as not easily controllable or changeable, an increase in emotion-focused coping was noted. This implied that the greater the perception of less controllability of a problem, the greater the emotional distress associated with the problem.

Moos and Schaefer (1993) conceptualised stress and the coping process in a five panel model describing the coping resources and processes that influence individuals' resolution of, and adaptation to, stressful life circumstances. Antonovsky (1987) believed that this specific model "could reasonably be interpreted, in fundamental ways, as being most congenial with the salutogenic model."

Moos and Schaefer summarise the model in the following terms. The model posits that life crises or transitions (panel three) and the environmental and personal factors that foreshadow them (panels one and two) shape cognitive appraisal and coping responses (panel four) and their influence on health and well-being (panel five) (Moos & Schaefer, 1993, p,237)

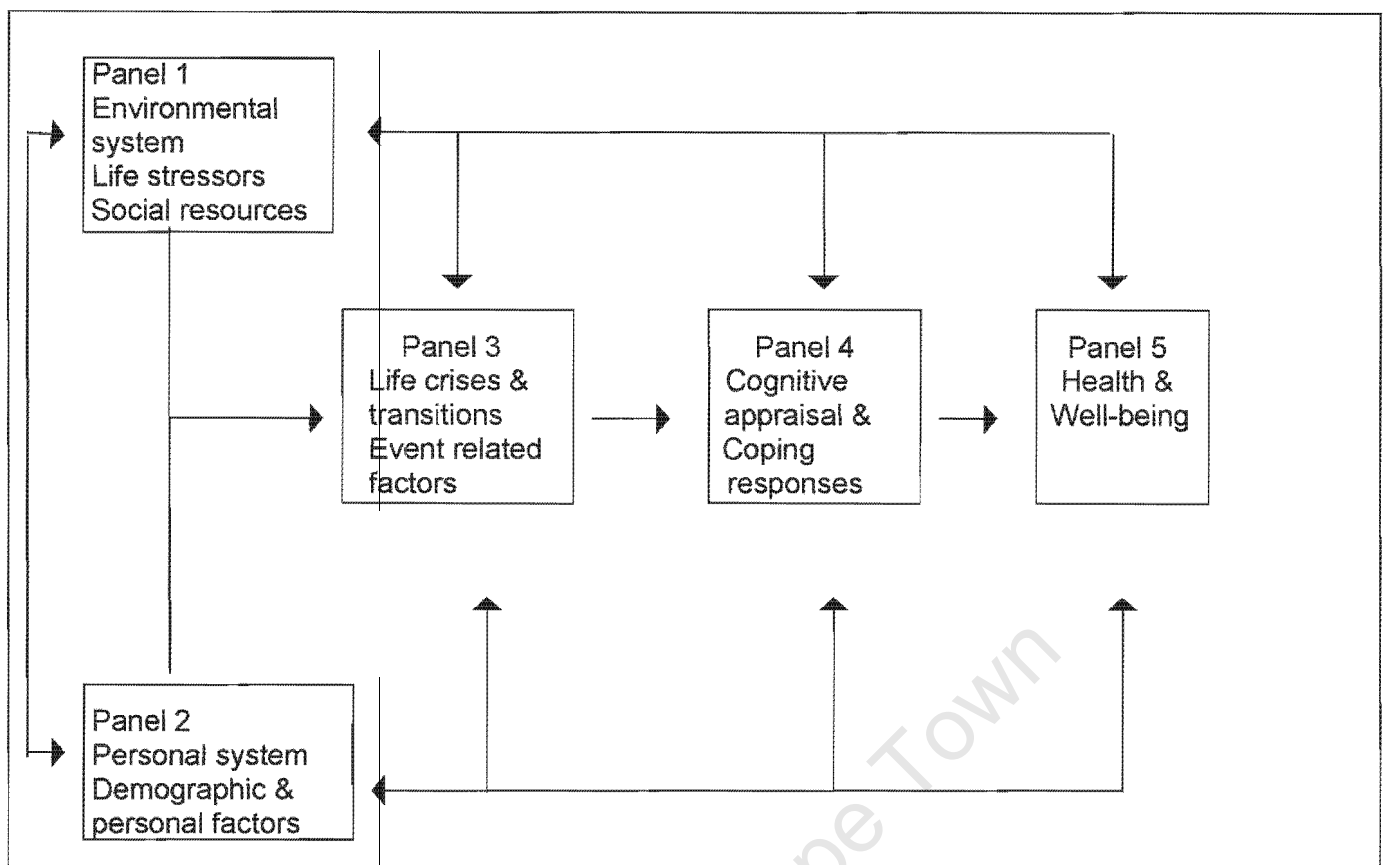


Figure 5: A conceptual model of the stress and coping process (Moos & Schaefer, 1993).

The model shows that the interaction between each panel is transactional and bi-directional.

Panel One (The Environmental System) consists of ongoing life stressors and social resources e.g. health, finances and relationships. Panel Two (The Personal System) consists of the individual's socio-demographic characteristics and personality, attitudinal and cognitive factors that provide the subjective, psychological context for coping. The model looks at the individual coping with (life crises/transitions) Panel Three; and the environmental and personal factors that influence and interact with them, Panels One and Two; then mould their (cognitive appraisal and coping responses) Panel Four; and how this influences the (health and well-being) outcomes Panel Five.

Clearly implied in this formulation is the notion that coping is best seen as a dynamic process of transaction and re-appraisal and not a unitary, character trait, or fixed ego-disposition response that never varies from context to context (Folkman & Lazarus, 1988).

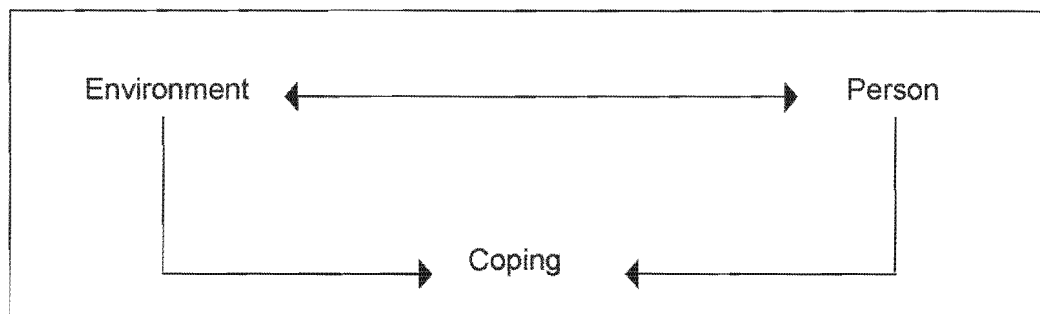


Figure 6: Transactionist model of coping (Aldwin, 1994)

Aldwin explained "in the transactionist model, person and environmental variables influence appraisal, which determines the type of coping response. Coping outcomes, in turn, influence the appraisal process not only within the stress context but also may have effects on both the person and the environment " (Aldwin, 1994, p,8). Transactionist theory understands stress as an imbalance between demands and resources (Folkman, 1984).

Moos and Schaefer (1993) noted that the individual's personal coping resources impact upon life stressors and transitions, as well as impacting on the appraisal and coping strategies used to deal with them. The model sees individuals as active agents able to shape the outcome of life stressors, as well as being shaped by them. The individual's personal and social resources influence and impact upon the choice of coping processes chosen, which in turn, influences the outcome of life stressors and adaptation.

The individual's personal coping resources are seen as part of the Personal System. An individual's personal resources are the stable dispositional or orientational characteristics that influence the choice of coping processes adopted in a stress situation (Moos and Schaefer, 1993). The importance of an individual's personal resources is that they serve as perceptual mediators in the process of cognitive and behavioural efforts employed by them to cope with environmental demands. That is, they serve to make the significance or meaning of events pertinent in relation to the person's sense of their own identity

It is at this juncture that it can be asked why freedom to apply potentialities is not the path always taken by persons. That is, if there is a clearly discernible path to resolve problems by taking certain transformative coping actions, why do people not simply take these actions?

Perhaps the answer lies in psychoanalytic theory and perhaps it will become clearer as to why coping processes are predisposed by coping resources.

Noonan (personal communication, 1995) reiterated that the emotional and motivational dimensions of the personal system as opposed to the value and belief system, are crucial to understanding how perceptions and needs can distort reality and thus inhibit action. These needs, often unconscious, are instinctual, reparative and idealistic in nature. Noonan (1995) points out that from a psychoanalytic perspective people live in an inner world and an outer world at the same time. Put succinctly, *I am as free now as my understanding of how I am determined then.*

Further examination of psychoanalytic theory begins to clarify the dynamic. Three concepts; the wish, the anxiety and the defence shed light on the problem. The wish is the way the person would like to live their lives with their given potentialities. The anxiety represents the fears that people might have in expressing their potentialities freely without concern for the meaning thereof. This dimension relates to what Rowe (1987) referred to as "the propositions, which enclose". By their nature these propositions have the power to determine one's experience. "When we operate with a group of propositions which allows us to interact with the world, we experience a sense of the outgoing of the spirit, a sense of the force of life, a sense of freedom and movement. When we operate with a group of propositions which enclose we feel we merely exist, that we are diminished, constricted, isolated, inhibited, helpless and pessimistic" (Rowe, 1987, p.308).

Due to these anxieties, the person consciously and unconsciously defends not against the wish but against the anxieties. These anxieties are unconscious, leaving the individual unclear as to why they choose to ignore the logical options of problem resolution, the repetition compulsion (Malan, 1979).

It is conceivable that the individual's perception of salience of a particular stress event is the factor that possesses the most explanatory power. That is, there may be a distorted ego investment in certain meanings relative to the ego identity of the individual. A central tenet of cognitive therapy is the concept of cognitive schema. Therapy herein consists of teaching patients that their central underlying attitudes or schemata are *distorted* and/or maladaptive. Persons (1993) stated that the cognitive schemata are the core beliefs held by a person about themselves and their world. It is these beliefs that are used in the primary appraisal of stress situations (Persons, 1993).

Returning to the Moos and Schaffers' (1993) model of coping, it is important to note that the model of coping presented here is a cognitive model based on four assumptions (Aldwin, 1994):

- how an individual copes with a problem is determined by his appraisal of the situation;
- coping strategies are chosen on the basis of the situational specificity of the demand;

- coping responses include both problem and emotion focused strategies;
- coping responses are evaluated not by a fixed hierarchy of strategies but by the situational adaptiveness of specific coping strategies used.

A fundamental problem with Moss and Schaefer's model is the degree to which coping is viewed as a conscious or an unconscious process. If as in the psycho-analytic conceptualisation, coping is seen as not being separate from defensive strategies and therefore often unconscious in nature, a doubt is raised as to the efficacy and use of a self-report assessment of coping strategies. However Maddi (1990) points out that all stress or coping measures rely to some extent on individual appraisal that identifies the significance and salience of events.

When looking at the Personal system (panel two) Moos and Schaefer's (1993) model, the authors highlight ego development, self-efficacy, dispositional optimism, sense of coherence, cognitive styles, defensive styles and problem solving abilities as being important personal resources in the coping process.

Ego development refers to an individual's frame of reference and the way in which one integrates new experiences into a coherent whole. The ego gradually develops achieving more differentiated perceptions of the self and the world. Higher levels of ego development have been associated with more varied and effective coping styles (Moos and Schaefer, 1993).

Self-efficacy refers to the tendency to approach challenging situations in an active and persistent manner, rather than avoiding such situations. Dispositional optimism, the general expectancy of positive outcomes, has been associated with better physical and psychological adaptation to stress. This is due to the notion that optimism is more likely to result in problem focused coping than avoidant coping (Schier and Carver, 1987).

Antonovsky's (1987) concept of a sense of coherence also serves as a personal resource in the coping process as it has been seen to result in individuals accepting challenges and identifying personal and social resources, that facilitate the coping process. This has positive consequences for health.

It is interesting to note that hardiness does not feature in the above review. It is postulated that the pathway of effectiveness is similarly through the facilitation of adaptive coping.

Cognitive styles refers to patterns of perception and information processing. Moos and Schaefer (1993) note field orientation and information processing as the two broadest styles. The way in which people process information impacts upon their understanding of a situation and their use of

health care.

With respect to defence and coping styles, it has been noted that individuals have relatively stable preferences depending on their life situation. Individuals who rely on more mature and adaptive defences are seen to manifest with less psychopathology and adapt better (Moos and Schaefer, 1993).

Moos and Schaefer (1993) finally addressed problem-solving abilities as a personal resource for successful adaptation. Individuals who perceive themselves to be more effective problem solvers tend to rely more on approach than avoidant coping in stressful situations and are seen to be less prone to depression.

In summary the generalised experiences that a person has had and the nature of the personal system serve as the predisposing appraising perceptions which either facilitate or inhibit adaptive coping.

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4.2 Coping: Primary And Secondary Appraisal.

Moos and Schaefer (1993) noted that in order to understand the way in which people actually manage stress, one needs to understand the cognitive appraisal processes used by individuals to manage stress. Appraisal and coping are noted as being closely interrelated, thus the way in which an individual appraises a situation influences the choice of coping process adopted (Florian, Mikulincer & Taubman, 1995).

Maddi & Kobasa (1984) offered the following model to demonstrate how hardiness effects the appraisal process.

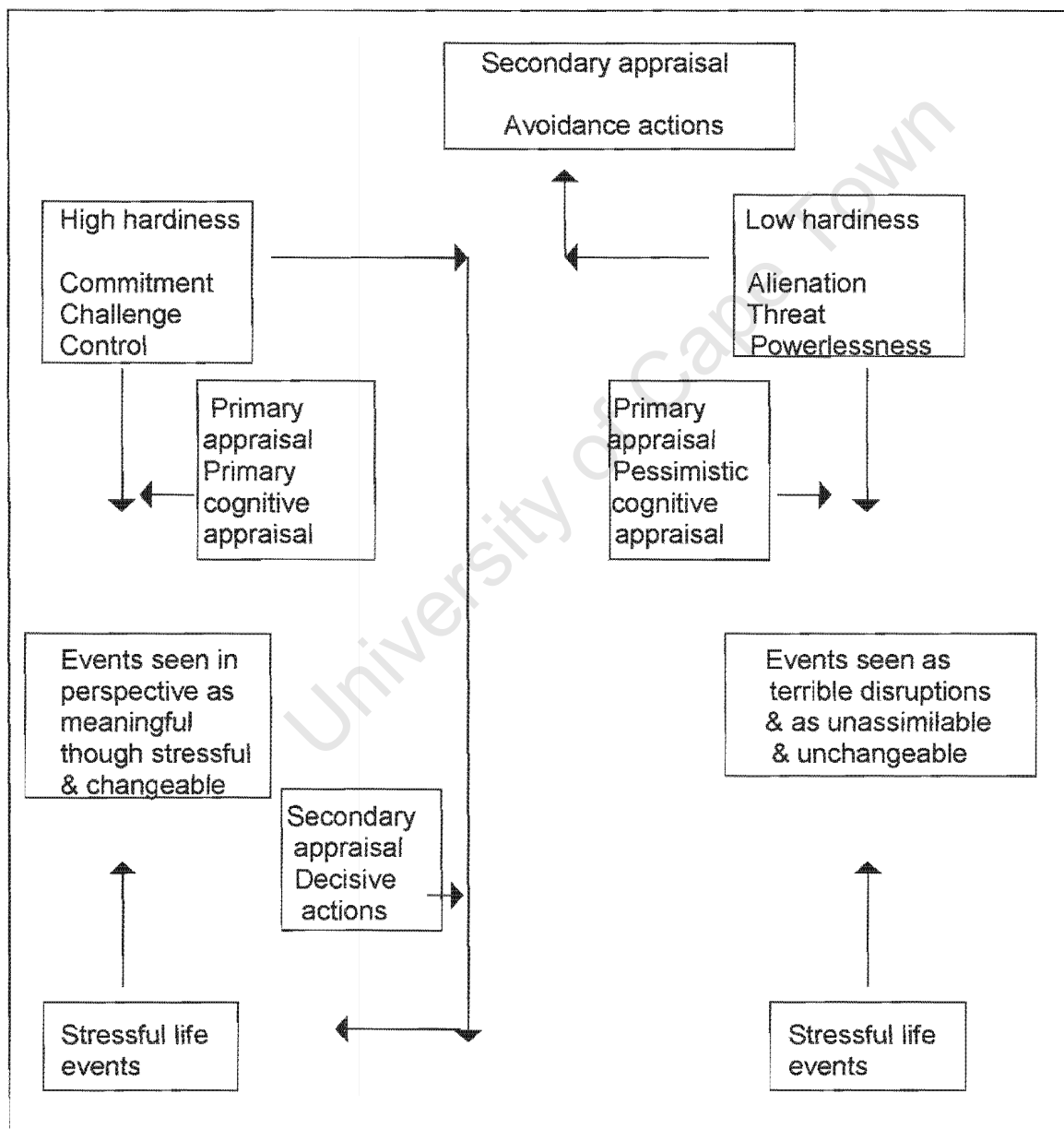


Figure 7: Effects of personality hardiness on cognitive appraisal of stressful events (Kobasa & Maddi, 1984).

In summary the model is explained as follows, people who have a hardy personality, a strong sense of commitment, control and challenge tend to perceive stressful events as workable (primary appraisal) and subsequently deal with these events with transformational and problem-focused coping (secondary appraisal) rather than regressive coping (Maddi & Kobasa, 1984, p.32; Kobasa & Pucetti, 1983; Westman, 1990; Williams, Wiebe & Smith, 1992).

In order to understand how people cope it is critical to know the significance of, or the meaning of, the event for the individual (Folkman, 1984; Rutter, 1994). Hamburg & Adams (1967) put it succinctly as follows "the appraisal of threatening elements rests heavily on their personal meaning - which in turn is strongly influenced by a succession of past environments, especially in the family, and dispositions that have become internalised" (Hamburg & Adams, 1967, p. 277).

The factors that contribute to the appraisal of stress situations are primarily derived from the *meaning processes* imposed on them by the individual. These meaning processes are influenced by a multiplicity of factors such as the familial and cultural context of the individual. Cultures vary as to the acceptability of the ways of expressing emotional distress or maintaining emotional control. Some cultures sanction emotional expression whilst others do not sanction expressive behaviour. Some cultures are more fatalistic than others are in respect of the acceptance of difficulty.

Folkman & Lazarus (1980) defined successful coping as the presence of the fewest psychological symptoms under stress. Aldwin (1994) argues that this reflects a Euro-centric and Anglo-American attitude and argues that it is crucial to understand what is perceived to be effective coping in different cultures and how this understanding would impinge on individual coping responses. Aldwin (1994) explained that cultural demands and resources effect both situational demands and individual resources, both of which in turn effect the appraisal of stress. In addition, cultural beliefs and values influence not only the individual beliefs and values, but also the reactions of others in the situation, which also effect the appraisal of stress. In this respect Aldwin (1994) stated that how an individual copes is effected by four factors:

- the appraisal of stress;
- the individual's coping resources;
- the resources provided by the culture;
- the reactions of others.

Coping has not only psychological and physical outcomes but also social and cultural outcomes.

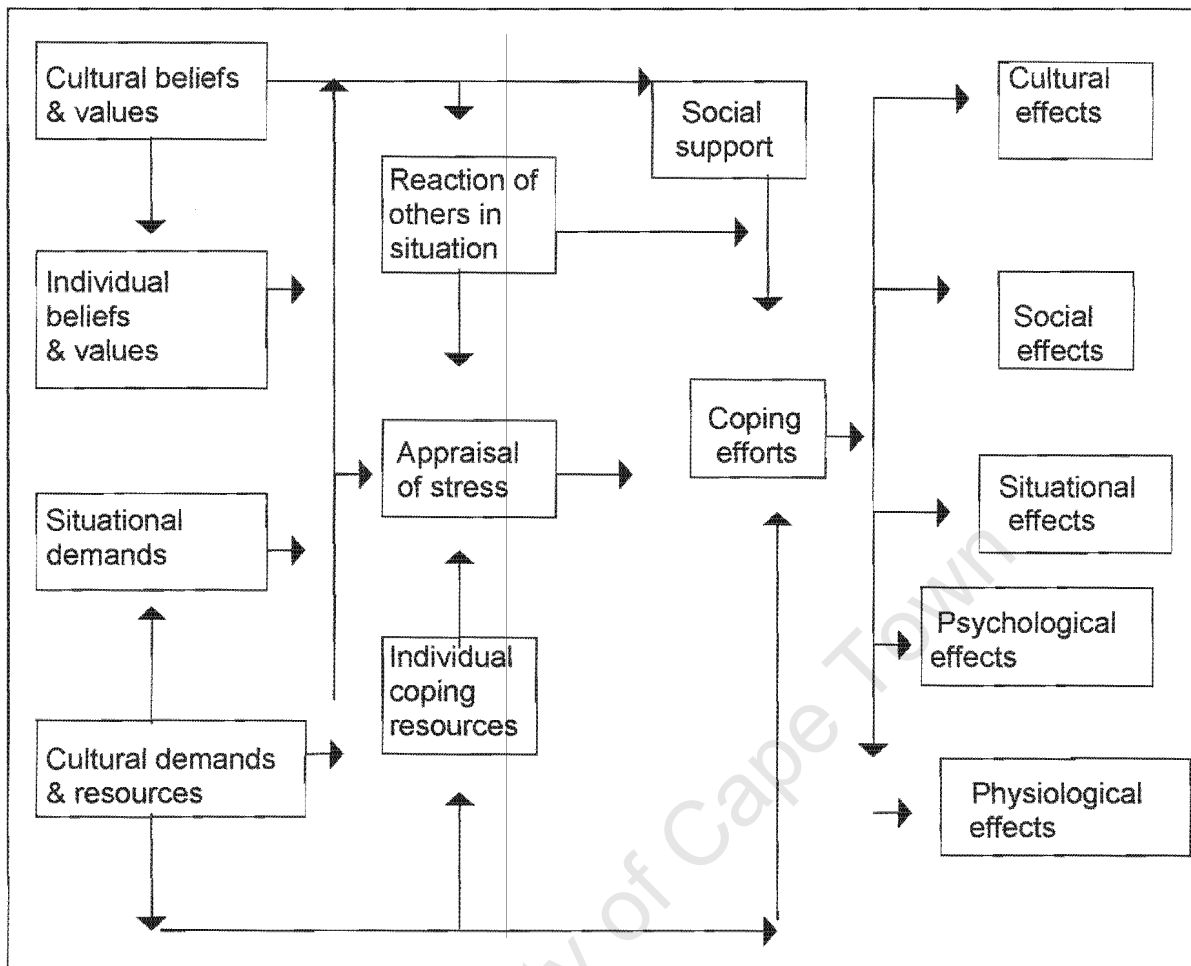


Figure 8: A socio-cultural model of stress, coping & adaptation (Aldwin, 1994).

In looking at the appraisal of stress factors it is understood that primary appraisal is how the

individual evaluates the significance of a specific event in relation to his well-being, in other words whether a negative outcome may occur in the encounter. Evaluations of stress events range from irrelevant to benign positive to threateningly stressful. The first two are not considered to tax or exceed the person's resources. It is the last one where the individual may appraise the event as being harmful or involving loss, or a threat, or a challenge. If a stress is seen as a challenge it is experienced as an opportunity for both mastery and gain and is accompanied by the positive emotions of excitement and eagerness.

Aldwin (1994) stressed that primary appraisals are shaped by different factors amongst which are beliefs. It is these beliefs that serve as 'perceptual lenses'. These perceptual lenses determine how things will be seen in the stress transaction.

Sense of control is considered to be an important general belief held by the individual. Rotter (1975) maintained that a sense of control of contingencies was greatest in a situation of ambiguity. Where situational cues indicated that control was not obvious to a person, and in the absence of clear information the situation becomes like 'a projective test'. It is here that the individual makes inferences from his experience and imposes his personality dispositions and beliefs upon the experience to understand what is happening and thus uses these and not the obvious cues from the situation to appraise the meaning of the stressor. As Folkman put it "the greater the ambiguity, the more inference is required and consequently, the more influence personal system factors have in determining the meaning of environmental configuration" (Folkman, 1984, p, 841).

Thus in summary, in a stress situation of high ambiguity a person high in internal control would appraise the situation as controllable whereas a person high in external control might appraise the situation as uncontrollable. In a non-ambiguous stress situation controllability would be judged by the situation or by generalised beliefs and personality dispositions.

Aldwin (1994) also regarded commitment as a principal perceptual lens in the primary appraisal process. Commitment is an indicator of what is important, or what has greatest meaning, to the individual. It is the context wherein the individual decides what is at stake in a given stress situation and thus, the more that is perceived to be at stake the greater the potential that the situation will be appraised as stressful.

The importance of the personal significance of an event has implications for depressed individuals. Research by Tennen, Herzberger & Nelson (1987a) found that when using the Attributional Style Questionnaire (ASQ) clinically depressed persons not only made internal, stable and global attributions for bad outcomes but also believed that these outcomes were important. This may reflect the fact that depressed people sometimes *catastrophize* (Beck, 1967) the implications of

negative outcomes, that is, invest too much importance (often associated with self-esteem) (Tennen & Herzberger, 1987b) in particular bad outcomes. People may be too committed to particular outcomes. Semmer (1997) speaks of individuals with high commitment to goals being more vulnerable to stress particularly to burnout, where high goal aspirations may be hampered by lack of support, bureaucracy, or emotional over-involvement. Thus commitment may become a risk factor rather than a protective factor in respect of stress.

It thus is evident, that hardiness and coping are intimately linked through the process of primary appraisal of stress situations. These appraisals are perhaps the central perceptual pathways to hardiness and adaptive coping, especially at times of increased stress.

In terms of attributional style (explanatory style) researchers have also recognised the need to specify perceptual pathways linking personality through coping to illness or health. Peterson & Seligman, (1987) identify potential pathways in their speculations. The paths cover all three theoretical approaches to personality and illness previously presented in section 2.6 (Holroyd & Coyne, 1987).

- These are traits as contributors to patho-physiology. This approach suggests that personality factors have a causal role in the development of illness through effects on neuro-endocrinal and immunological responses, thus causing damaging physiological changes. Peterson & Seligman (1987) suggest that a pessimistic attributional style may have direct effects on the immune system stating that perhaps helpless people have less competent immune systems. Secondly that depression in itself may put people at increased risk of illness.
- The second orientation looks at traits as coping styles. Here the focus is upon how the individual's coping abilities in the face of life stress contributes to health and acts as stress moderators or resistance resources. The conceptual key here is that personal characteristics moderate the relationship between stress and illness. Inadequate coping it is argued leads to unhealthy physiological and behavioural responses, which lead to illness. Here Peterson & Seligman suggest that people who make internal, stable and global attributions for bad outcomes are socially isolated and suffer from loneliness and thus do not utilise the coping resource of social support. Thus the path from attributional style to illness may go via loneliness because of the absence of the potential buffering effect of illness by social support coping.
- The third orientation looks at traits and illness behaviour. In respect of this approach, Peterson & Seligman (1987) argue that pessimistic attributional style may lead to illness because pessimistic people may neglect the basics of health care in the first place because they have no belief in their power to control situations but rather are fatalistic about life events. Secondly that pessimistic attributional style may result in people who are not good problem solvers

following uncontrollable aversive events, and finally that people who make internal, stable and global attributions for bad events may become passive in the face of disease or stress.

Secondary appraisals refer to the person's evaluation of his coping resources and options in relation to the stress demand. These resources range from physical resources, stamina and health to social resources, social support to psychological resources including beliefs, self-esteem, self-efficacy, problem solving skills and resistance resources (Antonovsky, 1979, cited in Folkman, 1984, p,842) to material resources such as tools or money.

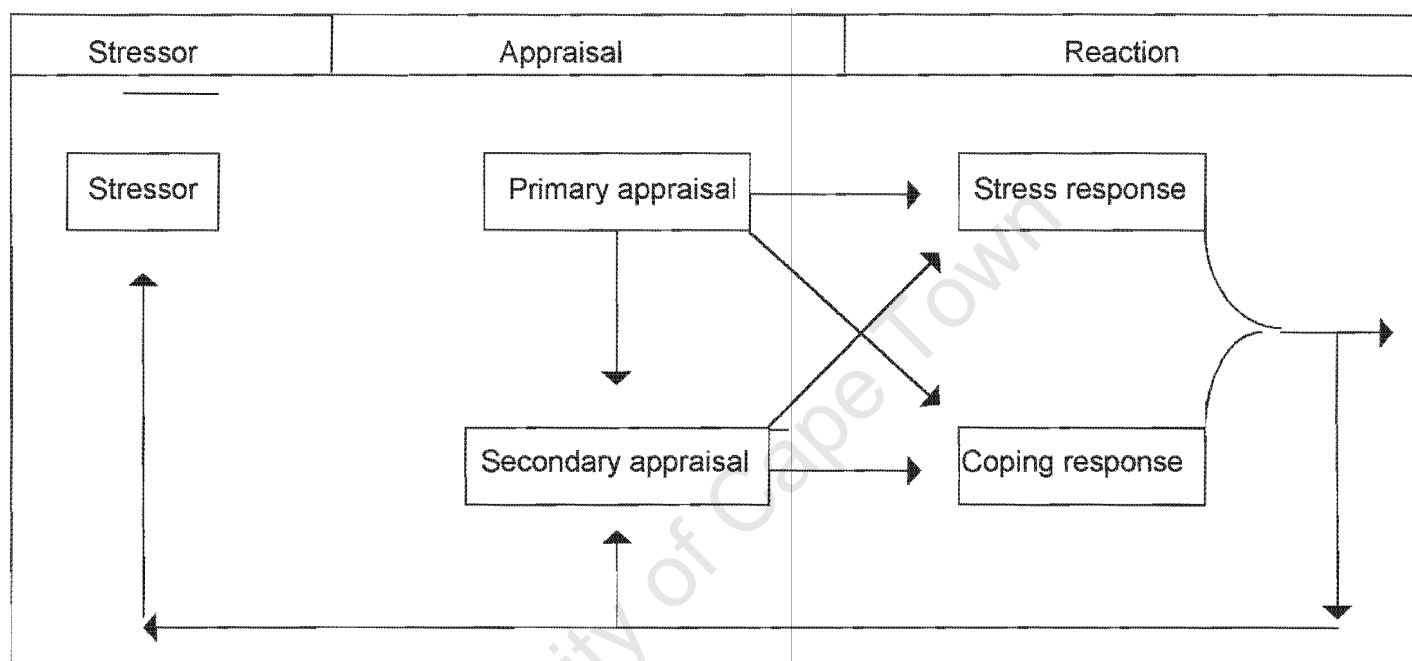


Figure 9: The interaction of primary and secondary appraisal of stress and coping.

The coping process is thus determined by an inter-play between aspects of the personal system and the environmental system influencing the appraisal of a transition or life crisis. This interaction provides the context for the selection and effectiveness of coping responses (Moos and Schaefer, 1993).

It still remains to be understood how coping can lead to positive outcomes, as well as the specific personal and contextual determinants of specific coping processes. As Antonovsky (1987) states; "the efficacy of a particular coping style cannot be assessed apart from the specific socio-cultural setting in which an individual lives".

For purposes of the present research the following statement by Maddi (1990) is axiomatic. He states that the mechanism whereby hardiness intervenes between stress and strain may; "indeed be transformational coping" (Maddi, 1990, p136). In his research Maddi found a relationship between hardiness and approach or transformational coping factors using the Ways of Coping Questionnaire (Folkman & Lazarus, 1988) which is the instrument used in the present study.

5 Attributional Style

Hull, Van Treuren & Prossom (1988) acknowledged that the personality variable of hardiness is related to health and illness. They believed that it was important to identify perceptual mediators of this effect. The researchers looked at attributional style as a potential perceptual mediator of hardiness effects. Specifically they predicted that hardy individuals would be more likely to make internal, stable and global attributions for positive life events and external, unstable, specific attributions for negative life events as opposed to non-hardy individuals.

Supporting the prominence of control in attribution theory Scheier & Carver (1987) suggested that future research might show that "in the hardiness construct, internal-external control might prove to be a critical mediator" (p,186).

The reason for adding yet another dimension to the hardiness equation is clear. The literature makes explicit the posited links between high hardiness and the activation and mobilisation of transformational coping processes. The key, to understanding the need to measure attribution also, is linked to the significance of how individuals explain the cause of good and bad events in their environments. This is linked to the degree of perceived power to effect particular outcomes.

Indeed, Hull & Mendolia (1991), building on their earlier research have refined their thinking about attributional style. Attributional style not only serves as an explanation of good and bad outcomes but also implies expectations about the outcome of *future* events. It is this point that researchers believe is the link between attributional style and depression. Attributions have effects on affect and behaviour, because of their effects on expectancies about future events. It is suggested that *expectational* style triggers depression whereas *explanatory* style correlates with depression (Peterson, Maier & Seligman, 1993). Seligman devised a measure called the Expectational Style Questionnaire [ESQ] asking persons to generate the consequences of the events in the Attributional Style Questionnaire and found a high correlation with depression. As Scheier & Carver (1988) stated "the prediction of behaviour does not depend directly upon the attributions themselves. Behaviour follows from the perception that responses will or will not produce desired outcomes, (expectations) regardless of the reason for that perception" (Scheier & Carver, 1988, p,

354).

Scheier & Carver (1987) devised an instrument designed to measure dispositional optimism, a term the authors believe, is closely allied to the concept of hardiness (p, 185). The Life Orientation Test [LOT] is an instrument designed to measure "generalised expectancies for good outcomes" and thus is conceptually similar to attributional style. Attributional or explanatory style is a subjective perceptual position and as such has the power to distort or clarify the way a person reacts to the perceived salience and demands of situations. In other words, the way individuals perceive and appraise stress situations either inhibits or promotes the effects of hardiness (Orr & Westman, 1990). The way a person attributes or explains events can be understood as the way they causally attribute for the good and bad events that occur in their lives (Abramson & Sackheim, 1977).

The link to psychological health of attributional style as a specific perceptual mediator is evidenced by research examining attributional style.

A negative attributional style is linked to depression (Seligman, Abramson, Semmel, & von Beyer, 1979), chronic fatigue syndrome (Howlett & Lindegger, 1996). Depression is specifically linked to the attributing of uncontrollable bad events to internal, stable and global factors of the self. Peterson et al (1982) found that Attributional Style Questionnaire scores were associated with depressive symptoms following poor performance by college students on a mid-term exam. This instrument has demonstrated its capacity to predict depression symptoms. Depression is closely linked to learned helplessness, depression being the result of experience with uncontrollable aversive events wherein failure is attributed internally (Abramson, Seligman and Teasedale, 1978). The authors using the ASQ claimed to be able to plot the nature and course of depression based on the causal attributions given by subjects. Thus following uncontrollable aversive events:

- if they are perceived by the person to have been caused by internal attributions (something about the person as opposed to external attributions, something about the situation) then the depression involves the loss of self-esteem;
- If the aversive events are attributed to stable attributions (something within the person that cannot change as opposed to unstable attributions, transient factors that do change) then the depressive symptoms are going to be long lasting;
- if the attributions are global (something about the person that exists in all situations as opposed to specific attributions, circumscribed external causes) the depression will be pervasive.

Peterson et al (1993, p, 217) when speaking about the relationship between depression and the Attributional Style Questionnaire describe the '*lopsidedness*' of the scores of non-depressives as

opposed to the 'bit above average' scores for good and bad events amongst depressives. Non-depressives explain bad events externally and good events internally, whilst depressives explain both good and bad events just a bit above average of internal and external.

Attributional style is also linked through a predominance of self-attributions for negative outcomes to Type A coronary prone behaviour patterns (Rhodewalt, 1984). It is also linked to persons doing poorly in high stress jobs (Seligman & Schulman, 1986). This last research finding has direct bearing on the current research amongst teachers, who function in a high stress job environment.

In their model of coping resources and the coping process, Moos and Schaefer (1993) noted the significance of cognitive and attitudinal factors in the personal system, which provide the context for coping. Attributional style is proposed as being an influential factor in this process.

Hull, Van Treuren and Proppom (1988) in a study that is important for the present research, predicted that when using the Attributional Style Questionnaire, compared to non-hardy individuals, hardy individuals were more likely to make internal stable, global attributions for positive events, and external, unstable and specific attributions for negative events. The study using a median split analysis, (with two separate high-low personality characteristics by two positive -negative valence events using the sub-components and the attributional composite), found a strong pattern of attribution for the sub-component of commitment. Weaker effects were found for the sub-component of control. No effect was found when using a composite hardiness, and challenge showed one effect in the opposite direction. The authors used their results to support their claim that the sub-components of hardiness constitute three separate factors "which are differentially successful in predicting relevant effects" (Hull et al, 1988, p 510).

The same authors concluded that their research by suggesting that attributions may mediate the effects of hardiness sub-components on health. In addition the authors suggested that future research would need to examine the mediating effects of hardiness by other variables such as "secondary appraisal processes and different coping styles" (Hull et al 1988, p 512). This last suggestion has direct significance for the present research.

Some researchers question the entire validity of the ASQ, stating that people make different attributions under different circumstances and that the hypothetical events on the ASQ are not as useful as a single real life event (Cutrona, Russel & Jones, 1985). Other researchers claim that the ASQ correlates well with attributions made by subjects for real, specific events and with naturally occurring attributions made in therapy (Peterson et al, 1982).

Further research into attributional style shows the relationship of individuals attribution of events

and interactions directly impact on their responses, which in turn would influence their ability to cope with stressors. Bruch and Pearl (1995) found a relationship between maladaptive attributional style and social interaction problems. Epps and Kendall (1995) found a hostile attributional bias to be a cognitive correlate of anger and aggression in adults.

Thus the influence of attributional style has a powerful impact on behaviour, of which coping is seen to be a crucial behaviour response for health maintenance and survival.

6. Other Factors Buffering Stress In The Hardiness Model: Social Support.

Salutogenic constructs are cognitive in nature. That is, they are perceptual positions and they define the nature and the salience of the individual's experience.

Research has demonstrated that social support functions as a moderator of the negative effects of life stress (Ganellen & Blaney, 1984). Two definitions of social support provide clarity as to the role this concept might play in reducing the effects of stress. Cobb (1976) defines social support as "information that leads individuals to believe that they are cared for and loved, are esteemed and valued, and belong to a network of communication and mutual obligation". The author delineated three kinds of support, esteem support, emotional support and community support. Schaefer, Coyne and Lazarus (1981) also describe three dimensions of social support these being; emotional support, (receiving intimacy and reassurance), tangible support, (receiving direct aid or services) and informational support, (problem solving advice and feedback about one's behaviour).

Gore & Eckenrode (1994) and Thoits (1986) found that the power of social support lay in the fact that it was linked to individuals being more reliant upon active or approach coping strategies. This reliance on approach coping (and less upon avoidance coping) in the presence of social support was confirmed in research by Holahan & Moos (1987).

7. Hardiness And Teachers

The present author chose to examine hardiness in a teacher population. The present author's role is that of School Counsellor at a private, Jewish Day School. In this role stress, emotions and behaviours are clearly observed amongst the teaching staff. The present author is able to observe teachers both in their working context and socially, whilst at the same time knowing in detail the exact pressures and daily strains that the teachers have to deal with. This researcher noted that

Beard warns researchers into burnout that it can happen to them (Beard, 1990).

Research has documented that teaching is a stressful work endeavour (Kyriacou & Sutcliffe, 1978; Cockburn, 1996). Teacher stress in extreme measure is referred to as *burnout*. The psychological development cycle towards burnout is characterised by emotional exhaustion and fatigue, leading to negative or cynical attitudes resulting finally in impairment to self-esteem and confidence (Mark, Pierce & Molloy, 1990). Factors leading to burnout might be personal and/or interpersonal and/or organisational. The authors and other researchers stipulate that any research on burnout must include all three of these dimensions to be meaningful (Capel, 1991).

In their research, Mark, Pierce and Molloy (1990) found that the inter-correlation between commitment, challenge and control were low and were not significant except for the inter-correlation between commitment and control. On the basis of this finding the authors chose not to use a composite measure for hardiness in their study. Results of their research indicated that teachers in the low-level burnout subject group were higher in hardiness than those in the high burnout group. Teachers in the high burnout group were found to have low levels of commitment and low levels of internal locus of control. Social support was also demonstrated to be a factor buffering against stress. It was established that teachers in the high burnout group used more regressive (avoidant) coping to deal with their problems than did teachers in the low burnout group. Finally the authors found that hardiness was the best predictor of teacher burnout (whilst warning that causal paths are not implied for hardiness or coping) (Mark, Pierce & Molloy, 1990).

Capel (1991) concluded from her longitudinal research that teacher burnout was extremely personal in nature. She concluded that the causes and factors vary from person to person, hence the need to study individual differences.

Generally teachers are required to have high levels of commitment to their job, but do not always have concomitant high levels of control over their work. This particular combination is particularly likely to create stress and strain. Karasek & Theorell (1990) discussed stress in the workplace and hypothesised that stress arises as a product of the interaction between responsibility and control, psychological demands and job latitude. According to this theory, high stress jobs are those involving high responsibility, but little control over the ways tasks are done. Low stress jobs are those involving high control and low responsibility demand.

Elsass & Veiga (1997) concluded in their research on health care workers, that job strain is inversely related to control and that job strain will be highest when job demand is high and job control is low.

Research seems to indicate that hardy teachers are more able to make positive appraisals of stressful situations and are thus less likely to fall prey to teacher burnout (Holt, Fine & Tollefson, 1987)

Hardy individuals use more social support to help cope with or reduce stress and strain. Russell, Altmaier & Van Velzen (1987) found that teachers who received support that bolstered their worth reported less stress based exhaustion in the school environment, particularly when this support came from management.

Mark, Pierce & Molloy (1990) examined the psychological differences between teachers experiencing high and low burnout. The authors found psychological factors were better predictors of burnout than biographical factors. However Beard (1990) claimed that the reasons why some teachers cope with stress and others don't, essentially remains unanswered.

Within the context of the present research, that is, a private school with high fees there is a great deal of pressure on teachers to meet the needs of the school going population. There is a high level of accountability to parents and the Governing body. It would seem unlikely that teachers could survive such a demanding environment if they were not psychologically resilient or if they were not highly committed or if they did not perceive their teaching task as a challenge rather than as a threat. Thus this study expects the subjects to be high in hardiness.

8. Methodological Problems And Issues In Hardiness Research

It is important to survey and consider the methodological objections and polemic that has developed in tandem with the growing body of research into this area of risk and vulnerability. This debate needs to be addressed and taken into account, if applicable, when planning any further research in this area. The concerns may be classified as follows.

8.1 The Hardiness Composite And The Challenge Factor

Hull, Van Treuren & Virnelli (1987) argued that the challenge factor of the hardiness composite should be eliminated from the hardiness concept. They based their views on research which demonstrated that challenge fails to correlate with commitment and control and indeed, with health outcomes. Maddi (1990), Funk and Houston (1987), Hull, Van Treuren and Virnelli (1987) all found

the second generation Hardiness Scale not to be homogeneous. The challenge component was found to operate independently of the commitment and control components. Maddi (1990) believed that it would appear to be the Security Scale from the California Life Goals Evaluation Schedule (Hahn 1966) that causes the problem. The problem was that certain items on the Security Scale appeared to measure socio-economic insecurity, which produced co-variance which led to a negative measure of challenge.

Hull et al (1987) found that correlations of the factors of the composite hardiness score were above seventy for the 71, 36 and 50 item scales, with the exception of challenge for the 36 item scale. Orr and Westman (1990) state that the 20 and 50 [Third generation] item scales showed a measure of the three factors, and that each factor was related to a composite measure of hardiness. For the 71 and 36 item instrument, the factors showed a relationship between commitment and control, with challenge remaining distinct. Hull et al (1987) suggested that challenge be removed from the 71 and 36 item scales.

McNiel, Kozma, Stones & Hannah (1986, cited in Orr & Westman, 1990) however found challenge to be distinctive, and to have the appropriate correlation and inter-correlation with the total score. Kobasa (1979) used the Security Scale of the California Life Goals Evaluation Schedules (Hahn 1966) for measuring challenge in the 36 and 71 item scales. Orr and Westman (1990) noted that this measure did not assess the most important constituents of challenge. They stressed that methodological problems with challenge arise when the operational definition of hardiness is incongruent with the theoretical definition. Orr and Westman (1990) saw challenge as a vital part of existential personality psychology, and suggested an empirical test of its re-operationalisation.

Florian, Mikulincer & Taubman (1995) responded to this concern by using the third generation Hardiness measure, [the Personal Views Survey] which is seen as a more reliable instrument (Maddi & Khoshaba, 1994). This instrument was considered to be more closely linked to theoretical definitions and formulations of hardiness than were previous measures (Orr & Westman, 1990).

Florian, Mikulincer & Taubman (1995) using longitudinal path analysis with the Third Generation 50 item Personal Views Survey *still* found that challenge showed no association with the other hardiness components. These authors called for its elimination but only so that it might be replaced with a more valid construct, one that would be congruent with existential theory. They proposed that the challenge component should be viewed as a particular case of the search for meaning in one's experience and life. The logic of their argument being that to perceive an event, as a challenge requires that the event, or effort exerted in respect of the event, is meaningful

enough to create relevance. A stressful situation that is perceived as meaningful, and not just a challenge, creates the opportunity to appraise positively.

Maddi (1994) suggested that the third generation Hardiness scale [Personal Views Survey] has demonstrated through years of research that it is psychometrically internally consistent in yielding expected inter-correlation for commitment, challenge and control factors and for deriving a reliable hardiness score (p, 267).

Funk, (1992) stated that the challenge factor on the Personal Views Survey [third generation] is different from previous hardiness instruments. Correlation between challenge, control and commitment is higher than on earlier hardiness instruments.

8.2 Hardiness And Neuroticism (Negative Affect)

Funk (1992) argued that the lack of hardiness demonstrated by testing may simply be a sign of psychological distress or neuroticism, rather than specific personality factors or dispositions related to health outcomes. The problem arose when negative affect was partialled out of measures which linked hardiness to health outcomes. The apparent link between the two disappeared. (Funk & Houston 1987).

This argument was supported in research done by Parkes & Rendall (1988). These authors compared the Personal Views Survey [third generation] to the Eysenck Personality Questionnaire and found that neurotic introverts produced low hardiness scores. Thus high hardiness was found to be inversely related to neuroticism. Parkes & Rendall (1988) suggested that this problem could be linked to the fact that the original instruments from which the hardiness scales were derived were designed to measure absence, rather than presence of factors and thus produced a non-hardiness score (Oulette, 1993). Thus many of the items are negatively stated and reverse scored. Parkes & Rendall (1988) found that the correlation between neuroticism and negative items was [-.47] with the 39 negative reverse scored items, but only [-.11] to the 11 positive items. Thus the higher the proportion of negative items, the stronger the relationship between neuroticism and the hardiness factors.

Williams, Wiebe & Smith (1992) argued that hardiness and neuroticism seemed to be related but tapped similar yet distinct factors.

Parkes & Rendall (1988) found strong links between high hardiness and *stable extraversion*. This suggested that hardiness and stable extraversion share common factors. These are stability, flexibility, optimism, sociability and an active rather than passive mode of social interaction.

Consequently, the authors questioned whether hardiness accounted for more variance in stress/health outcomes than pre-existing measures such as extraversion and neuroticism [EPQ].

8.3 Original Instruments

Orr and Westman (1990) questioned the reliability and validity of hardiness measurements because various scales of measurement had been used to create it.

Kobasa (1979) initially used a battery of six scales, relying mostly on the previously reported psychometric properties of the instruments. She then conducted discriminant analysis to identify the scales that distinguished people who were under high stress and healthy from those who were under high stress and not healthy. Seventy one items were drawn from the six original instruments, becoming two scales for each of the three component factors of hardiness, control, commitment and challenge. Later shorter versions consisting of 36 and 20 items were generated. These comprised of items that had statistically demonstrated the highest factor loading in the original factor analysis of the longer version of the hardiness scale. Eventually a 50-item version was derived to address the problems of the previous versions. In this instrument items were phrased within a broader social context. The direction of the statements were balanced as opposed to the previously negatively keyed items. Hardiness was indicated positively in the total score (Orr and Westman, 1990).

Orr and Westman (1990) explained which original psychometric instruments the Hardiness Scale was derived from. The Alienation from Self and Alienation from Work Scales (Maddi, Kobasa & Hoover, 1979) measured commitment. Control was measured by the Locus of Control Scale (Rotter, 1966) and the Powerlessness Scale of the Alienation Test (Maddi, Kobasa & Hoover, 1979). Challenge was measured by the Security Scale of the California Life Goals Evaluation Schedule (Hahn, 1966) and by the Cognitive Structure Scale of the Personality Research Form (Jackson, 1974).

Original statistical analyses found that the Cognitive Structure Scale of the Personality Research Form did not correlate with the other measures and thus operated as a separate factor in a principal-component factor analysis. The remaining five scales formed one factor which accounted for 45% of the variance. It was thus suggested that further studies should establish a composite hardiness score by computing the z-scores of the five measures and assigning double weighting to the Security Scale of the California Life Goals Evaluation Schedule that measures challenge (Kobasa, Maddi & Khan, 1982). The inter-correlation for the five scales was around 0.60 ($p < 0.001$) when the Cognitive Structure Scale of the Personality Research Form was not used (Kobasa & Puccetti, 1983). We thus observe that historically, the challenge factor has presented

problems.

In current research Parkes and Rendall (1988), using the PVS [third generation] found a Cronbach's Alpha level for the hardiness composite of [0.89]. They argued however, that the language structure of the Personal Views Survey is geared towards employed professional males, and thus is not suitable for application to the general population.

8.4 Hardiness As A Composite

Hull, Van Treuren and Virnelli (1987) discussed hardiness measurement at length. These authors were concerned as to whether hardiness should be viewed as a unitary phenomenon or as three separate phenomena; commitment, control and challenge. They also queried whether hardiness has direct influence on health outcomes, or whether it affected health indirectly due to its buffering capacity. They drew the following conclusions from a thorough examination of previous research and their own study. Hardiness should be seen as involving three separate phenomena; only commitment and control have adequate psychometric properties, and relate to health outcomes; a lack of commitment and control has a direct effect on health, as their absence is psychologically stressful, their presence also has a buffering effect in specific situations.

Orr and Westman (1990) questioned whether the hardiness scales verified the hypothesis that hardiness has a unique effect, produced by the interaction of its three sub-components. Regressing health outcomes on the interaction scores from the three sub-scales (Orr and Westman, 1990) can test this. This can also be assessed by a weaker methodological method of finding moderate to high correlation between sub-scales.

Carver (1989) reported that there were two ways to understand research which used composite personality dimensions. The first way measures a proposed latency. This latency is comprised of, and is reflected imperfectly by separate component dimensions. The second way suggests that a synergy occurs wherein components together create a super-ordinate personality factor that is greater than the separate sum of its component parts. The author maintained that theoretical and empirical associations may be lost if factor components are not tested separately. Secondly, by not testing separately, it will not be possible to ascertain if the factor components are required or important in the composite factor. Hence the suggestion by researchers that challenge is a redundant component of hardiness (Hull et al, 1987). The present research tests the relationship between the component factors and the composite of hardiness and attributional style and coping processes.

8.5 The Problem Of Subjectivism

Maddi (1990) discussed the methodological objection that measurement in stress research relies

predominantly on self-report measures and that this subjectivist approach results in ambiguity and contamination of the data. He noted that by deleting or re-wording of any ambiguous items, ambiguity can be controlled. He nonetheless raised the important issue that personal interpretations make up our experiences and thus form the most basic element of investigation in personality psychology. He did however state that there is a need for both objective and subjective approaches to the measurement of stress. In no approach is there a purely objective stress measure. All stress measures involve the individual identifying what qualifies as stressful events and what the personal significance of these is. There is also the fact that to a large degree we are all products of acculturation, and thus social consensus measures of stress are important and more accurately describe what is thought to be objective (Maddi, 1990). Each of us is a product of our acculturation but we create subjective psychological coherence as individuals within that culture. Previous learning and social interaction influences the psychosocial meaning or stressfulness we attribute to our experiences. Maddi (1990) therefore notes the need to supplement social consensus (culturally objective) measures of stress with subjective measures as well.

The instruments being used in the present study are all self-report rating measures relying on subjectivist judgement and thus report subjects perceptions (Rosenbaum & Ben Ari, 1985).

8.6 Appropriate Research Design

Funk (1992) maintained that the sub-component factors of hardiness should be tested separately in addition to the composite hardiness score. He believed that most previous research on hardiness had not been structured so as to explain proposed causal pathways. To deal with this methodological problem he suggested that studies use real life stress in longitudinal research design with pre-and-post test measures of mental health. In addition he suggested that measures of cognitive appraisal and coping processes be included in the analysis of structural equations to establish causal pathways.

8.7 Methodological Issues: Summary & Conclusion

It is thus clear that any study of hardiness follows in the history of extensive methodological debate and critical questioning on the part of researchers. Taking into account all previous areas of methodological queries is thus essential for further studies to be reliable and valid. Previous research thus paves the way the development of a more conclusive body of research in this field.

For purposes of the present, it is possible to be clearer about the limitations of the current study. The present study uses the third generation Personal Views Survey. It does not factor out neuroticism. It may measure a real life stress but the actual nature of this stress (intensity

unknown) as described in the instructions of the WOC questionnaire is not reported by respondents. It uses statistical procedures that establish a statistical (not causal) relationship between hardiness, attributional style, and coping processes. Therefore any general claims made on the basis of this research should be treated as indicators and not causal pathways of hardiness and health outcomes.

9. RESEARCH AIMS

The aim of this research is to establish if there is an empirically tested relationship between hardiness, attributional style and coping processes.

Specifically, is there a positive relationship between high hardiness scores, external, unstable and specific attributional style for aversive events; internal, stable and global attribution for positive events and transformational or approach coping.

The reverse being a positive relationship between low hardiness, internal, stable and global attributional style for aversive events, external, unstable and specific attribution for positive events and avoidant or acquiescent coping.

This research will also attempt to ascertain the potential relationship between other variables including, gender and age and number of years teaching.

10. RESEARCH HYPOTHESES

- Teachers will be high in hardiness and composites.
- Teachers high in hardiness and composites will explain good events internally and bad events externally. High hardiness and composites will be related to internal for good events attributional style positively and external for bad events negatively.
- Teachers high in hardiness and composites will use more approach / transformational problem focused coping than avoidant coping for their self-identified stress event. High hardiness and composites will be clustered around transformational coping rather than avoidant coping.

11. METHODOLOGY

11.1 Subjects

Subjects were fifty-seven female and fifteen male teachers, seventy-two in total, who voluntarily participated in the research. Thus fifteen males representing 20.83% of all subjects and fifty-seven females representing 79.17% of the subjects took part in the present research.

The seventy-two subjects are all employed as teachers by a private Jewish day school in Cape

Town, South Africa. The subjects were drawn from three campuses of the same private school. Eighteen subjects were drawn from the High School representing 25%, thirty-one were drawn from the Middle School representing 43.06%, and twenty-three were drawn from the Primary School representing 31.94%. The research was performed anonymously to protect the identity of teachers. All three instruments were administered in a single session during working hours. Biographical information comprising, age, number of years teaching, gender and particular school campus was elicited. Of the seventy-two subjects the number of years teaching ranges from one to forty two. Table one indicates the number of years teaching for all the subjects.

Category: teaching	Years	Count	Cumul count	Percent
1		3	3	4.17
2		5	8	6.94
3		3	11	4.17
4		1	12	1.39
5		2	14	2.78
6		1	15	1.39
7		1	16	1.39
8		3	19	4.17
9		3	22	4.17
10		4	26	5.56
11		1	27	1.39
12		3	30	4.17
13		2	32	2.78
14		3	35	4.17
15		6	41	8.33
16		3	44	4.17
17		2	46	2.78
18		3	49	4.17
19		3	52	4.17
20		5	57	6.94
21		1	58	1.39
24		2	60	2.78
25		1	61	1.39
26		3	64	4.17
28		4	68	5.56
29		1	69	1.39
33		1	70	1.39
40		1	71	1.39
42		1	72	1.39

Table 1. Number of years teaching for all subjects.

Eleven of the subjects range in age from twenty to thirty representing 15.28% or 11 subjects. Twenty-one subjects in the range 30 -40 representing 29.17%. Twenty-seven subjects in the age range 40-50 representing 37.50%. Thirteen subjects in the age range 50-65 representing 18.06%. The majority of subjects range in age from forty to fifty.

11.2 Instruments

Three instruments will be utilised in the present research.

The first being the Personal Views Survey [50 item modified third generation version] (Maddi, 1987). This is the measure of Hardiness as a composite and the sub-components commitment, control and challenge. [Four measures] Cronbach's Alpha for the 50 items was .75.

Seventeen items measure the sub-component of challenge; sixteen items measure the sub-component of commitment and seventeen items measure the sub-component of control. Standard scores for each sub-component were computed. For challenge and control the standard score represents the total raw score divided by fifty-one to give a standard score. For commitment the total raw score is divided by forty-eight to derive a standard score. Summing the three sub-component scores of challenge, commitment, and control, then, multiplying by one hundred and dividing by three derives the composite hardiness score. All items of the Personal Views Survey except eleven are reverse scored. (Oullette, personal communication, 1995). Respondents rate each statement on a four point Likert scale ranging from not at all true/0 to a little true/1 to quite a bit true/3 to completely true/4.

Secondly the Attributional Style Questionnaire (Peterson, C., Semmel, A., von Baeyer, C., Abramson, L.Y., Metalsky, G.I., & Seligman, M.E.P. 1982).

This instrument measures the dimensions of internal/external, global/specific, and stable/unstable attributional (explanatory) styles for six positive events and six negative events. The respondents are asked to imagine themselves in twelve hypothetical situations. The negative situations, as an example, include statements such as 'you have been looking for a job unsuccessfully for some time' to 'you go on a date and it goes badly'. The positive situations, as an example, include statements such as 'you become very rich' to 'your boyfriend/girlfriend has been treating you more lovingly'. Respondents are asked to write down their opinion as to the one major cause of the hypothetical event. They are then required to rate the cause on three dimensions. The first factor measures the internal/external dimension representing the belief that the cause reflects something about the person as opposed to something about the circumstance or other people. The second factor measures the stable/unstable dimension representing the belief that the cause of the event will again be present in the future or limited only to this particular event. The third factor measures the global/specific dimension representing the belief that the cause of the event influences only this situation as opposed to all situations. (Hull, personal communication, 1995)

[In addition some researchers (Hull, Van Treuren & Propsom, 1988) add two extra dimensions to the positive and negative events. Respondents can be asked to rate the 'importance of the situation' (Strube, 1985) and 'personal responsibility for the outcome' for both good and bad events (Rhodewalt, 1984)]. Peterson, Maier & Seligman, (1993) report that the importance factor becomes redundant due to the evidence that ASQ events are rated as equally important to subjects.

In addition to responding to the major cause of the event, the respondents are asked to rate their answers on a seven point Likert scale representing the terminal poles of each of the aforementioned three dimensions.

To achieve the standard scores for each item the raw scores are divided by the number of items for positive and negative events respectively.

The composite scores for positive and negative events are derived by summing the total standard score for internal, stable and global dimensions and dividing by three or, alternatively, by summing the total of five factors being internal, stable, global, importance and responsibility and dividing by five. Peterson et al, (1993) report moderate alpha' scores for individual dimensions [.40 to .70] and good alpha scores for composites [.70 and higher] (p, 157). The authors state that their use of the composite score is useful as predictors of future *helplessness*. They place more emphasis on the individual factor dimensions.

Attribution is scored in terms of increasing internality. The higher the number, the more internal, the more stable, the more global in relation to positive and negative valence (Rhodewalt, 1984).

Thirdly the Ways of Coping Questionnaire [WOC] (Folkman & Lazarus, 1988) assessing eight sub-scales of transformational or avoidant, cognitive and behavioural coping strategies brought to bear on a respondent selected stress situation. [Eight measures].

The Ways of Coping Questionnaire used in the present research is broken down as follows. The eight coping strategies it measures comprise approach and avoidant coping both cognitively and behaviourally.

- Positive re-appraisal, accepting responsibility and self-control are categorised as cognitive approach coping.
- Seeking support, problem solving and confrontation are categorised as behavioural approach coping.
- Distancing is categorised as cognitive avoidance coping.
- Escape-avoidance is categorised as behavioural avoidance coping

(Folkman and Lazarus, 1988).

The respondents are asked to have in mind a specific stressful situation experienced within the last week. They are then asked to respond to sixty-six item statements ranged in a four point Likert scale, ranging from does not apply or not used/0 to, used somewhat/1 to, used quite a bit/3 to, used a great deal/4. Not all sixty-six items are scaled.

The eight categories comprise six to eight statements each. Two scores are derived from the

instrument. Firstly a raw or average score describes the coping effort for each of the eight types of coping. High scores indicate often utilisation of that type of coping. Summing the responses and dividing by the number of items derives average scores.

Secondly a relative score that describes the proportion of effort represented for each type of coping. A high relative score indicates more frequent use of specific coping behaviours as compared with other coping behaviours. Dividing the average score by the sum of average scores and then multiplying by one hundred derives the relative score. Thus it becomes possible to speak of a respondent using social support strategies representing 21,6% of total coping effort in the respondent selected stressor situation.

Confrontive coping

Describes aggressive efforts to alter the situation and suggests some degree of hostility and risk taking.

Distancing

Describes cognitive efforts to detach oneself and to minimise the significance of the situation.

Self-controlling

Describes efforts to regulate one's feelings and actions.

Seeking social support

Describes efforts to seek informational support, tangible support and emotional support.

Accepting responsibility

Acknowledges one's own role in the problem with a concomitant theme of trying to put things right.

Escape-avoidance

Describes wishful thinking and behavioural efforts to escape or avoid the problem. Items on this scale contrast with those on the Distancing scale, which suggest detachment.

Planful problem solving

Describes deliberate problem focused efforts to alter the situation, coupled with an analytic approach to solving the problem.

Positive re-appraisal

Describes efforts to create positive meaning by focusing on personal growth. It also has a religious dimension.

Figure 10. Description of coping scales of the WOC

11.3 Procedure

In addition to statistical analyses of reliability and validity the demographic characteristics of the respondents, two main statistical procedures will be undertaken in the present research.

- two way repeated measure Anovas, analysing the relationship between Hardiness and Attributional Style;
- Multivariate analysis of variance (Manova) examining the relationship between hardiness and it's component factors and the eight coping processes as measured by the Ways of Coping questionnaire.
- In the first stage the object will be to establish if there is an interaction between the personality variables of hardiness and it's composites challenge, commitment and control and the positive and negative valence events of the Attributional Style Questionnaire (ASQ). In the first instance, replicating the research by Hull et al (1988) a median split analysis of hardiness and its composites will be rated against the attributional style for positive and negative events. In the second instance an upper/lower quartile split analysis hoping for greater statistical discrimination will be conducted on the independent variables (hardiness) and the dependent variables (attributional style). Thus there will be a separate 2 (high-low personality characteristic) x 2 (positive-negative valence event) for the indices of internality, stability, globality, importance, responsibility and attributional composite. The positive versus negative valence of the hypothetical ASQ event is treated as a repeated measure.
- In order to establish any interaction between the independent variable (hardiness and composites) and coping responses of the W.O.C. a Multivariate analysis of variance will be conducted. This will allow possible clustering of coping responses around hardiness and it's composites to emerge and then to be tested for statistical significance.

12. ANALYSIS OF RESULTS

12.1 Descriptive Statistics

Table two shows the means, standard deviations, minimum, maximum, median and upper and lower quartile scores of hardiness and it's sub-components, attributional style and it's sub-components and coping strategies.

Variable	Mean	SD	Min	Max	Median	Lower quartile	Upper quartile
[PVS]							
Hardiness	72.73	9.17	41.3	90.7	73.65	67.7	77.8
Challenge	00.63	0.12	.27	.86	.61	.55	.72
Commitment	00.79	0.12	.40	.98	.81	.75	.89
Control	00.76	0.09	.45	.90	.78	.71	.82
[ASQ]							
Internal good events	5.12	0.78	3.33	6.83	5.0	4.67	5.67
Stable good events	5.57	0.68	4.0	7.0	5.5	5.17	5.83
Global good events	5.37	0.91	2.0	7.0	5.33	4.83	5.83
Importance good events	5.76	0.66	4.33	7.0	5.67	5.33	6.33
Responsibility good event	5.17	0.67	2.67	6.67	5.17	4.68	5.67
Composite good events	5.35	0.57	3.78	6.72	5.36	4.97	5.67
Internal bad events	4.29	0.73	2.83	6.50	4.17	3.91	4.75
Stable bad events	4.20	0.92	2.5	7.0	4.08	3.67	4.67
Global bad events	4.05	1.06	1.5	6.5	4.17	3.33	4.83
Importance bad events	5.50	0.73	3.0	7.0	5.67	5.0	6.0
Responsibility bad events	4.54	0.70	3.0	6.17	4.5	4.08	5.0
Composite bad events	4.18	0.63	2.67	5.55	4.17	3.86	4.61
[WOC]							
Confrontive coping	1.26	0.65	.16	3.0	1.17	.83	1.66
Distancing	00.94	0.62	0.00	3.0	.83	.50	1.33
Self-controlling	1.49	0.52	.43	2.57	1.57	1.14	1.86
Seeking social support	1.62	0.81	0.00	3.0	1.67	1.0	2.16
Accepting responsibility	1.29	0.80	0.00	3.0	1.25	.50	2.0
Planful problem solving	1.71	0.60	.5	3.0	1.67	1.33	2.16
Escape-avoidance	00.86	0.54	0.00	2.0	.81	.38	1.25
Positive re-appraisal	1.40	0.60	.14	3.0	1.35	1.0	1.86

Table 2. Means and standard deviations for hardiness, attributional style and coping.

Table three represents an analysis of variance (ANOVA) to test for statistical differences between the hardiness scores of the four age ranges of subjects. Analysis revealed no statistical differences.

	Hardiness	Hardiness
Age	means	SD
20-30	73.58182	9.37292
30-40	71.08571	8.43073
40-50	75.01111	8.00242
50-65	69.90000	11.91043
All groups	72.72500	9.17493

Source	SS	df	MS	F	p
Age	309.3663	3	103.1221	1.237312	.302997
Error	5667.369	68	83.34366		

Table 3. ANOVA summary table of statistical differences amongst all ranges of subjects.

Table four represents a correlation matrix of hardiness and number of years teaching, yielding no significant relationship.

Variable	Hardiness	No of years teaching
Hardiness	1.00	-.06
No of years teaching	-.06	1.00

Table 4. Correlation matrix of hardiness and number of years teaching.

Table five represents the results of a t-test of differences between males and females in respect of hardiness, yielding no statistical difference in the mean scores.

	Mean	Mean				Valid N	Valid N
Variable	Male	Female	t-value	Df	p	Male	Female
Hardiness	74.75	72.19	.961793	70	.339464	15	57
SD	SD			F-ratio	p		
Males	Females			Variances	variances		
9.153381	9.153381			1.028880	.879230		

Table 5. T-test of differences in hardiness between male and female subjects.

12.2 Reliability Statistics

In order to assess the internal consistency of the composite hardiness through its hypothesised sub-components. Cronbach's Alpha was computed and yielded a satisfactory result (Cronbach's Alpha, .754677990).

Table six represents a correlation matrix of the sub-components of hardiness. These results suggest adequate relationship between the three components of hardiness. The strongest correlation is between commitment and control followed by commitment to challenge with the weakest correlation between challenge and control.

Variable	Challenge	Commitment	Control
Challenge	1.00	0.56	0.32
Commitment	0.56**	1.00	0.65
Control	0.32*	0.65**	1.00

Table 6. Inter-correlation of Challenge, Commitment, and Control.

In order to assess the composite style for good events through its hypothesised sub-components Cronbach's Alpha was computed:

(Cronbach's alpha: .537146069).

Table seven represents a correlation matrix of the sub-components of composite attributional style for good events. The results indicate a poor inter-correlation between the components of composite style for good events, hence the present research will use the composite as well as the sub-components of the composite due to the unreliability of the composite alone.

Variable	Internal good events	Stable good events	Global good events
Internal good events	1.00	0.31	0.26
Stable good events	0.31*	1.00	0.29
Global good events	0.26*	0.29*	1.00

Table 7. Inter-correlation for composite attributional style for good events.

In order to assess the composite style for bad events through its hypothesized sub-components Cronbach's Alpha was computed:

(Cronbach's alpha: .431796544).

The poor result indicates a lack of reliability of the composite for bad events, which should be treated with caution. Individual attributional factors will be used due to the statistical weakness of the composite Cronbach's alpha.

Table eight represents a correlation matrix of the sub-components of composite attributional style for bad events.

Variable	Internal bad events	Stable bad events	Global bad events
Internal bad events	1.00	0.10	0.07
Stable bad events	0.10	1.00	0.39
Global bad events	0.07	0.39*	1.00

Table 8. Inter-correlation for composite attributional style for bad events.

As can be seen the inter-correlation between the three sub-components of composite style for bad events is very weak and thus the composite and the separate sub-components will be measured separately.

12.3 Factor Analysis

Table eleven represents a factor analysis of the eight coping strategies of the Ways of Coping Questionnaire (WOC) into principal components. The factor analysis seems to indicate that confrontive coping, seeking social support, accepting responsibility, planful problem solving and positive re-appraisal constitute one factor [Eigen value - 2.199 or 27%]. Distancing, self-controlling, accepting responsibility and escape-avoidance constitute a second factor [Eigen value - 1.778 or 22%]

	Factor	Factor
Variable	one	two
Confrontive coping	.538286	.123728
Distancing	.049926	.773742*
Self-controlling	.252773	.688582
Seeking social support	.559818	-.142745
Accepting responsibility	.461743	.545487
Planful problem solving	.737624*	.148183
Escape – avoidance	-.299660	.586481
Positive re-appraisal	.825849*	.076364
Expl. Var Eigen values	2.198567	1.777814
Proportion of total	27%	22%

Table 9. Principal component factor analysis of coping strategies

For purposes of interest the factor analysis of the WOC is presented. The clustering of the factors according to the literature should fall into approach or regressive coping. However, the clustering in the present study may be more efficiently explained as problem and emotion focused coping.

Factor One	Factor Two
Confrontive Coping Seeking Social Support Accepting Responsibility Planful Problem Solving Positive Re-Appraisal	Distancing Self-Controlling Accepting Responsibility Escape-Avoidance

Table 10. Factor clustering of the WOC (present study).

Table eleven represents a principal component factor analysis of all variables excluding three composite variables being hardiness, composite style for good events and composite style for bad events.

Variable	Factor one	Factor two	Factor three	Factor four
Challenge	.040655	-.641104	.041941	-.043039
Commitment	.113613	-.862146*	-.005857	.002694
Control	-.061489	-.791472*	.137539	-.135371
Internal good events	-.010876	-.066347	.855698*	-.108282
Stable g/events	.069058	.088451	.445208	.474210
Global g/events	-.069443	.024357	.556996	.445346
Importance g/events	.173110	.243890	.533017	.301076
Responsible g/events	-.047589	-.101057	.876298*	-.125713
Internal bad events	-.025538	-.136501	.209797	.093629
Stable b/events	.201682	.179049	-.265559	.690223
Global b/events	-.174296	-.044097	-.042977	.823057*
Importance b/events	-.121418	.019828	-.042942	.074887
Responsible b/events	.014776	.066844	.010107	-.071792
Confrontive coping	.409813	-.204148	-.131278	.052540
Distancing	.310277	.514066	.013918	-.194901
Self-controlling	.466485	.167365	-.185086	.253503
Seeking social support	.503486	-.236174	-.144795	.042553
Accepting responsibility	.615527	.109371	-.025542	-.158193
Planful problem solving	.763401*	.099042	.064591	-.112591
Escape-avoidance	-.105928	.131659	.067996	.007497
Positive re-appraisal	.789353	-.153725	-.010355	.067585
Expl. Var. Eigen values	2.478227	2.373214	2.513925	2.010030
Prp. Total	.118011	.113010	.119711	.095716

Table 11. Principal component factor analysis of all variables excluding composites.

The clustering of factors in this analysis seems to indicate that confrontive coping, self-controlling, seeking social support, accepting responsibility, planful problem solving and positive re-appraisal constitute one factor [Eigen value - 2.478 or 11%]. This clustering of factors is identical to the division of factors into transformational and avoidant coping processes (Folkman & Lazarus, 1984).

The second factor appears to be challenge, commitment and control [Eigen value - 2.373 or 11%] which clusters negatively with distancing as a coping response.

The third factor appears to be internal good events, stable good events, global good events, importance for good events and responsibility for good events [Eigen value - 2.513 or 11%].

12.4 Hardiness & Composites & Attribution

MEDIAN SPLIT TWO WAY REPEATED MEASURE ANOVA FOR HIGH LOW COMMITMENT AND INTERNAL EVENTS POSITIVE AND NEGATIVE VALENCE					
Source	SS	Df	MS	F	P
Between					
Commitment	0.90014	1	0.90014	1.18310	0.281743
Subject Group error	49.45408	65	0.760832		
With					
Valence	24.31712	1	24.31712	63.71469	0.000000*
Hardiness and valence	1.81747	1	1.81747	4.76206	0.032714
Error		65	0.381656		

Table 12. Median split two way repeated measure anova for high low commitment and internal events positive and negative valence.

The two way repeated measure Anova measures three elements:

- if the hardiness component is high or low;
- if there is a difference between positive and negative valence;
- if high or low hardiness components are related to high and low positive and negative valence events.

A median split analysis using a two way repeated measure Anova was conducted to establish the relationship between high and low hardiness, commitment, challenge and control with all of the sub-components and composites of the Attributional Style Questionnaire. The only result that yielded significance was between commitment and positive and negative valence for internal locus of control. With a cut off point of 0.05, only 0.032714 represented in the above table showed significant interaction between commitment and internal locus of control. All Anova's indicated a real difference between the scores for positive valence and negative valence for all factors of Attributional Style. In terms of hardiness there were real differences between high and low scores for the challenge factor median split with internal locus of control positive and negative valence.

All other hardiness and factors yielded no significant difference between high and low scores.

12.5 Hardiness & Composites & Coping (Multivariate Analysis)

ONE WAY FIXED EFFECTS MANOVA FOR HARDINESS UPPER & LOWER QUARTILE SPLIT X COPING RESPONSES					
Effect Hard Quartile	Wilks Lamda .687108	Rao's R 1.479970	Df 1 8	Df 2 26	p-level .212400
Dependent variable	Mean square effect	Mean square error	F (df1,2) 1.33	p-level	
Confrontive	1.109337	0.368512	3.010316	0.092068	
Distancing	1.691612	0.414607	4.080040	0.051573	
Self-control	0.547429	0.269983	2.027642	0.163848	
Seeking support	0.260007	0.449778	0.578079	0.452465	
Accepting responsibility	0.071901	0.580938	0.123768	0.727220	
Problem solving	0.090425	0.397584	0.227437	0.636574	
Escape	1.482824	0.283149	5.236894	0.028650	
Positive re-appraisal	1.410539	0.267523	5.272593	0.028150	
Hardiness quartile	Conf	Dist	Self con	Soc supp	Acc res
Below	0.948235	1.067647	1.494118	1.575882	1.382353
Above	1.304444	0.627778	1.243889	1.748333	1.291667
Hardiness	Prob sol	Escape	Pos re-app	Means: Rao's R	
Below	1.629412	1.042941	1.200000	(8.26) = 1.48;	
Above	1.731111	0.631111	1.601667	p .2124	

Table 13. One way fixed effects manova for hardiness upper & lower quartile split x coping responses.

The results above indicate that there is a difference in the behaviour of subjects in respect of high and low hardiness in an upper/lower quartile split. The behaviour is different in terms of escape-avoidance, distancing, and positive re-appraisal. This result indicates that subjects higher in hardiness use more positive appraisal coping than subjects lower in hardiness. Subjects higher in hardiness use less distancing and escape-avoidance than subjects lower in hardiness. The rest of the coping factors yielding no statistically significant result that is; they are all above 0.05.

ONE WAY FIXED EFFECTS MANOVA FOR HARDINESS MEDIAN SPLIT X COPING RESPONSES					
Effect Hard Median	Wilks Lamda .763976*	Rao's R 2.432916*	Df 1 8*	Df 2 63*	p-level .023261*
Dependent variable		Mean square effect	Mean square error	F (df1,2) 1.70	p-level
Confrontive		1.581235	0.408095	3.874673	0.052981
Distancing		2.307668	0.355873	6.484530	0.013084
Self-control		0.547756	0.270286	2.026580	0.159010
Seeking support		1.683612	0.654995	2.570422	0.113382
Accepting responsibility		0.670868	0.641106	1.046423	0.309855
Problem solving		0.017735	0.372582	0.047600	0.827929
Escape		0.714013	0.288510	2.474831	0.120191
Positive re-appraisal		0.793800	0.468381	1.694775	0.197241
Hardiness median	Conf	Dist	Self con	Soc supp	Acc res
Below	1.108889	1.115833	1.581389	1.470556	1.195833
Above	1.405278	0.757778	1.406944	1.776389	1.388889
Hardiness median	Prob sol	Escape	Pos re-app	Means: Rao's R (8.63) =2.43; p .0233	
Below	1.695000	0.962500	1.296389		
Above	1.726389	0.763333	1.506389		

Table 14: One way fixed effects manova for hardiness median split
x coping responses.

The results above indicates that there is a difference in the behaviour of subjects in respect of high and low hardiness in a median split. The behaviour is different in terms of confrontive coping and distancing. This result indicates that subjects higher in hardiness use more confrontive coping than subjects lower in hardiness. Subjects higher in hardiness use less distancing than subjects lower in hardiness. The rest of the coping factors yielding no statistically significant result that is; they are all above 0.05.

ONE WAY FIXED EFFECTS MANOVA FOR CHALLENGE MEDIAN SPLIT X COPING RESPONSES					
Effect Challenge Median	Wilks Lamda .691956	Rao's R 3.171904	Df 1 8	Df 2 57	p-level .004834
Dependent variable		Mean square effect	Mean square error	F (df1,2) 1.70	p-level
Confrontive		0.622658	0.372461	1.67174	0.200674
Distancing		0.517097	0.377805	1.36869	0.246376
Self-control		0.623248	0.274809	2.26793	0.136996
Seeking support		0.425321	0.698181	0.60918	0.437972
Accepting responsibility		0.041098	0.673437	0.06103	0.805669
Problem solving		0.193159	0.366902	0.52646	0.470744
Escape		3.296602	0.240739	13.69366	0.000450
Positive re-appraisal		0.593923	0.465028	1.27718	0.262642
Challenge median	Conf	Dist	Self con	Soc supp	Acc res
Below	1.127097	0.999355	1.588710	1.697419	1.250000
Above	1.321714	0.822000	1.394000	1.536571	1.300000
Challenge median	Prob sol	Escape	Pos re-app	Means: Rao's R (8.57) =3.17; p .0048	
Below	1.619032	1.075806	1.289355		
Above	1.727429	0.628000	1.479429		

Table 15: One way fixed effects manova for challenge median split
x coping responses.

The result above indicates that there is a difference in the behaviour of subjects in terms of high and low challenge based upon a median split of scores. Subjects higher on challenge use less escape-avoidance than subjects lower on challenge. No other significant results were yielded below 0.05.

ONE WAY FIXED EFFECTS MANOVA FOR CHALLENGE UPPER/LOWER QUARTILE SPLIT X COPING RESPONSES					
Effect Challenge Quartile	Wilks Lamda .509357	Rao's R 3.130588	Df 1 8	Df 2 26	p-level .012898
Dependent variable		Mean square effect	Mean square error	F (df1.2) 1.33	p-level
Confrontive		0.497027	0.353201	1.407206	0.243992
Distancing		3.237898	0.421111	7.688946	0.009066
Self-control		1.317560	0.206497	6.380527	0.016519
Seeking support		1.468737	0.553679	2.652686	0.112886
Accepting responsibility		0.025420	0.567736	0.044775	0.833720
Problem solving		0.007715	0.429736	0.017953	0.894225
Escape		1.913879	0.305806	6.258428	0.017497
Positive re-appraisal		2.283937	0.412169	5.541262	0.024678
Challenge quartile	Conf	Dist	Self con	Soc supp	Acc res
Below	1.028235	1.264118	1.687647	1.292353	1.220588
Above	1.266667	0.655556	1.299444	1.702222	1.166667
Challenge quartile	Prob sol	Escape	Pos re-app	Means: Rao's R (8.26)	
Below	1.655294	1.071765	1.090000	=3.13; p .0129	
Above	1.685000	0.603889	1.601111		

Table 16: One way fixed effect manova for challenge upper/lower quartile split x coping responses.

The results above indicate that there is a difference in the behaviour of subjects in terms of high and low challenge based upon a lower & upper quartile split of scores. Subjects higher on challenge use less escape-avoidance, distancing and self-control than subjects lower on challenge. Subjects higher on challenge use more positive re-appraisal than subjects lower in challenge. No other significant results were yielded below 0.05.

ONE WAY FIXED EFFECTS MANOVA FOR COMMITMENT MEDIAN SPLIT X COPING RESPONSES					
Effect Commitment Median	Wilks Lamda .734867*	Rao's R 2.615736*	Df 1 8*	Df 2 58*	p-level .016222*
Dependent variable		Mean square effect	Mean square error	F (df1,2) 1.65	p-level
Confrontive		2.791485	0.393101	7.101124	0.009706
Distancing		2.750259	0.358488	7.671824	0.007303
Self-control		0.006264	2.77030	0.022610	0.880942
Seeking support		1.830480	0.649915	2.816490	0.098102
Accepting responsibility		0.010078	0.661479	0.015235	0.902146
Problem solving		0.180588	0.361550	0.499482	0.482254
Escape		0.314119	0.296983	1.057697	0.307553
Positive re-appraisal		2.309622	0.421769	5.476033	0.022360
Commitment median	Conf	Dist	Self con	Soc supp	Acc res
Below	1.078857	1.113429	1.516857	1.469714	1.328571
Above	1.487500	0.707812	1.497500	1.800625	1.353125
Commitment median	Prob sol	Escape	Pos re-app	Means: Rao's R (8.58) = 2.62; p .0162	
Below	1.662000	0.931143	1.234857		
Above	1.765937	0.794062	1.606562		

Table 17: One way fixed effects manova for commitment median split x coping responses.

The above results indicate that there is a difference in the behaviour of subjects in terms of high and low commitment based upon a median split of scores. Subjects higher on commitment use more confrontive coping and positive re-appraisal than subjects lower on commitment. No other significant results were yielded below 0.05.

ONE WAY FIXED EFFECTS MANOVA FOR COMMITMENT UPPER / LOWER QUARTILE SPLIT X COPING RESPONSES					
Effect Commitment Quartile	Wilks Lamda .553210*	Rao's R 2.624807*	Df 1 8*	Df 2 26*	p-level .029797*
Dependent variable		Mean square effect	Mean square error	F (df1.2) 1.33	p-level
Confrontive		1.928612	0.493014	3.911883	0.056346
Distancing		2.500590	0.307838	8.123085	0.007476
Self-control		0.118667	0.298729	0.397240	0.532859
Seeking support		1.745318	0.445938	3.913815	0.056289
Accepting responsibility		0.114379	0.613958	0.186298	0.668823
Problem solving		0.257745	0.425172	0.606214	0.441764
Escape		0.745418	0.347080	2.147682	0.152249
Positive re-appraisal		2.036357	0.330818	6.155519	0.018370
Commitment ¼	Conf	Dist	Self con	Soc supp	Acc res
Below	1.065882	1.116471	1.527059	1.477647	1.191176
Above	1.535556	0.581667	1.410556	1.924444	1.305556
Commitment ¼	Prob sol	Escape	Pos re-app	Means: Rao's R	
Below	1.559412	1.145882	1.182941	= p .0297	
Above	1.731111	0.853889	1.665556		

Table 18: One way fixed effects manova for commitment
upper / lower quartile split x coping responses

The above result indicates that there is a difference in the behaviour of subjects in terms of high and low commitment based upon an lower and upper quartile split of scores. Subjects higher on commitment use more confrontive coping, seeking social support, and positive re-appraisal than subjects lower on commitment. Subjects higher on commitment use less distancing than subjects lower on commitment do. No other significant results were yielded below 0.05.

13. DISCUSSION OF RESULTS

The present research examines hardiness amongst teachers; it's relationship to attributional style, how teachers explain the cause of aversive uncontrollable events, and the relationship between these two factors and individual coping processes to demanding situations.

- Specifically, this thesis set out to establish if any statistically discernible relationship could be established between factors pertaining to hardiness, attributional style and coping processes amongst teachers.

It was expected that teachers, who generally operate in a very demanding and stressful environment particularly in South Africa, would exhibit higher levels of hardiness, representing measures of commitment, control, and challenge. In addition they would exhibit a greater degree of internal locus of control for controllable events and external locus of control for uncontrollable events and further would exhibit a greater tendency to cope with stress with transformational rather than avoidance coping strategies.

In terms of the aims of the present study, we are now in a position to examine exactly what has been demonstrated through the statistical analyses.

13.1 Summary Of Statistical Analyses

- Amongst the four age ranges of subjects no discernible difference in hardiness score was found. Differences in age played no part in the differences in hardiness scores of the subjects.
- No correlation between hardiness scores and number of years teaching was found.
- No difference was found between the hardiness scores of male and female subjects.
- A Cronbach alpha of .75 was yielded for hardiness and it's sub-components, commitment, control, and challenge. This result suggests an adequate internal reliability relationship between hardiness and it's sub-components. The present research thus provides reasonable evidence of the reliability and internal consistency of the Personal Views Survey [third generation hardiness scale] and appears to justify the use of the composite hardiness score comprised of the three factors.
- A Cronbach alpha of .54 was yielded for attributional style good events and it's sub-components, internal, stable and global good events. This result suggests a poor

internal reliability relationship between attributional style good events and its sub-components and defends the decision to use the separate factors of both good and bad events on the ASQ.

- A Cronbach alpha of .43 was yielded for attributional style bad events and its sub-components, internal, stable and global bad events. This result suggests a lack of internal reliability between attributional style bad events and its sub-components.
- In terms of attributional style and hardiness and its components the only significant result was an interaction between commitment and internal locus of control. Thus the greater the commitment the higher was internal locus of control for good events and the lower was internal locus of control for bad events. Thus subjects higher in commitment are more likely to attribute good events to themselves and bad events to external contingencies.
- All Anova's indicated a real difference between the scores for positive valence and negative valence for all factors of Attributional Style. Generally subjects scored on the ASQ attributed good events internally and bad events externally.
- In respect of hardiness and coping, subjects higher in hardiness use more confrontive coping, positive re-appraisal than subjects lower in hardiness. Subjects higher in hardiness use less distancing and escape-avoidance than subjects lower in hardiness.
- Subjects higher in challenge use less escape-avoidance, distancing, and self-control than subjects lower on challenge do. In addition subjects higher in challenge use more positive re-appraisal than subjects lower on challenge do.
- Subjects higher in commitment use more confrontive coping, seeking social support, and positive reappraisal than subjects lower on commitment do. In addition subjects higher in commitment use less distancing than subjects lower on commitment do.
- Factor analysis possibly demonstrates a division between problem and emotion focused coping strategies.
- The hardiness scores among the teachers range from a minimum score of 41.3 to a maximum of 90.7. The median split cut off point of 73.65 is high enough to indicate that generally the teachers in the present study might be described as being higher in hardiness. This appears to validate the proposition that teachers are high in hardiness otherwise they would not be able to survive in such a demanding, stressful and responsible occupation. This point may have direct bearing on the statistical measures applied, in that, there is no subject group that is observably lower in

hardiness. There were far greater fluctuations in the range of scores of the sub-components of hardiness, The largest range being challenge from a minimum of .27 to a maximum of .86, commitment ranging from .40 to .81 and control ranging from .45 to .90. This again justifies the use of the sub-components as separate factors in the analysis, *in addition* to the use of the composite hardiness.

- In the present research, subjects explained good events internally and bad events externally as is indicated by the direction of the scores of the ASQ. The higher the score the greater the internality, stability and globality of causal attributions for good events.

13.2 General Observations And Comments

A discernible relationship between hardiness and its components, with coping strategies was demonstrated. As expected higher levels of hardiness, commitment and challenge were related to the use of transformational rather than avoidant coping behaviours. This result would seem to demonstrate and confirm that subjects higher in hardiness are more likely to use transformational coping than subjects lower in hardiness. This would serve to confirm Maddi's assertion that hardiness would be associated with transformational coping.

However it is essential to be balanced about these results. The coping event is a complex one. Aldwin (1994, p,120) reminds us that a transformational-avoidance dichotomy in coping efforts is too simplistic to represent the complexity of individual coping efforts. For example, not all emotion-focused coping can be construed as avoidant. In addition, deferring or avoiding action on a problem to get more information is often a sound judgement, particularly when subjective levels of emotional distress are high. It is often necessary to control subjective levels of emotional distress before more problem-focused coping action can occur to resolve a problem.

Hardiness does not imply a rigid coping style whether transformational or avoidant, rather it implies that particular coping strategies are chosen on the basis of being most appropriate to deal with the stressor being confronted. Hence the critical importance of cognitive appraisal in the coping process. A central point made by Antonovsky is that a distinction must be made between the individual having a resistance resource as a

potential asset and the actual mobilisation and utilisation of a resource. The value of having a resistance resource is that it promotes the actual mobilisation of the most *appropriate resource* in the face of a given stressor (Antonovsky, 1987).

Clearly the categorisation of coping into transformational and avoidant must be viewed in a situational specific context. Thus Maddi, (1990) states "it is a conceptual error to (simply) equate transformational coping with problem-focused coping and regressive coping with emotion-focused coping. More likely both transformational and regressive coping use a combination of problem-focused and emotion-focused coping" (Maddi, 1990, p, 134). In addition caution should be exercised due to the fact that in the present study there is no knowledge of the actual stress event that subjects are responding to on the W.O.C.

What emerges here is the added value of a content analysis of coping in future research. This would have allowed for a stress event to be defined in terms of nature and intensity, and in addition, would also have allowed for a holistic tracking of coping responses in high and low hardiness subjects. Thus giving a global and longitudinal perspective to varying coping strategies used to resolve the stress situation. This might entail establishing subjects who were high and low in hardiness and following them through their stress experience (once defined) to determine their coping efforts in relation to their dispositional attitudes in an more naturalistic research manner.

Since the WOC is a process measure of coping strategies as opposed to a style or trait measure, inconsistency is to be expected, in both the factor structure and the internal reliability. However this characteristic of the WOC is intentional. The WOC is designed to tap into variability and change (Aldwin, 1994). The author states that the factor structure of the WOC is expected to vary from population to population and from context to context. In addition coping as a process, Aldwin states, means that strategies change over time and context, hence "the very unreliability of the instrument may actually reflect the process of coping (p, 116).

The factor structure elicited in the present research may be construed as problem solving and emotion focused coping, accepting responsibility, for example, may decrease stress levels emotionally by the mere surrender to personal responsibility, whilst at the same time may in and of itself lead to direct problem solving. This may be

particularly true for teachers and others in helping or service occupations where a great deal of responsibility to achieve desired outcomes is a normal expectation. Whilst the results of the present research seems to support the hypothesis that hardy people cope with approach coping, this should be treated with circumspection. If the process model of coping is accepted then it will be expected that individuals depending upon the nature of the demand and the context will use all functions of coping.

In respect of attributional style and hardiness (commitment, challenge and control), the present result confirms the result arrived at by Hull et al, (1988) in only one respect.

Hull and his colleagues found that subjects high in commitment rated the cause of positive events as being more internal and the cause of negative events as being less internal. Thus there was a positive correlation between being higher in commitment and attributing good events as caused by internality and a negative correlation between being higher in commitment and attributing bad events as lower in internality. Like Hull et al the strongest effects in the present study were found for the sub- component of hardiness, commitment.

This result means that individuals, who are not alienated from themselves and their life work, and who have a strong sense of their actions and efforts being personally meaningful, are likely to attribute success to themselves primarily. Conversely they are likely not to blame themselves for uncontrollable aversive events in their lives. This formulation seems to tie in to the reality of being a teacher and might be regarded as a healthy attitude in that regard particularly when expectations of teachers are high from parents and pupils.

This result may suggest that attributions may mediate the effects of hardiness due to the possibility that attributional style is directly related to the perception of life events.

Both Cronbach alphas of composite scores for the ASQ were weak or inadequate. How might this be explained? Cutrona et al, (1985) concluded that the measurement of attributions for single events was preferable to measuring attributions across multiple events. Their findings suggested that people "are highly variable in the causal attributions they make across multiple situations" (p, 1056) and thus advised against the use of summary scores across many events. Cutrona et al, (1985) question the claim

that attributional style exists as *characteristic* individual attributional tendencies at all. This would seem to carry some weight as an argument. The notion that all good things happen *because of me* and bad things happen *not because of me* does not seem to do justice to the complexity of life. Although it is probably safe to argue that generally self blame as an enduring trait cannot be considered psychologically healthy. Maturity requires a great deal of acceptance of personal responsibility.

Further, in respect of attributional style, it should be noted that teachers generally, those who stay in the profession, [turnover is high] regard what they are doing as extremely important and also feel high levels of personal responsibility for their teaching efforts. Hence the distinction between internal and external locus of control might be less differentiated among teachers.

13.3 Conclusions

The question might be asked as to where hardiness is going in current research. Maddi & Khoshaba, (1994) conducted research to determine the relationship between Hardiness and the Minnesota Multiphasic Personality Inventory [MMPI] as a quick clinical measure of psycho-pathological tendencies. Results yielded significant negative relationships between the Personal Views Survey and the MMPI. The authors concluded that evidence pointed to hardiness representing the opposite of severe psychopathology and thus suggested that hardiness might be used as a measure of mental health.

If this were so, it would be most useful to examine the changes in hardiness in a clinical population undergoing psychotherapy. The argument being, that hardiness and it's sub-components might serve as an exit goal in therapy, wherein, with an attitude of hardiness individual's would be more likely to cope with normal daily demands and strains independently of the therapeutic relationship.

It would also be useful to monitor the psycho-social development of children and adolescents who have been counselled in hardiness in contrast to children and adolescents who have received no such training in order to ascertain if hardiness can be used to generate resilience during development of the young person.

The narrow focus of the present study was to discern if a relationship could be found between hardiness, attributional style and coping processes. The more global question that was being asked related to the question of psychological resilience. Specifically, what is it about the subjective mediators that individual's possess that promote adaptation and mastery over taxing demands? Common sense would lead us to believe that it would not be prudent to make global statements about resilience based upon the action of a few limited variables. It is reasonable to state that the way people construct their individual realities, the beliefs that they have about themselves are important, as are the skills required to transform those beliefs into resilience and mastery.

In global perspective the task we face is to understand how people cope with life by understanding their *psychological coherence* rather than just their manifest behaviour. Understanding an individual's psychological coherence is a very complex task and may, for example, take many months of a therapeutic relationship. Thus the difference between a therapeutic relationship and empirical testing somehow has to be bridged if research hypotheses are to be relevant or make actual sense in terms of predictions.

I believe that the last words should go to Oulette (Kobasa).

As a research psychologist, she has worked long and hard to develop an instrument that possesses rigour and precision, a body of work that could withstand the rigours of academic evaluation. However, the motivation for her research into hardiness emerges from more fundamental human questions. These questions, for her, underpin all empirical endeavours. They relate to the importance of having a sense of meaning or purpose in life, the value of a life lived strenuously, the power and responsibility of freedom. Subjective reality as the primary reality and the possibility of individuals significantly shaping and contributing to society (Oulette, 93, p, 96).

As can be seen, this is not a neutral position to take up in the academic pursuit of psychological truth and knowledge. Some might argue that these issues are not germane to psychology. They do remind us that ultimately it is the quality of the human experience that psychology concerns itself with.

14. BIBLIOGRAPHY

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15. APPENDICES

15.1 Research Instruments

This is the document that each subject was given and asked to fill in.

Dear colleague,

Firstly thank you for agreeing to give of your time and energy in filling in these surveys. Your efforts will be greatly appreciated.

There are three surveys to be filled in with instructions for each one at the beginning of each survey.

Please remember that the survey is anonymous. There is a small section of information that is required to make sense of the variables related to the research. I would ask you to please fill in this information.

With thanks
Julian Leon

Please tick the relevant box

Are you?	Female:		Male:	
Do you teach in the?	High School	Middle School	Primary School	
How many years have you been teaching?			years	
Age:	20-30	30-40	40-50	50-65

PERSONAL VIEWS SURVEY

Below are some statements that you may feel are true for you, or are not true for you. Please indicate how you feel about each statement by circling a number from 0 to 3 in the space provided at the end of each statement. For example, a zero indicates that you feel the item is not at all true for you; circling a one means that the item is a little bit true for you; circling a two means that the item is quite a bit true for you; circling a three means that you feel the item is completely true for you. As you will see, many of the items are worded very strongly. This is to help you decide the extent to which you agree or disagree with the statement.

Please read all the items carefully. Be sure to respond to all of the statements on the basis of the way you feel right now in your life. Don't spend too much time on any one item.

0 = Not at all true
1 = A little bit true
2 = Quite a bit true
3 = Completely true

The survey begins here.

1. I often wake up eager to continue with my life where it left off the day before..... 0 1 2 3
2. I like a lot of variety in my work..... 0 1 2 3
3. Most of the time my bosses and superiors will listen to what I have to say..... 0 1 2 3
4. Planning ahead can help to avoid most future problems..... 0 1 2 3
5. I usually feel that I can change what might happen tomorrow, by what I do today..... 0 1 2 3
6. I feel uncomfortable if I have to make any changes in my everyday routine..... 0 1 2 3
7. No matter how hard I try, my efforts will accomplish nothing..... 0 1 2 3
8. I find it difficult to imagine getting excited about working..... 0 1 2 3
9. No matter what you do, the "tried and tested" ways are always the best... 0 1 2 3
10. I feel that it's almost impossible to change my spouses' mind about something..... 0 1 2 3
11. Most people who work for a living are just manipulated by their bosses.... 0 1 2 3
12. New laws shouldn't be made if they negatively affect a person's income... 0 1 2 3
13. When you marry and have children you have lost your freedom of choice..0 1 2 3

0 = Not at all true
 1 = A little bit true
 2 = Quite a bit true
 3 = Completely true

14. No matter how hard you work, you never really seem to reach your goals.. 01 2 3
15. A person whose mind seldom changes can usually be depended upon to have a reliable judgement..... 01 2 3
16. I believe that most of what happens in life is just meant to happen..... 01 2 3
17. It doesn't matter if you work hard at your job, since only the bosses profit by it anyway..... 01 2 3
18. I don't like conversations when others are confused bout what they mean to say..... 01 2 3
19. Most of the time it just doesn't pay to try hard, since things never turn out right anyway..... 01 2 3
20. The most exciting thing for me is my own fantasies..... 01 2 3
21. I won't answer a person's question until I am very clear as to what they are asking..... 01 2 3
22. When I make plans I am certain I can make them work..... 01 2 3
23. I really look forward to my work..... 01 2 3
24. It doesn't bother me to step aside for a while from something I'm involved in, if I'm asked to do something else..... 01 2 3
25. When I'm working on a difficult task, I know when I need to ask for help.. 01 2 3
26. It's exciting for me to learn something about myself..... 01 2 3
27. I enjoy being with people who are predictable..... 01 2 3
28. I find it's usually very hard to change a friend's mind about something.... 01 2 3
29. Thinking of yourself as a free person just makes you feel frustrated and unhappy..... 01 2 3
30. It bothers me when something unexpected interrupts my daily routine..... 01 2 3
31. When I make a mistake, there's very little I can do to make things right again..... 0 1 2 3
32. I feel no need to try my best at work, since it makes no difference anyway..... 0 1 2 3

0 = Not at all true
 1 = A little bit true
 2 = Quite a bit true
 3 = Completely true

- | | | |
|-----|--|--------|
| 33. | I respect rules because they guide me..... | 01 2 3 |
| 34. | One of the best ways to handle most problems is just not to think about them..... | 01 2 3 |
| 35. | I believe that most athletes are just born good at sports..... | 01 2 3 |
| 36. | I don't like things to be uncertain or unpredictable..... | 01 2 3 |
| 37. | People who do their best should get full financial support from society.... | 01 2 3 |
| 38. | Most of my life gets wasted doing things that don't mean anything..... | 01 2 3 |
| 39. | Lots of times I don't really know my own mind..... | 01 2 3 |
| 40. | I have no use for theories that are not closely tied to facts..... | 01 2 3 |
| 41. | Ordinary work is just too boring to be worth doing..... | 01 2 3 |
| 42. | When other people get angry with me, it's usually for not good reason.... | 01 2 3 |
| 43. | Changes in routine bother me..... | 01 2 3 |
| 44. | I find it hard to believe people who tell me that the work they do is of value to society..... | 01 2 3 |
| 45. | I feel that if someone tries to hurt me, there's usually not much I can do to try and stop them..... | 01 2 3 |
| 46. | Most days, life just isn't very exciting for me..... | 01 2 3 |
| 47. | I think people believe in individuality only to impress others..... | 01 2 3 |
| 48. | When I'm reprimanded at work, it usually seems to be unjustified..... | 01 2 3 |
| 49. | I want to be sure that someone will take care of me when I get old..... | 01 2 3 |
| 50. | Politicians run our lives..... | 01 2 3 |

This is the end of the survey. Thank you for agreeing to participate in this survey.

ATTRIBUTIONAL STYLE QUESTIONNAIRE

Please try to vividly imagine yourself in the situations that follow. If such a situation happened to you, what would you feel would have caused it? While events may have many causes, we want you to pick only one--the major cause if this event happened to you. Please write this cause in the blank provided after each event. Next we want you to answer some additional questions about the cause and a final question about the situation.

YOU HAVE BEEN LOOKING FOR A JOB UNSUCCESSFULLY FOR SOME TIME.

1. Write down the one major cause (in complete sentences).

2. Is this cause of your unsuccessful job search due to something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1	2	3	4	5	6	7	totally due to me
---	---	---	---	---	---	---	---	----------------------

3. In the future when looking for a job, will this cause again be present? (circle one number)

will never again be present	1	2	3	4	5	6	7	will always be present
-----------------------------	---	---	---	---	---	---	---	---------------------------

4. Is the cause something that just influences looking for a job or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1	2	3	4	5	6	7	influences all situations in my life
--	---	---	---	---	---	---	---	---

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1	2	3	4	5	6	7	extremely important
----------------------	---	---	---	---	---	---	---	---------------------

6. How responsible are you for your unsuccessful job search? (circle one number)

not at all responsible	1	2	3	4	5	6	7	totally responsible
------------------------	---	---	---	---	---	---	---	------------------------

YOU BECOME VERY RICH.

1. Write down the one major cause (in complete sentences).

2. Is this cause of your becoming rich due to something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1	2	3	4	5	6	7	totally due to me
---	---	---	---	---	---	---	---	----------------------

3. In future opportunities for wealth, will this cause again be present? (circle one number)

will never again be present	1	2	3	4	5	6	7	will always be present
--------------------------------	---	---	---	---	---	---	---	---------------------------

4. Is the cause something that just influences becoming rich or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1	2	3	4	5	6	7	influences all situations in my life
--	---	---	---	---	---	---	---	--

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1	2	3	4	5	6	7	extremely important
----------------------	---	---	---	---	---	---	---	------------------------

6. How responsible are you for your becoming rich? (circle one number)

not at all responsible	1	2	3	4	5	6	7	totally responsible
------------------------	---	---	---	---	---	---	---	---------------------

YOU APPLY FOR A POSITION YOU WANT VERY BADLY (e.g. IMPORTANT JOB, GRADUATE SCHOOL ADMISSION, ETC.) AND YOU GET IT.

1. Write down one major cause (in complete sentences).

2. Is this cause of your getting this position due to something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1	2	3	4	5	6	7	totally due to me
---	---	---	---	---	---	---	---	----------------------

3. In the future when applying for a position, will this cause again be present? (circle one number)

will never again be present	1	2	3	4	5	6	7	will always be present
--------------------------------	---	---	---	---	---	---	---	---------------------------

4. Is the cause something that just influences applying for positions or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1	2	3	4	5	6	7	influences all situations in my life
--	---	---	---	---	---	---	---	--

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1	2	3	4	5	6	7	extremely important
-------------------------	---	---	---	---	---	---	---	------------------------

6. How responsible are you for getting your position? (circle one number)

not at all responsible	1	2	3	4	5	6	7	totally responsible
---------------------------	---	---	---	---	---	---	---	------------------------

YOU GET A RAISE.

1. Write down the one major cause (in complete sentences).
2. Is this cause of your getting a raise due to something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1	2	3	4	5	6	7	totally due to me
---	---	---	---	---	---	---	---	----------------------

3. In future opportunities for raises, will this cause again be present? (circle one number)

will never again be present	1	2	3	4	5	6	7	will always be present
--------------------------------	---	---	---	---	---	---	---	---------------------------

4. Is the cause something that just influences getting a raise or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1	2	3	4	5	6	7	influences all situations in my life
--	---	---	---	---	---	---	---	--

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1	2	3	4	5	6	7	extremely important
-------------------------	---	---	---	---	---	---	---	------------------------

6. How responsible are you for getting a raise? (circle one number)

not at all responsible	1	2	3	4	5	6	7	totally responsible
---------------------------	---	---	---	---	---	---	---	------------------------

YOU MEET A FRIEND WHO COMPLIMENTS YOU ON YOUR APPEARANCE.

1. Write down the one major cause (in complete sentences).

2. Is this cause of your getting a compliment due to something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1	2	3	4	5	6	7	totally due to me
---	---	---	---	---	---	---	---	----------------------

3. In future opportunities for compliments, will this cause again be present? (circle one number)

will never again be present	1	2	3	4	5	6	7	will always be present
--------------------------------	---	---	---	---	---	---	---	---------------------------

4. Is the cause something that just influences getting a compliment or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1	2	3	4	5	6	7	influences all situations in my life
--	---	---	---	---	---	---	---	--

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1	2	3	4	5	6	7	extremely important
-------------------------	---	---	---	---	---	---	---	------------------------

6. How responsible are you for your getting a compliment? (circle one number)

not at all responsible	1	2	3	4	5	6	7	totally responsible
---------------------------	---	---	---	---	---	---	---	------------------------

YOU DO A PROJECT WHICH IS HIGHLY PRAISED.

1. Write down the one major cause (in complete sentences).

2. Is this cause of your successful project due to something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1	2	3	4	5	6	7	totally due to me
---	---	---	---	---	---	---	---	----------------------

3. In the future when doing projects, will this cause again be present? (circle one number)

will never again be present	1	2	3	4	5	6	7	will always be present
--------------------------------	---	---	---	---	---	---	---	---------------------------

4. Is the cause something that just influences doing projects or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1	2	3	4	5	6	7	influences all situations in my life
--	---	---	---	---	---	---	---	--

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1	2	3	4	5	6	7	extremely important
-------------------------	---	---	---	---	---	---	---	------------------------

6. How responsible are you for your successful project? (circle one number)

not at all responsible	1	2	3	4	5	6	7	totally responsible
---------------------------	---	---	---	---	---	---	---	------------------------

YOU GIVE AN IMPORTANT TALK IN FRONT OF A GROUP, AND THE AUDIENCE REACTS NEGATIVELY.

1. Write down the one major cause (in complete sentences).

2. Is this cause of this negative reaction due to something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1 2 3 4 5 6 7	totally due to me
---	---------------------------	----------------------

3. In the future when giving important talks, will this cause again be present? (circle one number)

will never again be present	1 2 3 4 5 6 7	will always be present
--------------------------------	---------------------------	---------------------------

4. Is the cause something that just influences giving talks or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1 2 3 4 5 6 7	influences all situations in my life
--	---------------------------	--

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1 2 3 4 5 6 7	extremely important
-------------------------	---------------------------	------------------------

6. How responsible are you for this negative reaction? (circle one number)

not at all responsible	1 2 3 4 5 6 7	totally responsible
---------------------------	---------------------------	------------------------

YOUR BOYFRIEND/GIRLFRIEND HAS BEEN TREATING YOU MORE LOVINGLY.

1. Write down the one major cause (in complete sentences).

2. Is this cause of this loving treatment due to something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1 2 3 4 5 6 7	totally due to me
---	---------------------------	----------------------

3. In the future when with your boyfriend/girlfriend, will this cause again be present? (circle one number)

will never again be present	1 2 3 4 5 6 7	will always be present
--------------------------------	---------------------------	---------------------------

4. Is the cause something that just influences this treatment from your boyfriend/girlfriend or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1 2 3 4 5 6 7	influences all situations in my life
--	---------------------------	--

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1 2 3 4 5 6 7	extremely important
-------------------------	---------------------------	------------------------

6. How responsible are you for this loving treatment? (circle one number)

not at all responsible	1 2 3 4 5 6 7	totally responsible
---------------------------	---------------------------	------------------------

YOU CANNOT GET ALL THE WORK DONE THAT OTHERS EXPECT OF YOU.

1. Write down the one major cause (in complete sentences).

2. Is this cause of this failure to get work done due to something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1	2	3	4	5	6	7	totally due to me
---	---	---	---	---	---	---	---	----------------------

3. In the future when attempting to complete work, will this cause again be present? (circle one number)

will never again be present	1	2	3	4	5	6	7	will always be present
--------------------------------	---	---	---	---	---	---	---	---------------------------

4. Is the cause something that just influences doing work or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1	2	3	4	5	6	7	influences all situations in my life
--	---	---	---	---	---	---	---	--

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1	2	3	4	5	6	7	extremely important
-------------------------	---	---	---	---	---	---	---	------------------------

6. How responsible are you for this failure to complete work? (circle one number)

not at all responsible	1	2	3	4	5	6	7	totally responsible
---------------------------	---	---	---	---	---	---	---	------------------------

A FRIEND COMES TO YOU WITH A PROBLEM, AND YOU DON'T TRY TO HELP.

1. Write down the one major cause (in complete sentences).

2. Is this cause of your not trying to help due to something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1	2	3	4	5	6	7	totally due to me
---	---	---	---	---	---	---	---	----------------------

3. In the future when a friend comes for help, will this cause again be present? (circle one number)

will never again be present	1	2	3	4	5	6	7	will always be present
--------------------------------	---	---	---	---	---	---	---	---------------------------

4. Is the cause something that just influences helping friends or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1	2	3	4	5	6	7	influences all situations in my life
--	---	---	---	---	---	---	---	--

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1	2	3	4	5	6	7	extremely important
-------------------------	---	---	---	---	---	---	---	------------------------

6. How responsible are you for not trying to help your friend/ (circle one number)

not at all responsible	1	2	3	4	5	6	7	totally responsible
---------------------------	---	---	---	---	---	---	---	------------------------

YOU MEET A FRIEND WHO ACTS HOSTILELY TOWARDS YOU.

1. Write down the one major cause (in complete sentences).

2. Is this cause of your friend's hostility due to something about you or something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1 2 3 4 5 6 7	totally due to me
---	---------------------------	----------------------

3. In the future when meeting a friend, will this cause again be present? (circle one number)

will never again be present	1 2 3 4 5 6 7	will always be present
--------------------------------	---------------------------	---------------------------

4. Is the cause something that just influences meeting friends or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1 2 3 4 5 6 7	influences all situations in my life
--	---------------------------	--

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1 2 3 4 5 6 7	extremely important
-------------------------	---------------------------	------------------------

6. How responsible are you for your friend's hostility? (circle one number)

not at all responsible	1 2 3 4 5 6 7	totally responsible
---------------------------	---------------------------	------------------------

YOU GO ON A DATE AND IT GOES BADLY.

1. Write down the one major cause (in complete sentences).

2. Is this cause of this bad date due to something about you or something about other people or circumstances? (circle one number)

totally due to other people or circumstances	1	2	3	4	5	6	7	totally due to me
---	---	---	---	---	---	---	---	----------------------

3. In the future when going on a date, will this cause again be present? (circle one number)

will never again be present	1	2	3	4	5	6	7	will always be present
--------------------------------	---	---	---	---	---	---	---	---------------------------

4. Is the cause something that just influences going on dates or does it also influence other areas of your life? (circle one number)

influences just this particular situation	1	2	3	4	5	6	7	influences all situations in my life
--	---	---	---	---	---	---	---	--

5. How important would this situation be if it happened to you? (circle one number)

not at all important	1	2	3	4	5	6	7	extremely important
-------------------------	---	---	---	---	---	---	---	------------------------

6. How responsible are you for your date going badly? (circle one number)

not at all responsible	1	2	3	4	5	6	7	totally responsible
---------------------------	---	---	---	---	---	---	---	------------------------

WAYS OF COPING SCALE

INSTRUCTIONS

To respond to the statements in this questionnaire, you must have a specific stressful situation in mind. Take a few moments and think about the most stressful situation that you have experienced in the *past week*.

By "stressful" we mean a situation that was difficult or troubling for you, either because you felt distressed about what happened, or because you had to use considerable effort to deal with the situation. The situation may have involved your family, your job, your friends, or something else important to you. Before responding to the statements, think about the details of this stressful situation, such as where it happened, who was involved, how you acted, and why it was important to you. While you may still be involved in the situation, or it could have already happened, it should be the most stressful situation that you experienced during the week.

As you respond to each of the statements, **please** keep this stressful situation in mind. **Read each statement carefully and indicate, by circling 0,1,2,or 3 to what extent you used it in the situation.**

Key: 0 = Does not apply or not used
2 = Used quite a bit

1 = Used somewhat
3 = Used a great deal

Please try to respond to every question.

0 = Does not apply or not used 1 = Used somewhat 2 = Used quite a bit
3 = Used a great deal

1. I just concentrated on what I had to do next - the next step..... 01 2 3
2. I tried to analyse the problem in order to understand it better..... 01 2 3
3. I turned to work or another activity to take my mind off things..... 01 2 3
4. I felt that time would have made a difference -
the only thing was to wait..... 01 2 3
5. I bargained or compromised to get something positive from the situation. 01 2 3
6. I did something that I didn't think would work,
but at least I was doing something..... 01 2 3
7. I tried to get the person responsible to change his or her mind..... 01 2 3
8. I talked to someone to find out more about the situation..... 01 2 3
9. I criticised or lectured myself..... 01 2 3
10. I tried not to burn my bridges, but leave things open somewhat..... 01 2 3
11. I hoped for a miracle..... 01 2 3
12. I went along with fate, sometimes I just have bad luck..... 01 2 3
13. I went along as if nothing had happened..... 01 2 3
14. I tried to keep my feelings to myself..... 01 2 3
15. I looked for the silver lining , so to speak;
I tried to look on the bright side of things..... 01 2 3
16. I slept more than usual..... 01 2 3
17. I expressed anger to the person(s) who caused the problem..... 01 2 3
18. I accepted sympathy and understanding from someone..... 01 2 3
19. I told myself things that helped me feel better..... 01 2 3
20. I was inspired to do something creative about the problem..... 01 2 3
21. I tried to forget the whole thing..... 01 2 3
22. I got professional help..... 01 2 3

Go on to next page

0 = Does not apply or not used 1 = Used somewhat 2 = Used quite a bit
 3 = Used a great deal

- | | | |
|-----|---|---------|
| 23. | I changed or grew as a person..... | 0 1 2 3 |
| 24. | I waited to see what would happen before doing anything..... | 0 1 2 3 |
| 25. | I apologised or did something to make up..... | 0 1 2 3 |
| 26. | I made a plan of action and followed it..... | 0 1 2 3 |
| 27. | I accepted the next best thing to what I wanted..... | 0 1 2 3 |
| 28. | I let my feelings out somehow..... | 0 1 2 3 |
| 29. | I realised that I had brought the problem on myself..... | 0 1 2 3 |
| 30. | I came out of the experience better than when I went in..... | 0 1 2 3 |
| 31. | I talked to someone who could do something concrete
about the problem..... | 0 1 2 3 |
| 32. | I tried to get away from it for a while by resting or taking a vacation..... | 0 1 2 3 |
| 33. | I tried to make myself feel better by eating, drinking,
smoking, using drugs, or mediations, etc. | 0 1 2 3 |
| 34. | I took a big chance or did something very risky to solve the problem..... | 0 1 2 3 |
| 35. | I tried not to act too hastily or follow my first hunch..... | 0 1 2 3 |
| 36. | I found new faith..... | 0 1 2 3 |
| 37. | I maintained my pride and kept a stiff upper lip..... | 0 1 2 3 |
| 38. | I rediscovered what is important in life..... | 0 1 2 3 |
| 39. | I changed something so things would turn out all right..... | 0 1 2 3 |
| 40. | I generally avoided being with people..... | 0 1 2 3 |
| 41. | I didn't let it get to me; I refused to think too much about it..... | 0 1 2 3 |
| 42. | I asked advice from a relative or friend I respected..... | 0 1 2 3 |
| 43. | I kept others from knowing how bad things were..... | 0 1 2 3 |
| 44. | I made light of the situation; I refused to get too serious about it..... | 0 1 2 3 |
| 45. | I talked to someone about how I was feeling..... | 0 1 2 3 |

0 = Does not apply or not used 1 = Used somewhat 2 = Used quite a bit
 3 = Used a great deal

- | | | |
|-----|---|--------|
| 46. | I stood my ground and fought for what I wanted..... | 01 2 3 |
| 47. | I took it out on other people..... | 01 2 3 |
| 48. | I drew on my past experiences; I was in a similar situation before..... | 01 2 3 |
| 49. | I know what had to be done, so I doubled my efforts to make things work..... | 01 2 3 |
| 50. | I refused to believe that it had happened..... | 01 2 3 |
| 51. | I promised myself that things would be different next time..... | 01 2 3 |
| 52. | I came up with a couple of different solutions to the problem..... | 01 2 3 |
| 53. | I accepted the situation, since nothing could be done..... | 01 2 3 |
| 54. | I tried to keep my feeling about the problem from interfering with other things..... | 01 2 3 |
| 55. | I wished that I could change what had happened or how I felt..... | 01 2 3 |
| 56. | I changed something about myself..... | 01 2 3 |
| 57. | I daydreamed or imagined a better time or place than the one I was in.... | 01 2 3 |
| 58. | I wished that the situation would go away or somehow be over with..... | 01 2 3 |
| 59. | I had fantasies or wishes about how things might turn out..... | 01 2 3 |
| 60. | I prayed..... | 01 2 3 |
| 61. | I prepared myself for the worst..... | 01 2 3 |
| 62. | I went over in my mind what I would say or do..... | 01 2 3 |
| 63. | I thought about how a person I admire would handle this situation and used that as a model..... | 01 2 3 |
| 64. | I tried to see things from the other person's point of view..... | 01 2 3 |
| 65. | I reminded myself how much worse things could be..... | 01 2 3 |
| 66. | I jogged or exercised..... | 01 2 3 |

Stop Here.

15.2 Scoring Instructions And Template

SCORING INSTRUCTIONS FOR THE PERSONAL VIEWS SURVEY HARDINESS SCALE

1. CHALLENGE ITEMS - 2, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 37, 40, 43, 46, & 49.
2. COMFORT ITEMS - 1, 8, 11, 14, 17, 20, 23, 26, 29, 32, 38, 39, 41, 44, 47, & 50.
3. CONTROL ITEMS - 3, 4, 5, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 35, 42, 45, & 48.
4. ITEMS TO BE REVERSED - 6 - 21 AND 28 - 50
5. For CHALLENGE score, sum over all relevant items and divide by 51.
For COMMITMENT score, sum over all relevant items and divide by 48.
For CONTROL score, sum over all relevant items and divide by 51.
6. To create HARDINESS composite, take three ratio scores, add together, multiply by 100, and divide by three.

SCORING HARDINESS

Challenge	Commitment	Control
Item [2] -----	Item [1] -----	Item [3] -----
6 --- ---	8 --- ---	[4] -----
9 --- ---	11 --- ---	[5] -----
12 --- ---	14 --- ---	7 --- ---
15 --- ---	17 --- ---	10 --- ---
18 --- ---	20 --- ---	13 --- ---
21 --- ---	[23] --- ---	16 --- ---
[24] --- ---	[26] --- ---	19 --- ---
[27] --- ---	29 --- ---	[22] --- ---
30 --- ---	32 --- ---	[25] --- ---
33 --- ---	38 --- ---	28 --- ---
36 --- ---	39 --- ---	31 --- ---
37 --- ---	41 --- ---	34 --- ---
40 --- ---	44 --- ---	35 --- ---
43 --- ---	47 --- ---	42 --- ---
46 --- ---	50 --- ---	45 --- ---
49 --- ---		48 --- ---
Ratio Sum Score _____	Ratio Sum Score _____	Ratio Sum Score _____
Challenge 51	Commitment 48	Control 51
Composite score hardness = Sum of 3 ratio scores x 100 divide by 3		

SCORING PROCEDURE FOR THE ATTRIBUTION STYLE QUESTIONNAIRE (A.S.Q.)

The A.S.Q. is scored in the direction of increasing internality, stability and globality. There are twelve sub-scales, six measure good events responses and six measure bad events responses.

Three of the six sub-scales for good events reflect achievement issues and three of the six sub-scales for good events reflect affiliation issues.

Three of the six sub-scales for bad events reflect affiliation issues.

Scoring

1.) The score for each sub-scale is the number circled by the subject, representing:

internality	-	[response 2]
stability	-	[response 3]
globality	-	[response 4]

2.) The dimensions for good events score for internality, stability and globality [three scores], is the sum of the sub-scales representing good events [six in all] divided by the number of items [six].

3.) The composite style for good events [one score] is the sum of the three dimensions for good events scores [internality, stability & globality] divided by three.

4.) The dimensions for bad events score for internality, stability & globality [three scores], is the sum of all the sub-scales representing bad events [six in all] divided by the number of items [six].

5.) The composite style for bad events [one score] is the sum of the three dimensions for bad events scores [internality, stability & globality] divided by three.

Outcome		Goal area	Events

Bad	-	Achievement :	Job find unsuccessfully for sometime.
Good	-	Achievement :	You become very rich.
Good	-	Achievement :	You apply for a position & get it.
Good	-	Achievement :	You get a raise.
Good	-	Affiliation :	Friend compliments your appearance.
Good	-	Affiliation :	You do a highly praised project.
Good	-	Affiliation :	Boyfriend treats you more lovingly.
Bad	-	Achievement :	Public talk audience reacts negative.
Bad	-	Achievement :	You can't get all expected work done.
Bad	-	Affiliation :	Friend has problem you don't try help.
Bad	-	Affiliation :	Meet friend acts hostile towards you.
Bad	-	Affiliation :	You go on a date, it goes badly.

A.S.Q SCORING TEMPLATE

Item Means (Standard Deviation)					
Event [good]	Internality	Stability	Globality	Importance	Responsibility
Rich	+	+	+	+	+
Position	+	+	+	+	+
Raise	+	+	+	+	+
Compliment	+	+	+	+	+
Praise	+	+	+	+	+
Loving	+	+	+	+	+
Dimensions for good events	____ 6 =	____ 6 =	____ 6 =	____ 6 =	____ 6 =
Composite style For good events =			Sum of dimensions for good events divide by 3		
Item Means (Standard Deviation)					
Event [bad]	Internality	Stability	Globality	Importance	Responsibility
Unsuccessful	+	+	+	+	+
Negative talk	+	+	+	+	+
Can't finish work	+	+	+	+	+
Friend's problem	+	+	+	+	+
Hostility	+	+	+	+	+
Bad date	+	+	+	+	+
Dimensions for good events	____ 6 =	____ 6 =	____ 6 =	____ 6 =	____ 6 =
Composite style For bad events =			Sum of dimensions for bad events divide by 3		