

SOURCES OF PERCEIVED STRESS FOR STUDENTS IN A COLLEGE
OF HIGHER EDUCATION:
IMPLICATIONS FOR LEARNING

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by

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JACQUELINE DABNEY

ABSTRACT

Much of the research to identify sources of stress in undergraduates has been carried out in the United States using medical/dental students. Although students in general are increasingly being seen as important contributors in quality assurance procedures, determining the nature and the perceived severity of stressors and the impact these are seen to have on the learning process has attracted little attention from researchers. Furthermore, expanding these findings with detailed accounts from the students involved has not been attempted within the educational field. This research, carried out over two academic years in a college of higher education, set out to address these issues. In addition, the study aimed to examine the importance of variables such as gender, age, academic year and personality in the perception of stress.

During year one quantitative data obtained via cross-sectional questionnaires, formulated using material gathered from the target population, were analysed. Those experiences perceived as most stressful and as having the greatest potential negative and positive effect on learning were identified. Correlational analysis for each item on the questionnaire showed a positive relationship between stress and the degree to which learning was seen to be affected. Findings revealed that gender, age, year of study, self esteem and anxiety influence the perception of stress and/or the perceived effect on learning. Diaries provided qualitative evidence that many of the stressful experiences contained in the questionnaires were occurring on a daily basis.

During year two qualitative data gathered during longitudinal semi-structured interviews were used to explore the experience of stress through the eyes of individual students using a phenomenological perspective. They reported numerous cognitive, affective and behavioural responses to previously identified stressful situations which generally resulted in learning being negatively affected. Suggestions to address the unnecessary and debilitating effects of stress within higher education are discussed.

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CHAPTER ONE: INTRODUCTION

There is overwhelming evidence that stress can adversely affect psychological well-being, physical and mental health and performance (Mechanic and Greenley, 1976; Comstock and Slome, 1973; Estes, 1973, Christenfeld and Black, 1977; Surtees and Ingham, 1980; Jemmott and Locke, 1984; Tyrrell, 1992; Westman and Eden, 1992; Head et al., 1996).

The clear message from a review of student stress research confirms that students in general are suffering high levels of distress, emotional problems and high mood disturbances to a varying degree. The findings from a ten-year study by Koplik and DeVito (1986) and a review of research over the last decade of psychopathology in students (Stone and Archer, 1990) have suggested that stress in the college environment and the number of students with complex and serious psychological problems is on the increase. Although stress, in some circumstances, can motivate and challenge, on the whole if it is excessive or prolonged it is viewed as unhelpful, unnecessary and impairing intellectual functioning.

One of the principle aims of any institution offering higher education must be the development of a student's academic potential in an atmosphere conducive to learning. Research to identify the sorts of 'hurdles' and 'barriers' to learning which are seen as major sources of stress to many students in higher education, is important in that it can provide valuable information for those academic staff eager to find ways of improving the performance and motivation of their students.

The research in a broader context

As a result of a Government target, set out in the White Paper, "Higher Education: A new framework" (May, 1991), student numbers have exceeded initial expectations and increased participation rates in higher education from one in five 18-19 year olds in 1991 to one in three two and a half years later, a figure not expected to have been reached until the year 2000. Since 1989 an increase of more 50 per cent in the numbers of full-time students has brought the total to more than one million, with another half million studying part-time. Over the same period of time funding per student was cut by 30 per cent. (The Daily Telegraph, 20.2.96). Despite the high number, there remains a serious under representation of poorer students within the student body. In response to this dramatic expansion the government implemented measures to reduce the number of entrants by 3.5 per cent and cut tuition fees by 45 per cent, thus creating a situation where 'more students are receiving less'. There is no doubt that while education is becoming increasingly important for the long term economic welfare of this country, there

is growing concern as to how institutions are to reconcile the increases in student numbers with the potential threat to the quality of students' learning. It is recognised that efficient and effective learning can be influenced by many variables. One such variable is the stress which results from a failure to meet the academic demands of higher education as a result of the increasing pressure on the resources available to both staff and students.

There is a plethora of research investigating stress, what it is, the effects on physical and psychological health, the mediators which influences cognitive appraisal and subsequent emotion. Within further and higher education general sources of stress for both lecturers and students have been identified. Furthermore, it has been demonstrated that stress can directly and indirectly predict student examination success and the level of performance on a task. However, determining the relative importance to students of specific sources of stress and the impact (positive or negative) these might have on learning has attracted little attention from researchers. In addition, expanding these findings with detailed accounts from the students themselves as to how their thoughts, feelings and behaviours, in relation to the task of learning, were affected by a range of stressful experiences has not been attempted within the educational field. Such research is timely in the present economic climate, where each student is a valuable and vital source of income. Students are increasingly being seen as providing an important contribution to quality assurance procedures (HEFCE/HEQC, 1994), although this is within an environment where the competition for college resources has never been greater. The race is on for institutions of higher education to find cost effective methods to teach larger numbers with fewer resources, without students complaining too loudly or voting with their feet and leaving.

Summary of definitions

In recent years 'stress' has been increasingly researched within academic circles as well as becoming a very fashionable topic with columnists in the popular press. It is a useful umbrella term which conveys an instant and universally understood meaning. However, there is no general consensus as to the meaning of the term and definitions have tended to reflect the bias of the particular researcher/s. The concept of stress has evolved from a response-based approach (Selye, 1956) where stress is treated as a dependent variable and describes an individual's response to a threatening or demanding environment to a stimulus-based approach, where stress is seen as the independent variable, a cause rather than a symptom. In recent years the importance of psychological and social factors have been acknowledged and have led to the development of the 'interactive' or 'transactional' approach. Lazarus (1990) takes the view that stress is a subjective rather than objective phenomenon which is in line with Cox and Mackay (1976). Before stress can be perceived by an individual there has to be, not only a recognition of an imbalance between perceived demand and perceived ability to cope with those demands but also, an accompanying

subjective emotional experience. Current research also seems to support the assumption that stress is subjective, that a person's reactions to a stressful event are mediated by a variety of internal and external factors, which include, past experience, social support, physiological reactivity and personality and biographical variables (Fontana and Abouserie, 1993). Evidence of the importance of an individual's perceptions was found in a study of stress reactions of school age children to the bombardment by scud missiles in Israel during the Gulf war. Subjective stress (perceived vulnerability) rather than objective stress (proximity to missile explosion/damage and relationship to victims etc.) was found to be the most significant contributor in those children with symptoms in the clinical range (Waysman et al., 1992). It appears that stress means different things to different people, a subjective experience with essentially a physical, psychological and/or behavioural outcome. It is these theoretical assumptions which underly the measures of perceived stress used in this research. The evidence, which is covered more fully within the next chapter, strongly suggests that evaluating how events are subjectively appraised using carefully constructed instrumentation is a more valid measure than focusing on outcome alone, using what could be considered more objective physiological or behavioural measures.

Stress and students

Identifying sources of stress in medical students is well documented in the United States (Coburn and Jovaisas, 1975; Linn and Zeppa, 1984; Spiegel et al. 1986a,b; Carmel and Bernstein, 1987; Vitaliano et al. 1988; Rosenthal, et al., 1990). This student group has also been the focus of much of the student stress research in the United Kingdom (Firth, 1986; Tooth, Tonge and McManus, 1989; Evans and Fitzgibbon, 1992). Of the fewer studies which have attempted to identify sources of stress for non specific university undergraduates, these include the work of Beard et al., (1982), Fisher (1989; 1990), Fisher and Hood (1987; 1988), Fisher, Elder and Peacock (1991), Dunkel-Schetter and Lobel (1990) and Abouserie (1994a).

Studies by Fisher and her colleagues of homesickness experienced by students at British universities and an Australian school are well documented. Homesickness, characterised by a frequent and overwhelming domination of attention by home-related thoughts, was found to have a profound and negative affect on some students. In addition to the effects on psychological and physiological health, homesickness also had far reaching effects on academic performance. Sufferers were found to have higher levels of depression, obsessional symptoms, somatic symptoms, anxiety and absent mindedness than non-homesick subjects.

In the Dunkel-Schetter and Lobel study (1990) the results of a telephone survey of students at the University of California found that between a third and a half of all

students interviewed said they 'often' or 'very often' experienced stress, 30-60% reported having shown signs of depression during the proceeding month, 15% reported often feeling depressed, and two thirds of students reported current problems with eating, sleeping or illness. A further investigation of the sources and the extent of stress within higher education in the United Kingdom was carried out by Abouserie (1994a) at the University of Wales in Cardiff using a cross-sectional sample of second year undergraduates. He found the sources of greatest stress for students were, taking examinations and the examination results, followed by, revising for exams, too much to do and the amount to learn. He found 77.6% and 10.4% of students fell into the moderate and serious stress categories, respectively and concluded that "approximately 1 in 10 students may need professional support to reduce their levels of stress, specifically by enhancing their abilities to cope with academic pressure or by easing these pressures themselves" (p. 328).

These studies which have attempted to identify sources of stress for students, have tended to use questionnaires which contain very general potential stressors which have a variety of meanings for individual students, e.g. interpersonal difficulties, conflict with lecturers, etc. This lack of specificity would appear to limit attempts by an institution to address particular difficulties over which they might have some control. In addition, the instrumentation used in these studies was formulated from information gathered from a review of the literature and/or from a small group of selected students/staff. Although one could argue that this technique may be more reliable in terms of generalisability, the subsequent inventory can also be criticised for not representing the specific concerns of the students being questioned. Furthermore, there are also concerns as to whether selected students would be willing to disclose sources of perceived stress which may be critical of the staff at the institution, which may include the researchers themselves. Previous studies of student stress have tended to rely on retrospective quantitative methods of data collection which have provided an incomplete and perhaps distorted picture of stress within higher education. The use of a broader range of methods including daily diaries and semi-structured interviews would go some way to providing a greater accuracy and detail of students' experiences as well as reflecting the more dynamic nature of stress as described by Lazarus and Folkman (1984) in their transactional model of stress.

It is also clear that we do not all perceive the world in the same way, there are enormous variations between individuals in the way they respond to potentially stressful situations (see Fontana, 1989 for discussion). In addition to identifying sources of stress, Fontana and Abouserie (1993) highlighted the need for research which might identify factors such as personality, age, and gender which may lead some individuals not only to perceive the world as a more threatening place but to be more vulnerable to the negative effects of stress than others.

Variables affecting students' academic performance have been the subject of much research and include studies which have identified stress as a predictor of success, either directly or indirectly (Hinton and Rotheiler, 1990). Although research has tended to confirm that unfavourable (as opposed to favourable) stress is associated with poor performance (Linn and Zeppa, 1984), care should be taken to clarify whether deficiencies in attainment are caused by unfavourable stress in general, or whether some sources of stress are more influential than others. Potter and Fielder (1981) suggest that one cannot "assume that stress arising from different sources will have the same effect on performance" (p. 696). Indeed performance scores have been found to be most strongly related to, and were best predicted by, education-related interpersonal conflicts (Spiegel, et al., 1986a). It is apparent from these findings that some sources of stress are more influential than others in predicting academic performance, with those pertaining to the learning environment being most useful in this respect. However, performance scores could be considered to be at the end point in a learning process, the intermediate stage being when the student is gathering, assimilating and evaluating knowledge prior to an assignment, exam or test. It is perhaps at this stage that stress, as a result an imbalance between perceived demand and a perceived inability to cope with that demand, results in inferior performance. It is clear from the literature that learning is dependent on a student's ability, maturity and motivation, on the quantity and quality of instruction and on the home, classroom, peer group and mass media environment (Fraser, et al., 1987). If these factors are negatively affected in any way as a result of stress, it is imperative that this is recognised and understood in order to maximise the student's learning potential.

Although current research is valuable in that it identifies general sources of perceived stress for students and the extent of this stress in higher education, few studies have taken this further to examine any potential negative or positive effects on the learning process. Despite the many studies which highlight the often severe difficulties students experience, unless there is strong evidence that students are not coping as well as they might with clearly identified hurdles or barriers to learning, there will be little incentive for managers to act to implement change.

Overall there appears to be a serious lack of research which a) uses instrumentation which reflects the specific concerns of the target population, b) identifies the precise source of stress, where the description of the source ensures a communality of understanding across individuals, c) examines the positive effects of perceived stress on the learning process and identifies which students would be more likely to be motivated, challenged and spurred on to greater effort, d) assesses perceived stress from a variety of different perspectives, using variables such as age, gender, personality and year of course and e) explores the effects of perceived stress on emotions, cognitions and behaviour and the impact these effects might have on the learning process of students.

AIMS AND RESEARCH QUESTIONS

As a result of the literature review and an assessment of its limitations, a series of specific aims and research questions emerged which reflect the exploratory, open ended nature of the research. Predictive hypotheses were considered to be inappropriate and limiting given the research objectives. The following aims and research questions attempt to provide a greater understanding of the way perceived stress affects learning in full-time students at a college of higher education.

1. To identify and assess the relative importance of sources of perceived stress using a large scale survey questionnaire which has been formulated to reflect the specific concerns of full time students at a college of higher education.
 - What experiences will be perceived as most stressful by the students?

2. To identify and assess the relative perceived impact of each experience contained in the survey questionnaire on the learning process.
 - What experiences will be perceived as having the greatest effect on learning?

3. To identify sources of perceived stress which are most likely to motivate, challenge, and spur students on to greater effort.
 - What experiences, if any, will be perceived as having a positive effect on learning?

4. To assess the relative importance to students, in terms of perceived stress and impact on learning, of a broad range of experiences covering different aspects of student life.
 - How do students perceive aspects of student life in terms of stress and effect on learning?

5. To explore perceived stress from a variety of different perspectives, using variables such as age, gender, personality and year of course and to identify which students would be more likely to experience a positive effect on learning.
 - What influence will biographical and personality variables have on the perceptions of students?

6. To examine accounts of stressful experiences and subsequent effects on learning reported daily over a 5 day period by a small sample of full-time students and then use to evaluate the retrospective information contained within large scale survey questionnaire and to assess longitudinal frequency.
 - How will stressful experiences reported in daily diaries compare with those contained in the survey questionnaire.
 - Is the frequency of reporting a specific stressful event within the diaries dependent on the time of year?

7. To explore in depth the perceptions of a small varied sample of students in order to fully understand and capture each student's introspective interpretation of a situation perceived as stressful and the positive or negative impact this has, if any, on the learning process.
 - What are the thoughts, feelings and behaviour of students during and following a stressful event and how do they perceive their learning experience to have been affected as a result.

CHAPTER TWO: LITERATURE REVIEW

1. THE DEFINITION OF STRESS

From the vast literature it appears that 'stress' research is exciting, problematic, controversial, progressive and a very popular subject with the media. However, prior to any research project attempting to investigate the consequences of stress, the concept of stress has to be defined and operationalised. Historically the concept of stress has been defined as a dependent variable (a response) and an independent variable (a stimulus) (Cox, 1978). However, in recent years the approach has evolved to one taking more account of the interpretation and perceptions of the individual in the 'stressful' situation. These approaches are generally referred to as 'interactive' or 'transactional' and are described, along with earlier explanations, in the following text.

A. THE RESPONSE BASED DEFINITION

When stress is defined as a dependent variable, it focuses on the response, or series of responses, physical, psychological or behavioural, to a 'demanding' or disturbing situation. For example, Wingate (1972) describes stress in the *Penguin Medical Encyclopaedia* as "any influence which disturbs the natural equilibrium of the body, and includes within its reference physical injury, exposure, deprivation and all kinds of disease and emotional disturbance".

Hans Selye (1956) saw stress as an adaptive response which can result from stressors (anything causing stress) in the external environment and within the body itself. Furthermore, he argued, not only was the physiological stress response not dependent on the nature of the stressor, but one could generalise this defence reaction to *all* animals. His model, the General Adaptation Syndrome (GAS), proposes that exposure to a physical or psychological stressor will result in an individual experiencing up to three successive stages, depending upon the intensity and duration of the stimuli and the coping strategies used. The initial response to any stressor, the alarm reaction, is characterised by a shock phase where the body shows changes such as increased heart rate and increased respiration alongside a lowered level of resistance. Collapse and death may result if the stressor is sufficiently severe. The counter-shock phase, commonly known as the flight or fight reaction, is the stage when the body prepares itself physiologically for action, increasing neuro-endocrine activity. Energy is made available as the blood sugar level increases and the lungs expand their air passageways to permit more oxygen to reach the alveoli. The blood is diverted from the outer regions of the body into deeper areas such as the brain and muscles and the release of epinephrine leads to a raising of blood pressure

and a shutting off of digestion. Although resistance is increased beyond the normal level, exhaustion and death can result if the demand on these resources continues. An individual's ability to handle stress from this physiological perspective is, arguably, determined by their general state of health and their physiological reactivity (as discussed later on page 16).

Although Selye regarded anything that produces change as stressful, he classified two axes of stress, positive (Eustress) through to negative (Distress) and hyper (too much) through to hypo (too little). Selye's model of stress is important in that it recognised that stress is multidimensional, it allows psychological factors to have the same status as natural stimuli and it provides an explanation of the effects over time of acute and chronic stressors. It is important also to recognise that Selye did not see it as necessary for the individual to perceive a stressor as being unpleasant, or beyond their ability to cope with it, in order for it to have an effect. Anything that produces a neuro-endocrine response is a stressor (Fletcher, 1991).

This idea held sway for many years. However, there is much evidence that the position has been overstated. Mason (1971) has shown that some noxious physical conditions do not produce the general adaptation syndrome, for example, exercise, fasting and heat. Indeed, situations producing anxiety are associated with adrenaline release, while situations which produce aggression are associated with noreadrenaline release. He proposes that the mechanism controlling the physiological response to stress is organised in such a way as to produce unique patterns of change which differ depending upon the specific stimulus. Huber and Gramer (1993) provided further evidence to support the specificity of the stress response when they exposed university students to either mental or physical laboratory stressors (such as bicycling or mental arithmetic) while heart rate and systolic and diastolic blood pressure were measured. They demonstrated that mental and physical stress were accompanied by qualitatively different response patterns. Further evidence of the role of cognitive appraisal in people's physiological reaction to stressors comes from work with children by Tennes and Kreye (1985). They compared cortisol levels in urine on ordinary school days and on days when achievement tests were given. Cortisol levels increased on test days only for children of above average intelligence, who appeared to be more concerned about academic achievement and consequently were appraising the tests as more threatening than the other children. Lazarus (1990) describes a body's biochemical changes as "not merely a simple strain reaction, but ... a complex orchestrated, and dynamic defensive pattern for dealing with biochemical disequilibria. They comprise a physiological analogue to coping processes at the psychological level of analysis" (p. 6).

To summarise, there is increasing evidence that the GAS is incorrect in its assumption that all stressors produce the same physiological reactions. In addition, the subjective

emotions of danger and fear present a major problem for every individual, because they are very often psychological rather than physical. Thus the approach neither explains aspects of psychosocial stress nor addresses the issue of the psychological impact on the person.

B. THE STIMULUS BASED DEFINITION

The stimulus based definition has its roots in engineering and is based on a physics and engineering analogy, that stress is a force exerted, which results in a stress reaction or strain within the individual. Permanent damage is thought to result when the strain goes beyond a pre-defined limit. It is as if individuals have a built in resistance to stress and when they are pushed beyond this level of tolerance damage to their physiological and psychological well-being will result (Cox, 1978). Therefore stress is seen as a series of causes, not a set of symptoms.

As an independent variable the concept reflects the dictionary's implicit definition, that of "a constraining force acting on a person, who in attempting to cope with this force exerts or strains himself, and perhaps feels fatigued as a result, and distressed" (Cox, 1978, pp. 2-3). In this instance the stress comes from 'stimuli' in the environment and is described in terms of the characteristics of that environment. However, if stress is defined in terms of stressors in one's external environment, such as lighting or noise, it ignores the massive individual differences, particularly in levels of tolerance. In other words, what could be perceived as very stressful for one individual may pass unnoticed by another. In addition, a person's behaviour may indicate that they have adapted to a change in environment, yet this definition does not take account of any physiological changes taking place (Selye, 1956). Although this approach provides a simple, objective and, to some extent easily observed measure of stress, its limitation is that it assumes we will only react to excessive demands, when in fact tedious and undemanding situations may be perceived as just as stressful. This approach assumes that we all respond in a mechanical way, since essentially we all have the same breaking point. It fails to acknowledge any subjective individual cognitive processes which differentiates one person from another.

C. AN INTERACTIVE BASED DEFINITION

Cox and Mackay (1976) suggest that stress forms "part of a complex and dynamic system of transaction between the person and his environment" and while deliberately drawing from both response and stimulus based definition, emphasises the ecological and transactional nature of stress. Stress may be said to arise "when there is an *imbalance* between the perceived demand and the person's perception of his capability to meet that demand" (p. 18). Sarafino (1990) clarifies this perspective when he describes stress as a "condition that results when person/environment *transactions* lead the individual to

perceive a discrepancy - whether real or not - between the *demands* of a situation and the *resources* of the person's biological, psychological, or social systems" (p. 74). The concept of demand, according to Cox (1978), is a "request or requirement for physical or mental action, and implies some time constraint" (p. 23). His transactional model developed with Mackay (Cox and Mackay, 1976), illustrated in part two of this chapter, stresses the importance of a person's cognitive appraisal of a potentially stressful situation and his or her ability to cope. Even if the demands are beyond a person's capabilities, this will not be stressful if the individual is unaware of an inability to cope. According to Cox and Mackay, there has to be a recognition of an imbalance between demand and capability as well as a subjective emotional experience, before stress is perceived. The response to stress include changes in physiological state alongside cognitive and behavioural changes which attempt to reduce the stressful nature of the demand. Their model also includes a feed forward stage to deal with the consequences of the coping responses (see Figure 1). If fulfilling the demand is unimportant or there are no anticipated adverse consequences for failing to meet the demand, then no stress will be perceived, no matter how ineffective or inappropriate the coping response. The last stage of the model shows how feedback from all stages allows the outcome to be shaped by, for example, ineffective or inappropriate coping strategies. Therefore, Cox and Mackay provide a definition that treats stress as an "intervening variable" and a "reflection of a transaction between the person and his environment" (pp. 20-21). The perceptions of a situation, according to this approach, are also dependent on the familiarity with the situation, on previous exposure, learning and training, as well as situational factors such as whether there are others present (Sutherland and Cooper, 1990).

These three attempts to conceptualise stress are not mutually exclusive and could be seen as complimentary, emphasising to a greater or lesser extent the source of potential stress, factors which mediate how much stress (if any) is experienced, and the consequences of stress. According to the transactional stress theory, (Lazarus and Folkman, 1984) which is possibly the most widely used conceptualisation to date, psychological stress is a multifaceted phenomenon which consists of three major interacting components: a) environmental events that are appraised by an individual as taxing or exceeding coping resources and threatening well-being, b) psychological, social or physiological mediators and c) emotional stress responses (e.g. hostility, anxiety and depression). An adequate comprehensive study of psychological stress should assess all three of these components, i.e. the source of stress, the mediators of the stress response and the manifestation of stress.

A vociferous critic of the term 'stress' is Briner (1994) whose objections focus on how it has been used and abused by researchers and popularised in the press. He argues that the concept of stress has little explanatory value when there is a need to ask questions such as, "Why has a person become ill as a result of stress"? and "How did this situation

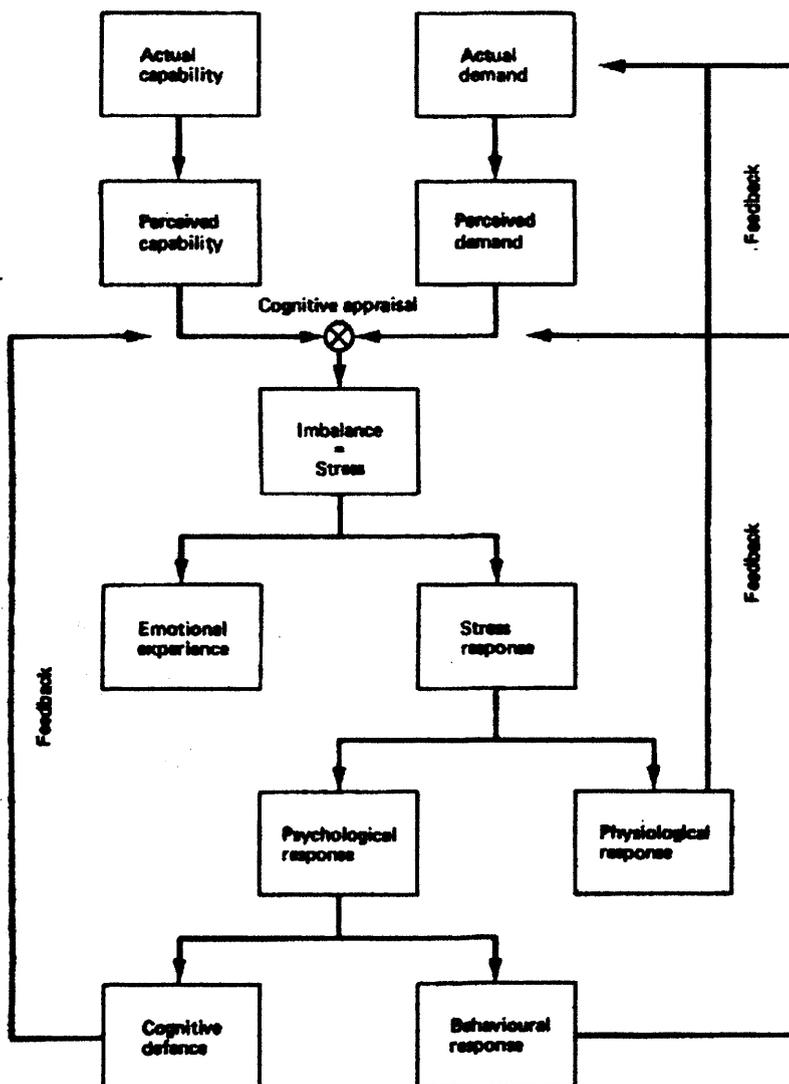
occur?". He supports Lazarus and Folkman (1984) in their definition of stress as a "rubric or heading for a range of diverse phenomena which may or may not be causally related" (p. 4) but takes issue with implied causality of many studies which use correlational analysis or cross sectional designs, when x is found to lead to y, e.g. a lack of social support/social integration leading to coronary heart disease mortality, without what he sees as substantiating empirical evidence. He believes that many undesirable physical and behavioural outcomes have multiple and complex causes which differ depending on the time and the individual, and that to attribute them to what he describes as the 'modern myth' of stress is too simplistic. Briner supports the view of Pollock (1988) who describes stress as a "manufactured social fact", implying that occupational stress researchers in particular choose to include in their models aspects of the working environment they consider undesirable (e.g. absenteeism), in addition to convenient variables upon which to blame these (e.g. personality characteristics). Briner argues that these behaviours are not caused by the same phenomenon and as such cannot be addressed in terms of organisational intervention by reducing stress while ignoring other, better predictors. He advocates abandoning the term stress altogether in order to take a fresh look at why people feel the way they do and improving this with direct intervention rather than looking for general stress in their environment. In addition, rather than labelling all affective states as 'stress', they should be distinguished clearly as anxiety, depression or tiredness, etc. and rather than using the term 'stressors', for the source of stress, the exact nature of the independent variables should be clearly indicated. Briner uses the quotations of many eminent researchers in the field to support his argument that the concept of stress is problematic and that its use has constrained research rather than enhanced understanding.

It has been shown that physiological responses can vary depending upon whether anxiety or anger is experienced (Mason, 1971) and when Briner advocates a clearer understanding of what emotion an individual actually feels and why they feel as they do, this is a useful proposition which concords and extends the theories which emphasise the uniqueness of individuals when faced with a potentially threatening situation. However, while it is always beneficial for an area of academic interest such as this to encourage healthy debate, the suggestion that the concept of stress be abandoned may be one which metaphorically 'throws the baby out with the bath water'. It is still a useful umbrella term which provides an instant and universally understood meaning. Overall, the most useful definition to adopt, and conceptual framework to use, when investigating the nature and consequences of the stress process remain those proposed by Cox and Mackay (1976) and Lazarus and Folkman (1984) as they include the three major interacting components. However, in addition and in line with later work from Lazarus (1990) and Briner (1994), it would be more informative and provide greater clarity to identify the precise sources of perceived stress and the specific emotional, cognitive and behavioural responses of the recipient.

2. TRANSACTIONAL MODELS OF STRESS

Cox and Mackay (1976) were pioneers of the 'Transactional Model of Stress'. The model they proposed took account of the active role a person plays when stress occurs. They see the individual as part of a complex and dynamic interaction with his/her environment. Figure 1 attempts to illustrate how, according to Cox and Mackay, stress is an "individual perceptual phenomenon rooted in the psychological processes" with a feedback element which emphasises the cyclical rather than linear nature of the transaction.

Figure 1: Transactional Model of Stress (taken from Cox, 1978)



This model distinguishes between the actual and perceived nature of demand and capability, where demand can be external or internal. Stress is said to arise when there is an appraisal of an imbalance between the two with an accompanying subjective or emotional response. Following the initial emotional response there are changes in the psychological and physiological state of the person which are moderated by the actual, as

well as the perceived, consequences of the cognitive and behavioural coping responses. Whether or not this coping strategy is appropriate or effective is fed back through to the persons appraisal of the situation and/or to the actual demand.

As has already been discussed in the preceding section, Lazarus and Folkman (1984), in line with Cox and Mackay propose that psychological stress refers to a particular type of interaction between person and environment where the stress emanates from demands taxing or exceeding the person's resources. An encounter, or as is referred to by these researchers, a *transaction*, can be appraised by the person as involving a threat or a challenge. If it is appraised as stressful then the second stage in the transaction is for coping strategies to be mobilised to manage the relationship between the person and their environment. These processes influence the person's subsequent appraisal and therefore the degree and kind of stress experienced. The central theoretical concept proposed by Lazarus and Folkman places stress neither within the environment nor within the person, stress exists within an evolving transaction between the individual, with their own experiences, beliefs and motives, and an environment whose characteristics may pose a threat of harm/loss or a challenge depending on the characteristics of the person.

In Figure 2 mediating variables and short-term consequences such as emotions are added to the antecedents and long term effects. Although not apparent from the model it is recursive and there is some overlap between the immediate and long-term effects. By differentiating immediate consequences from long-range adaptational outcomes the researchers are able to imply change over time. This could relate to a normal rise in blood

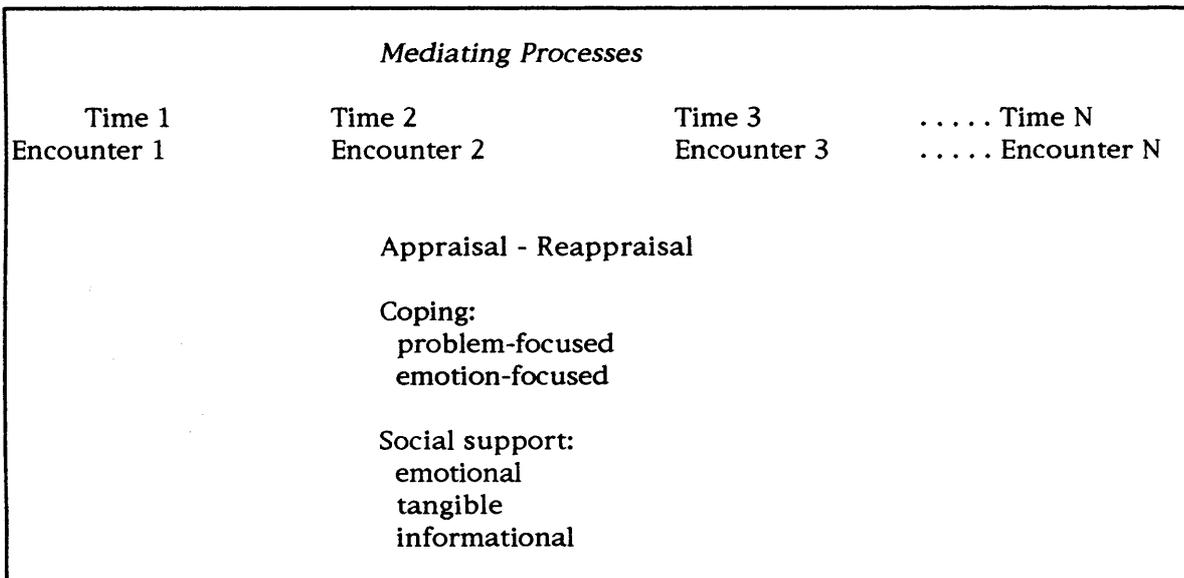
Figure 2: A theoretical schematisation of stress, coping, and adaptation (taken from Lazarus and Folkman, 1984)

<i>Causal Antecedents</i>	<i>Mediating Processes</i>		
	<i>Time 1 . . . T2 . . . T3 . . . Tn Encounter 1 . . . 2 . . . 3 . . . n</i>	<i>Immediate Effects</i>	<i>Long-term Effects</i>
Personal variables:	Primary appraisal	Physiological changes	Somatic health/illness
values-commitments	Secondary appraisal feelings	Positive or negative	Morale (well-being)
beliefs: existential sense of control		Reappraisal outcome	Quality of encounter
Environment:	Coping:		
(situational) demands, constraints	problem-focused		
resources	emotion-focused		
(e.g., social network)	seeking, obtaining		
ambiguity of harm	and using social		
imminence of harm	support		
	Resolutions of each stressful encounter		

pressure when a person experiences stress and, although the mechanisms of how this response develops into the disorder of hypertension are still unknown, they propose that including illness as a long term consequence is intended to stimulate further research and analysis.

In Figure 3 the section dealing with mediating processes is used to provide a view of the same person's transactions at different times and under different conditions, for example, coping is assessed in the early and later stages of an encounter with the theme remaining the same (such as, bereavement). The important difference between Figure 2 and 3 is that the emphasis is now on observing or inferring what the individual is thinking and doing at various points during an encounter or in different encounters either through self-reports about appraisals and coping, or through observable behaviours that imply a particular coping strategy. Lazarus and Folkman see research where phenomena can be compared within persons as well as across persons in the same research design as ipsative-normative research.

Figure 3: A transactional model: ipsative-normative arrangement (From Lazarus and Folkman, 1984)



In Figure 4 overleaf, Lazarus and Folkman attempt to integrate the above model dealing with the psychological level of analysis with a broader more interdisciplinary perspective to include the social and physiological, in order to reflect the assumptions of their transactional stress theory.

These provide an graphical representation of the processes which underpin the transactional theories of stress. As has already been discussed both models, proposed by Cox and Mackay and in greater detail by Lazarus and Folkman, recognise the multifaceted

nature of psychological stress and share the essential interacting components, the appraisal of environmental events, the mediators and an emotional stress response.

Figure 4: Three levels of analysis (from Lazarus and Folkman, 1984)

	<i>Causal Antecedents</i>	<i>Mediating Processes</i>	<i>Immediate Effects</i>	<i>Long-term Effects</i>
SOCIAL	SES Cultural templates Institutional systems Group structures (e.g., role patterns) Social networks	Social supports as proffered Available social/institutional means of ameliorating problems	Social disturbances Government responses Sociopolitical pressures Group alienation	Social failure Revolution Social change Structural changes
PSYCHOLOGICAL	Person variables: values-commitments, beliefs-assumptions, e.g., personal control, cognitive-coping styles Environmental (Situational) variables: situational demands, imminence, timing, ambiguity, social and material resources	Vulnerabilities Appraisal-Reappraisal Coping: problem-focused, emotion-focused, cultivating, seeking & using social support Perceived social support: emotional, tangible, informational	Positive or negative feelings Quality of outcome of stressful encounters	Morale Functioning in the world
PHYSIOLOGICAL	Genetic or constitutional factors Physiological conditioning—individual response stereotypy (e.g., Lacey) Illness risk factors—e.g., smoking	Immune resources Species vulnerability Temporary vulnerability Acquired defects	Somatic changes (precursors of illness) Acute illness	Chronic illness Impaired physiological functioning Recovery from illness Longevity

How a researcher defines and conceptualises stress has important consequences for the tools of measurement which are created or selected. The stress theory and models proposed by Cox and Mackay and Lazarus and Folkman which regards stress as an interactive process between the environment and the person, provide a sound theoretical basis and conceptual framework for this research. If research conceptualises stress in this way it should essentially aim a) to identify precise environmental events that are subjectively appraised by an individual as taxing or exceeding coping resources and threatening well-being, b) identify possible mediating factors and c) investigate specific emotional, cognitive and behavioural responses, which feedback into the stress process, which an individual might experience when attempts are made to manage a stressful situation. To conclude, it is the student's perception of the environment which may cause stress. Therefore, the models presented here are the most appropriate for the current investigation as they place emphasis on the dynamic interaction between the person and his/her environment and include the important role of the individual's perception of the demands facing them.

3. MEDIATOR/MODERATOR VARIABLES

As has already been discussed, stress is in the eye of the beholder and as such any response to a potentially threatening experience is a product of the situation and of the perceptions of the individual. There are many variables which moderate or mediate this response and include individual physiological differences, many personality traits, various types of social support and coping skills (McMichael, 1978).

There is a conceptual distinction between individual differences as *mediators* of stress appraisal and as *moderators* of the stress-outcome relationship, these terms often being confused and used interchangeably within the literature, along with other words such as buffer, modifier or vulnerability factor (For a full discussion see Cox and Ferguson, 1991). A mediator variable is “one that is responsible for the transmission of an effect, but does not alter the nature of that effect ... offer(ing) an explanation of how external physical events take on a psychological meaning (primary appraisal)”. While a moderator variable, “is one whose presence or level alters the direction or strength of the relationship between two other variables” (p. 12). To take the example of social support, research has shown that esteem support or the positive reinforcement of a person’s ability/competence can provide a protective function which can improve a person’s perception of personal resources when faced with a demanding situation thus *mediating* the assessment or appraisal of stress (Cutrona, 1986). In addition, social support from others in the form of emotional, tangible/instrumental and/or informational support is able to *modify* or reduce levels of stress (House, 1981).

From a review of the literature the mediating/moderating variables presented in this section are those which have emerged as being particularly influential in the stress process.

A. PHYSIOLOGICAL REACTIVITY

Physiological reactivity refers to the change which may be observed in the resting or baseline levels of physiological measures when an individual experiences a stressful stimulus (Cox, 1978). Such stimuli have included mental arithmetic tests/quizzes, dealing with demanding interpersonal situations, reaction time tests and video games and physically demanding tasks. It is well established that there are clear individual differences in reactivity (Engle & Bickford, 1961), with any physiological response being the result of both the stimulus and the individual response to that stimulus. A learnt or operantly conditioned dysfunctional response is one popular explanation of these differences in reactivity, however, there is growing evidence (Rose, 1988; Kirschbaum et

al., 1993 and the twin studies of Rose et al., 1982 and Hewitt et al., 1991) to suggest a genetic component influencing an individual's responsiveness to psychological stress.

Although research investigating a link between the behaviour of 'Type A' personalities, health risk and reactivity, is unclear (Obrist, 1985), individuals exhibiting this behaviour pattern tends to show higher levels of physiological reactivity, which includes increased blood pressure, catecholamine, and corticosteroid levels (Smith 1992). This personality type is characterised by competitiveness, time urgency, aggressiveness, drive, achievement striving, preoccupation with or subjection to deadlines, ambition, accelerated pace and/or impatience (Price, 1982). Krantz and Manuck (1984) noted that of all the studies of the physiological reactivity of Type A individuals, 70% found a greater reactivity on at least one of the cardio-vascular or endocrine measures used. Glass et al. (1980) observed type A and Type B men (those having low levels of competitiveness, time urgency and hostility and tending to be more easy going) while playing competitive or non competitive games. Only in the condition where Type A men were playing against a harassing opponent did they show any significant differences in mean systolic blood pressure, heart rate, adrenaline and noreadrenaline levels. Frankenhauser et al., (1980 a, b) demonstrated that when Type A subjects were placed in uncontrollable situations, (effort with distress) there was an enhanced secretion of adrenaline and adrenal cortisol, but when placed in a controllable situation (effort without distress) there was an increase in adrenaline yet a suppression of cortisol. Type B subjects were not affected by the control variable and exhibited less adrenal-cortisol reactivity.

Nevertheless, different types of stressor have different effects on various reactivity measures, for example noradrenaline release is more marked in response to physical exercise/tasks than to the psychological stress of public speaking or mental arithmetic (Dimsdale & Moss, 1980; Ward et al., 1983). Furthermore, the physiological responses of dominant and submissive male college students were found to differ when challenged by a trained female experimenter. The submissive males manifested more severe signs of psychological stress, levels of serum testosterone reduced to below baseline level and a significant rise in heart rate. It seems therefore, that taken together, the evidence of physiological reactivity and its potential role as a risk factor in disease, suggests that there are characteristics of a task/threat that elicit specific physiological changes in some individuals under some conditions which have yet to be established.

B. PERSONALITY VARIABLES

EXPLANATORY STYLE

Explanatory style can be defined as the habitual way an individual explains the causes of good and bad events. In the area of health there is evidence that a significant relationship exists between pessimism (the belief that bad events are caused by internal, stable and global factors and good events are caused by external, unstable and specific factors) and an increased risk of infectious disease, poor health and early mortality (Alloy et al., 1984; Langer and Rodin, 1976; Peterson and Seligman, 1984). The style of attributing bad life events to internal, stable and global characteristics of oneself (I'm hopeless, I've always been hopeless at that, I'm hopeless at everything) has been found in depressed students, children and psychiatric patients (Seligman et al., 1979). The way individuals perceive the extent of control over future events can affect levels of anxiety and cognitive appraisal of potentially threatening stimuli (Geer et al., 1970).

Two suggestions as to why a pessimistic explanatory style should have such a negative impact on health have been put forward by Kamen and Seligman (1989), one concerning the immune system and the other concerning attitudes to self care, self help and life challenges. When animals become helpless through a lack of control over aversive stimuli it has been found that immunosuppression takes place (Laudenslager, 1983). Humans who perceive little or no control over present or future events may develop less efficient immune systems and become, as a result, more susceptible to diseases, regulated by the immune system. Supporting evidence for this comes from the results of a study of people whose immune systems were suppressed having had a major life stressor over which they felt no sense of control (Rodin et al., 1985).

It is possible that individuals with a pessimistic attribution style have more bad events happening to them, believing that preventative measures are futile, as there is nothing that will change the cause of the event, and that many situations will be affected by it. They may do less to help themselves lessen the impact of the bad situation when it occurs and do not recognise that there are solutions to new, seemingly uncontrollable situations (Alloy et al., 1984). It may be possible to predict future health using an individual's explanatory style, but its usefulness may be limited due to the difficulty of changing a person's attributional style or any other aspect of personality if they have no motivation to change it, or cannot do so because of some physical basis to their feelings, as in the case of depression. Little is known of how our explanatory style develops and although there is growing evidence to suggest that style A is 'better' than B, there is little research as to how one replaces A with B. Even if this were theoretically possible, it is doubtful whether those in authority would be able to deal with what could potentially be a massive

increase in preventative medicine within, for example, hospitals, residential homes and schools/higher education without incurring massive financial costs.

THE HARDY PERSONALITY

According to Suzanne Kobasa (1979), an individual who possess a 'hardy' personality has an attitude to life that seems to be resistant to stress. A sense of *commitment*, a positive response to *challenge*, and an internal locus of *control* combine to buffer the hardy individual from the negative effects on health of coping with change. Commitment involves a strong tendency to focus on a task and see it through without distraction. Having a positive response to challenge would mean appraising demands as new opportunities or as exciting challenges. It seems that 'hardy' individuals can endure huge life changes without the same consequences to their health as would be suffered by an non hardy counterpart.

In a longitudinal study to investigate the moderating effect of hardiness (as measured by the Hardiness Questionnaire, Kobasa, 1979) on the relationship between stress and the performance of 326 officer cadets in the Israel Defence Forces, Westman, (1990) found 'hardy' cadets experienced less stress as a result of their confidence in their ability to cope successfully with critical events in their training. She found hardiness moderated the relationship between stress and performance and proposed that 'hardy' individuals were able to direct their coping efforts towards solving the problems of the task rather than towards their own disruptive thoughts and emotions, thus resulting in a better performance.

However, several theoretical and empirical criticisms have been levelled at hardiness theory and research (Funk & Houston, 1987; Hull et al., 1987). There are concerns as to whether hardiness is a unitary or a multidimensional concept. In a review of five studies, Hull et al. (1987) noted that *commitment* was consistently effective in predicting health status, whereas *control* achieved this in four and *challenge* in only one of the studies. They concluded that not only was the concept of hardiness multidimensional but suggested that Rotter's locus of control scale (1966) be used by itself as the sole indicator of control.

Further concerns have been expressed, as a result of analysis of data from previous research, as to whether hardiness has direct or indirect stress-buffering (mediating or moderating) effects on health (Funk and Houston, 1987; Tartasky, 1993). Sampling in the supporting research appears to be limited to 259 male middle and upper level managers from professional occupations. However it is these groups in society which have statistically better prospects of health than other groups with less economic resources. Rhodewalt and Zone, (1989) surveyed a group of hardy and non hardy women to examine

any buffering effects against stressful life change. Their findings indicated that hardy and non hardy individuals differed dramatically in both the number of events they appraised as negative and the average amount of adjustment required for each event. The path from hardiness, through undesirable life event appraisal to the outcomes of depression and illness, is much stronger for non hardy women than hardy women and Rhodewalt and Zone suggest that one interpretation of their finding supports the view that it is not hardy individuals who are particularly stress resilient but non hardy people who are "psychologically maladjusted". They compare these individuals to those identified by Watson & Clark, (1984) as both presenting a stable trait of negative affectivity, characterised by a "tendency to be distressed and upset, a negative view of self and others, and a general heightened state of anxiety, anger, scorn, revulsion, guilt, self-dissatisfaction rejection and sadness"(p. 465).

Other researchers have described other personality traits that appear, like hardiness, to protect against the negative effects of stress. For example, Antonovsky (1979, 1987) described having a *sense of coherence*, involving a tendency to see the world as comprehensible, manageable and meaningful. *Resilience* is also a concept that has been applied to children who develop into competent and well adjusted adults, bouncing back from adversity, despite growing up under extremely difficult circumstances. Studies have found that these children tend to have good social skills, being friendly and at ease with their peers and adults. They tend to have easy going personalities, promote positive relations with their family and community, and share a strong feeling of self-esteem and personal control. They are high achievers, generally doing well in whatever they undertake. It is suggested that a genetic component may be responsible for why some children are more resilient than others, in addition to having compensating experiences that absorb them and give them confidence (Werner and Smith, 1982; Garnezy, 1983).

In essence, while evidence of the buffering effects of hardiness, provided by the research of Kobasa and her colleagues, have been largely unsupported, the indirect effects on the perception of actual stressors, i.e. the choice of coping strategy or social resources used, have been well documented (Rhodewalt and Agustdottir, 1984 and Pollock, 1989). Furthermore, the dimensions of hardiness remain unclear, some researchers suggesting two dimensions, challenge/commitment and control, while others proposing that hardiness has been confounded with neuroticism or alienation. A reconceptualisation of hardiness appears timely in order to fully understand the nature of its role in the stress process.

CONTROL AND THE CONCEPT OF LOCUS OF CONTROL

Having a measure of control over our lives is generally something that we strive for and several studies have found that having a sense of personal control can reduce the impact of stressors on the individual (Suls and Mullen, 1981; Matheny and Cupp, 1983; McFarlane et

al., 1983; Elliott et al., 1986). In a review of the literature, Aspinwall and Taylor (1992) conclude that when people feel they can modify or reduce some aspects of a stressful situation, they cope more successfully, with a sense of psychological control or self efficacy being identified as an effective coping resource. Control can also have an impact on physical as well as psychological well-being. In a study of elderly residents in a nursing home, Langer and Rodin (1976) showed that a greater sense of personal control and responsibility over daily activities led one group of residents to feel happier, more alert and active and over time to enjoy better health and a lower mortality rate compared to other groups in the home.

It is possible to classify control into 5 types (Thompson, 1981). Firstly, *behaviour control*, which involves the ability to take action to reduce the impact of a stressor, thus reducing its intensity and/or shortening the duration. Secondly, *cognitive control*, the most consistently beneficial (Thompson, 1981; Cohen et al., 1986), which uses thought processes or strategies to modify the impact of the stressor, such as focusing on a positive or neutral thought or thinking about the stressor in a different, less threatening way. Thirdly, *decisional control*, when an individual has some choice as to the course of action and its timing, as in some forms of medical treatments. *Informational control* involves reducing the fear of the unknown by providing information about what is likely to happen during a potentially stressful encounter and finally, *retrospective control* may be achieved after a stressful episode has occurred, through beliefs about who, or what, caused it. Having someone or something, or even oneself, to blame, rather than chance or fate, can sometimes reduce anxiety as discussed previously in relation to explanatory style.

Fisher (1984) proposed that the discrepancy reduction model could explain the pleasant feeling of being able to control the environment and, as a result of this, improve daily stresses. The individual is motivated to reduce the difference between their actual reality and their ideal reality, success bringing pleasure and reduced stress. Furthermore, Fisher, (1994) goes on to argue that, "perceived control is important with regard to threatening situations... because of the power it gives to attenuate or reverse unpleasant events. Thus control is really the means of damping the effects of life stresses" (p.29). It is important to note that attempting to increase individuals' control and choice over their lives may, in theory, be highly desirable to reduce stress and maximise the personal development of potential. However, in practice, it may be difficult if not impossible for some to achieve this unless issues such as physical, financial, housing or domestic constraints are addressed at the same time.

Rotter (1966) argued that individuals who have an *internal locus of control* are more able to cope well with these potentially stressful situations, as they believe that they are in control of their own destiny and are not being carried along by external events. Individuals with an *external locus of control* tend to see events that they experience as

being the result of chance or fate, over which they have little or no control. They tend to be more anxious, less able to adjust and cope with stress, and as a result of a failure to cope, anticipate bad future consequences when faced with the same or a similar situation. Within education, Abouserie (1994a) found a significant positive relationship between students' locus of control and academic stress, and suggested that those who have an internal locus of control, who believe in their abilities and the control they have in academic situations, experience less stress than those with an external locus of control.

However, when Farne et al. (1992) investigated the role of an internal locus of control on subjective distress caused by daily hassles, in contrast to previous findings using major life events, it did not show a negative correlation with the distress indices. It seems that for everyday stressors, distress may not necessarily be moderated by this particular personality trait.

Furthermore, there is an assumption that an internal rather than an external locus of control is a more desirable personality characteristic. However, this may be situationally dependent. Solomon et al. (1989) found that soldiers exposed to low levels of battle intensity and with an internal locus of control suffered less post traumatic stress disorder than those with an external locus of control. However this was reversed when the battle intensity was high. In these circumstances, when events were not within a soldier's control it was more adaptive to 'go with the flow'. Sutherland and Cooper (1990) have also suggested that certain occupations, such as those within highly controlled environments, may attract and be more suited to individuals with an external locus of control.

It seems therefore, that having the perception of control over one's environment may act as a mediator/moderator in many, but not all, potentially stressful situations. In fairness, Rotter (1966) has always maintained that both extremes along the dimension are equally dysfunctional and that scoring somewhere in the middle seems to provide the best defence against stress. In everyday life there are many experiences, particularly when dealing with others, which, in the short term at least, may be beyond our control. Being able to recognise one's own limitations in these situations may help to reduce any frustration or distress which may have been experienced as a result.

SELF ESTEEM

Self esteem can be defined as the favourable opinion of, or respect we have for, ourselves. It includes the feeling of self worth and competence. In terms of its usefulness as a protection against the negative effects of stress, Hobfoll (1989) regards self esteem as an important and robust resource which serves to counteract stress across most situations. In a study of undergraduate students at the University of Wales, (Abouserie, 1994a) a

significant negative correlation was found between self esteem and both academic and life stress, suggesting that students with high self esteem experience less stress than those whose self esteem is low. High levels of self esteem also seem to attract high levels of social support, which in turn facilitate emotional well-being (Taylor and Brown, 1988; Zuckerman, 1989). Furthermore, Aspinwall and Taylor (1992) found people with low levels of self esteem to be less resilient in the face of stressful events, and concluded their study by quoting Bandura (1977) and Baumeister et al. (1985) who proposed that they may be more vulnerable to the 'threatening self relevant aspects' of stressful experiences depleting their motivation, persistence and performance. Individuals with very low levels of self esteem tend to attribute poor performance to a lack of ability (McFarland and Ross, 1982) which, as a relatively stable, internal and global disposition, would have the effect of reinforcing an already low opinion of competence.

A healthy self esteem may also have far-reaching career implications. In addition to identifying stress as the major cause of attrition, Lees and Ellis (1990) noted that students leaving the nursing profession before qualification scored markedly less than other subject groups in the areas of personal and social self-esteem, with nursing failing to meet their expectations. A high self esteem and a sense of psychological control may lead individuals to adopt more effective coping strategies which contribute to a sense of personal confidence needed to confront problems directly and attempt to solve them rather than to avoid them (Taylor and Brown, 1988).

From the literature, it is apparent that a healthy self esteem may serve as a robust long term protection against the worst effects of stress. Having a low opinion of oneself may reflect a lack of confidence in one's ability to deal successfully in the long term with sources of stress, which as a consequence makes them seem more threatening. As a result a new environment may become more stressful as problems are left unresolved.

ANXIETY

There is a general agreement that there are important individual differences in susceptibility to psychological stress. According to Eysenck and Wilson (1975) those with high levels of trait anxiety are "easily upset by things that go wrong and are inclined to worry unnecessarily about things that may or may not happen" (p.84), which reflects a general assumption that those who are high in trait anxiety are likely to view the world as a more threatening and demanding place than those with low trait anxiety and are therefore more likely to appraise an event or situation as stressful. In addition, the literature appears to suggest that high levels of anxiety may also be detrimental to academic performance.

Work with animals in the early part of this century led researchers to establish a relationship between increases in stimulation and increases in performance, up to a certain point beyond which a deterioration in ability followed (Yerkes and Dodson, 1908). This became known as the Yerkes-Dodson Law and its inverted U-shaped curve is often used to illustrate how arousal resulting from stress can influence performance. For instance, Cohen (1989) cited the Yerkes-Dodson relationship when examining the relationship between anxiety and forgetting. It seems that "forgetting is greatest when anxiety is very low or very high and intermediate levels of anxiety produce better recall". In addition, Levi (1972) argued that high and low levels of arousal would be experienced as stressful and suggested a linear relationship between stress and performance, thus the greater the stress the greater the deterioration in performance.

Eysenck (1982) proposed that in the case of anxiety this leads individuals to 1) sample information from a broader environment 2) be more easily distracted and 3) have a selective bias towards threatening stimuli when compared to non-anxious individuals. It seems there is an assumption that there is a fixed attentional capacity or resource (Fisher, 1989) which can be controlled by the person, yet is subject to distracting thoughts and/or external factors. In the case of severe homesickness for example, the new environment "fails to provide effective competition" (Fisher, 1989, p.43) and the new student is overwhelmed by thoughts of home, thus dominating their attentional resources and rendering the student unable to concentrate on college specific information, academic or social, which may help integration.

However other research has found that simple tasks may not be as vulnerable to arousal as more complex tasks (Hockey, 1970), with individuals differing in the levels of performance improvement or impairment, depending on how they appraised the task or how they coped with its demands (Lazarus and Erikson, 1952).

Nevertheless, the fact that anxiety is associated with decrements in academic attainment is indisputable. It disrupts and distracts most kinds of thinking and researchers have consistently reported a negative correlation between virtually every aspect of school achievement and a wide range of anxiety measures (for review see Wine, 1980). There has been some suggestion that these students may be anxious because they are ill prepared, (i.e. less capable students become more stressed) as the quality of their study habits and amount of study were found to be positively related to their academic performance (Culler and Holahan, 1980). More recently, however, Covington and Omelich (1987) investigated how anxiety can block previously learned responses and they concluded that there were two types of highly anxious individual. Firstly, failure-avoiding students use effective study strategies and work hard to maximise their chances of success. However, their fear of failure, considering the effort expended to succeed, leads to high levels of anxiety which leaves them vulnerable to debilitating anxiety during examinations, particularly if

the exam is seen as important (De Pablo et al., 1990). On the other hand, the failure-accepting students learn to accept low ability as being the reason for their past failures and become resigned to failure made more certain by inadequate preparation, becoming anxious at the anticipated loss of esteem. It is possible also that these anxious students experience physiological changes which play a part in their poor performance. Marangoni and Hurford (1990) investigated how decreased alveolar carbon dioxide (CO₂) levels, which result from hyperventilation resulting from anxiety, stress or inappropriate breathing habits, can affect cognitive abilities. They concluded that this physiological state can impair one's ability to encode information presented in the classroom or from study sessions, and then to rehearse and recall that information, leading to poorer learning and exam performance. This finding has implications for all students who have reported experiencing stress while they were attempting to absorb and process information and suggests that maintaining a normal alveolar CO₂ level and therefore a cerebral perfusion level through normal breathing patterns would enable students to perform to their potential.

C. BIOGRAPHICAL VARIABLES

GENDER

Overall, the literature seems to indicate that females students tend to report significantly higher levels of both general and academic stress than males (Cushway, 1992; Dunkel-Schetter and Lobel, 1990; Abouserie, 1994b). In a study to assess gender differences to particular groups of stressors and reactions to them, Gadzella (1994) found female students reported significantly higher scores on two of the five categories of stressors: pressures (competition, deadlines, overload and interpersonal relationships) and changes (rapid/unpleasant, too many, disruptive). Women also scored higher on three of the four reactions to stressors, physiological, emotional and behavioural with men reporting greater use of cognitive appraisal.

In order to measure general levels of distress some studies have used the General Health Questionnaire (GHQ) which assesses social dysfunction, somatic symptoms, anxiety and severe depression (Tyrrell, 1992; Cushway, 1992). In line with the research cited above, findings show that female psychology students and clinical psychology trainees reported higher levels of psychological disturbance than their male colleagues. Vitaliano et al., (1988) identified significantly more females medical students with an external locus of control, with externals being ten times more likely to feel threatened rather than challenged when faced with a stressor which involved personal mastery.

It is difficult to ascertain whether this common trend for females to score higher on self-report measure of stress, anxiety and depression is a result of a greater willingness on the part of women to report difficulties or perceived psychological weaknesses or whether males do perceive the world as a less threatening place. The findings of Estes (1973) seem to provide evidence in support of the former proposition. Male students in his study were more reluctant to disclose their feelings and to seek prompt help for the chronic emotional problems they had and were consequently at greater risk of developing handicapping psychological disorders. Perhaps it would be more informative to identify those aspects of college life where there are the greatest differences in perception between male and female students rather than just establish a significant difference.

AGE

Given the large number of mature students now studying in higher education, it is surprising that there are so few studies which have addressed age as a mediator in the stress process. Those which have, have not found a significant relationship between age and the prevalence or severity of stress related problems (Wechsler et al., 1981; Cushway, 1992) or specifically academic stress (Roberts and Munroe, 1992). In a study of clinical psychology trainees, Cushway (1992) acknowledges that the age band of the majority of her students was relatively small whilst in others the researchers have used correlational analysis to ascertain the role of this variable. It may be useful to compare measures of stress for specific age 'groups' which contain sufficient numbers for comparison, rather than using age as a continuous variable, in order to fully explore any possible differences in perceptions.

ACADEMIC YEAR

Fisher and Hood (1987) have suggested that when a new student begins their courses of study at university or college of higher education they undergo a period of transition and rapid change. Although this time has traditionally been seen as positive and challenging it may have an adverse effect on psychological functioning, at least in the short term during the student's first year. These effects include a general increase in anxiety, depression, obsessionality and inefficiency. That first year students are particularly vulnerable to stress is supported by the findings of Cecchini and Friedman (1987a), who found junior dental hygiene students to be more anxious than seniors and Wechsler et al. (1981) who found the number of complaints of academic pressure, at least from female students, decreased with each successive years. Other researchers, however, have either found no clear patterns of differences among freshmen, sophomores, juniors and seniors (Dunkel-Shetter and Lobel, 1990) or have found that it is second year students who are reporting higher levels of stress and distress, as measured by the GHQ (General Health Questionnaire) (Cushway, 1992; Tyrrell, 1992). Overall the findings are mixed. Any

research which incorporates year of study as a potential moderator in the stress process may need to address the possibility that higher levels of stress may either be due to different stressors being experienced as students move through their course or to the cumulative effects of stressors which are common throughout training (Cushway, 1992). Focusing on specific stressful experiences which differentiate year groups and assessing how the severity of stressors change over time would be a fruitful way forward.

D. SOCIAL SUPPORT

The role of good social support in the prevention of psychopathy is well documented, for example in the precipitation of depression, (Oatley and Bolton, 1985), for the well-being of carers (Morris et al., 1988) and for those coping with post traumatic stress following the bombing at Enniskillen in Northern Ireland (Curran et al., 1990). Research seems to demonstrate that social support, not only effectively reduces distress during times of stress, but reduces the likelihood of illness, speeds recovery from illness when it does occur and reduces the risk of mortality due to serious disease (Pearlin and Schooler, 1978; Leventhal and Nerenz, 1982; Fleishman, 1984; Norries and Murrell, 1984). Social support refers to the perceived emotional, informational and instrumental help a person receives from other people or groups (House, 1981). This leads to a sense of being valued, loved and part of a social network (Cobb, 1976). Researchers have attempted to classify the various types of support (Cobb, 1976; Schaefer, et al., 1981; Cohen and McKay, 1984; House, 1984; and Wills, 1984). From these classifications, four basic types of social support emerge. Firstly, *emotional support*, which involves showing empathy, concern and care for another during times of stress and leads to feelings of comfort, reassurance and belonging. Secondly, *esteem support* comes from the positive reinforcement of the individuals competence and self worth and may reduce stress by improving the perception of abilities and/or personal resources. Thirdly, *tangible or instrumental support* entails the giving of direct help either by lending money or helping out with jobs thus reducing the demands on time and finances. Finally, giving *informational support* provides advice, information or feedback and is particularly helpful when difficult decisions have to be made. It is, of course, possible that all or some of these aspects of social support may be important in any given situation

During times of stress Cutrona (1986) found that students in her study tended to receive emotional and informational support, with esteem support being given anytime, irrespective of whether stress was being experienced. That there was a protective function of esteem support was suggested by the finding that the more frequently the esteem support was given, the less likely students were to become depressed following a stressful experience.

Research has led to the formulation of two basic mechanisms to explain how social support affects stress. The first, the *direct or main effect hypothesis* maintains that social support (as a mediator) is beneficial regardless of whether we are stressed. Several explanations have been suggested as to why this may be the case (Cohen and Willis, 1985; Wortman and Dunkel-Schetter, 1987). It is proposed that having a high level of social support leads directly to a greater sense of belonging and value thus leading to a more positive/healthier attitude to life in general. The other mechanism is the *stress-buffering hypothesis*. This views social support as beneficial, a buffer (or a moderator) between the individual and the negative effects of high stress. Cohen and Willis (1985) have put forward two explanations as to why buffering works. Those individuals with high levels of social support may be less likely to continually appraise a situation as stressful if they know someone who can and will help them, by lending them money, books etc. Also friends and family, for instance, can modify the stress when it is actually experienced by providing advice, a shoulder to cry on and reassurance that things are not as dire as they seem.

The evidence seems to support both views. Sometimes social support appears to have a beneficial effect regardless of the stress we experience, while little or no support seems to bring its own stress, but in other cases the positive effects only become apparent when stress is experienced.

Whether people receive social support is dependent on many factors. Social support is unlikely to be given if this need is not realised and if an individual is not assertive enough to let others know help is needed. Some feel that they should be able to manage on their own, feel uncomfortable confiding in others or do not know who to turn to for help. As a result they may be left to their own devices (Broadhead et al., 1983; Wortman and Dunkel-Schetter, 1987). Researchers have also found that when there is a threat to self esteem, people tend to seek less social support suggesting that perhaps shame or embarrassment may lead a person to prefer to be alone rather than with others (Lazarus and Folkman, 1984). Furthermore, if the personality of the recipient is unappealing in any way, this may prevent a helping response from others. This was illustrated in a study exploring the effects of perceived social support from friends, family and spouses on the psychological adjustment of 135 newly diagnosed breast cancer patients. Roberts et al., (1994) found that when the variable of social desirability was controlled, any relationship between social support and well-being was weakened or eliminated altogether. Finally if the potential providers themselves are also low on personal resources, are under stress and in need of support, or are just insensitive to the needs of others, they may not be in a position to give, or be capable of giving, help. Therefore the characteristics of the potential recipient and the potential provider are important factors in the provision of social support.

It appears that social support also interacts with the beneficial effects of optimism, control and self esteem. Aspinwall and Taylor (1992) found that college students high in these resources engaged in more prosocial behaviour and appeared to have more positive social relations (Taylor and Brown, 1988) with these relationships in turn facilitating emotional and physical functioning. This in turn predicted a greater receipt of and satisfaction with social support both at the start of college and three months later. It may be that some individuals, depending upon type of support available and the severity of the distress, are able to be supported by others without being a drain on them, thus maintaining a constant 'give and take' social support network of benefit to themselves and others when they are feeling more resilient.

Is social support always positive? With regard to health, there are many instances where social ties can cause harm (Suls, 1982). When others set a bad example, particularly with regards to smoking and drinking, eating a poor diet or not exercising, or when family or friends give advice contrary to the recommendations of a doctor. Furthermore, our relationships within a social network are complex and, rather than reducing the negative effects of stress, the same individuals who provide tangible support may also be an important potential source of stress.

Rook (1984) points out that "social relations entail costs as well as rewards" and in a study of 120 widowed women between the ages of 60 and 89, she examined the effects of problematic social ties on psychological well-being. Controlling for a wide range of biographical variables and social competence, her results supported the hypothesis that negative social experiences have a greater impact on well-being than positive social experiences. It was only when positive ties involved an expression of positive emotion and sociability rather than just the provision of support, that this was related to well-being. Rook argues, along with other researchers (Heller, 1979; Sarason et al., 1983), that this should be an important consideration when assessing the "qualities and content of social ties". (p. 1106). Interestingly, rather than neighbours and casual acquaintances, many of those causing difficulties for these women were members of their own families or friends and, although not lacking in social skills, it was suggested by the data on decision-making that the women with the greatest number of problematic social ties were less assertive than others in the sample. Rook concluded that it would be far more beneficial to deal with relationship problems through interventions aimed at improving assertiveness and interpersonal problem-solving skills, than to try and increase or establish new relationships.

It appears that the availability of the right kind of social support can moderate the experience of stress and provide protection against any negative affect on psychological well-being, such as depression. Our personality and the relationships we have with others can influence our chances of receiving appropriate support when we need it. The

ability to maintain a mutually supportive balance with those in one's social network appears to be of optimal benefit to everyone within it.

E. COPING STYLE

Lazarus and Folkman (1984), leaders in the field of stress research, define coping as "constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p.178). This definition emphasises the *process* of coping, a person's thoughts and behaviour within a *specific context* over the *duration* of the experience. Furthermore, any attempt to assess a person's coping style needs to incorporate this criterion into any analysis as well as using a sufficient number of such experiences in order to get an accurate picture. Coping is dynamic and changing and is a function of continuous cognitive appraisal and reappraisal between the person and their environment. According to Lazarus and Folkman, "coping serves two overriding functions: managing or altering the problem with the environment causing distress (problem focused coping), and regulating the emotional response to the problem (emotional focused coping)" (p. 179). People tend to use problem-focused approaches when they believe their resources or the demands of the situation are changeable and use emotion-focused when they believe they can do nothing to change the stressful conditions. According to Lazarus and Folkman there are many types of skills and strategies which individuals use to alter the problem or regulate their emotional responses when experiencing stress. The most commonly used strategies which combines problem *and* emotion-focused coping include, 1) direct action, which involves doing something specific or directly to deal with the stressor, e.g. negotiating or consulting, arguing, running away, distraction or punishing someone, 2) seeking information about the stressful situation which can then be used in promoting problem-focused or emotion-focused coping and 3) turning to others and seeking emotional or practical support in the form of help, reassurance and/or comfort. The most commonly used emotion focused strategies include, 1) resigned acceptance and coming to terms with the problem, particularly suitable when the basic circumstances of the stress cannot be changed, such as during bereavement, 2) emotional discharge which expresses feelings or reduces tension and includes screaming, crying and using jokes and gallows humour to help relieve constant strain and 3) intrapsychic processes which includes positive thinking or the cognitive redefinition of a stressful situation to make it less threatening or serious, and strategies which Freud called defence mechanisms such as denial, intellectualisation, suppression and avoidance.

The available research seems to indicate that no single method is uniformly applied or effective with all stressful situations (Ilfeld, 1980; Menaghan, 1982). Therefore, there is no one best method of coping. However there seem to be two important patterns in the way

people cope. Firstly, individuals tend to be consistent in the way they cope with a particular type of stressor, tending to use the same methods they used in the past. Secondly, people seldom use just one method to cope with a stressor, typically using a combination of strategies (Stone and Neale, 1984; Holahan and Moos, 1985). Given that old habits seem to die hard, this infers that people may find it difficult to change the way they respond to the same stressful situation regardless of how often it occurs.

4. STRESS AND HEALTH

Any research investigating the implications of stress on student learning must take account of the relationship between stress and health. Effective learning may be compromised if the student is unwell and unable to attend lectures, visit the college library or spend time studying. Ill-health can also make it difficult to maintain a high level of concentration and motivation during lectures and study time and keep up with assignments and exam revision.

The effects of stress on health have been identified, indirectly, through a person's behaviour, or directly, from physiological changes brought about by stress. The behavioural link between stress and illness is well documented. Individuals who experience high levels of stress tend to consume more alcohol, cigarettes and coffee, (Baer et al., 1987; Conway et al., 1981), all of which are associated with the development of various illnesses, and are more likely to suffer accidental injury at home, at work, while driving the car and in their sporting activities (Quick and Quick 1984; Johnson, 1986). Furthermore, maladaptive behaviour, such as not reporting early symptoms of illness or failing to seek medical help, and failing to change an unhealthy lifestyle or comply with a treatment plan after diagnosis, could affect the course and treatment success of an illness.

There is growing evidence of a direct relationship between stressful events and an alteration of bodily processes and tissues. However the precise nature of stress and its role in the onset of disease is a contentious issue. The clearest connection between stress and illness involves the release of hormonal defence mechanisms, particularly catecholamines and corticosteroids, by the endocrine system during arousal (Frankenhaeuser, 1975; Dimsdale and Moss, 1980). Huge physiological changes ensue, particularly during anticipation of a stressful event and among subjects with inadequate psychological defences (Rose, 1980) and it is suggested that the long term effects of these pressures on the body ultimately cause us harm (Melhuish, 1978).

Chronically high levels of these hormones appear to increase the growth of plaques on the artery walls (McKinney et al., 1984), leading to a condition known as atherosclerosis. As this becomes thick and hard it is more difficult for the blood to move through the narrowed vessels, and if a complete blockage occurs the heart becomes starved of oxygen and begins to die, resulting in a myocardial infarction or heart attack. These hormones have also been identified as having a negative effect on the immune system. For example, increases in cortisol and epinephrine have been associated with decreased T-cell and B-cell activity against antigens. The action of lymphocytes has been shown to be an important factor in the development of diseases such as cancer (Levy, 1985). It is suggested that the immune system controls cancer by acting as a surveillance system,

recognising and destroying tumour cells as they appear, thus deficiencies in this system of any kind will increase the likelihood of abnormal cells being 'missed' (Burnet, 1970; Keast, 1981). More recent research has shown that high levels of stress reduce the production of enzymes used in the destruction of mutant cells and repair of damaged DNA (Kiecolt-Glaser and Glaser, 1986).

It is clear that stress has been implicated in the development of coronary heart disease and cancer. However, when investigating the effects of stress on student health, it is the increase in susceptibility to infectious disease via pathogens such as bacteria and viruses as a result of immunosuppression which is of particular interest in terms of increase absenteeism, disrupted work schedules and deficient cognitive functioning and physical energy.

It is clear from the literature that the immunologic process can be affected by countless variables, including age, nutrition, genetics, temperature, circadian rhythms, and various drugs as well as psychological factors such as bereavement, loneliness, long vigils, etc. (Jemmott and Locke, 1984). Stress and emotions have long been associated with substantial physiological changes (Melhuish, 1978) through the activation of the sympathetic adrenal medullar (SAM) and the hypothalamic pituitary adrenocortical (HPAC) system. These neuroendocrine processes are among those that mediate the effects of emotional processes on the immune system. Numerous animal studies, focusing on susceptibility to a variety of infectious agents (Borysenko and Borysenko, 1982) have shown that experimentally manipulated stress (e.g. noise, exposure to a predator, crowding, shock and restraint) can alter an animal's susceptibility to diseases that are regulated by the immune system.

Although some researchers are of the opinion that healthy individuals can tolerate substantial variations in our immune system without increasing susceptibility to disease (Cohen, 1987) human emotion has been shown to play a critical role in the balance of the immune system, with high levels of emotion resulting from negative stressful events suppressing immune function over an extended period of time (Zautra et al., 1989).

With regards to acute short term stressors, the findings are mixed. Splash down of the Apollo spaceship (Fischer et al., 1972), sleep deprivation (Palmlblad et al., 1976), academic examinations (Dorian, et al., 1982; Glaser, et al., 1985) and guided mastery therapy or systematic desensitisation for snake phobia (Wiedenfled et al., 1990) have all shown mixed results, with lymphocyte numbers increasing in some studies and decreasing in others (see O'Leary for a full account, 1990). However, research findings from studies of the effects of chronic stress on immune function have been more consistent and include work with unemployed women (Brenner, 1979), carers of relatives with Alzheimer's disease (Kiecolt-Glaser et al., 1987b) and residents of the area around Three Mile Island

nuclear power plant (Baum et al., 1985). All of these studies showed various negative effects on immunocompetence with no signs that it was able to adapt or compensate for these effects over time.

Bereavement following the loss of a spouse has been shown to increase morbidity and mortality in the year following the death. A number of studies have shown decrease lymphocyte response (Bartrop et al., 1977; Schleifer et al., 1983) or reduced NK cell activity of up to 50% (Irwin et al., 1987) in recently bereaved subjects. Loneliness is another form of social deprivation which has also been reported as leading to lower NK activity in medical students, psychiatric patients (Glaser et al., 1985; Kiecolt-Glaser et al., 1984) and in recently divorced or separated women. In addition it was found that the greater the attachment to the spouse or length of separation, the fewer NK and helper T-cells and the more suppresser T-cells (Kiecolt-Glaser et al., 1987a). Overall therefore, the evidence strongly suggests that social disruption and loneliness seem to be related to an impaired immunocompetence.

With regards to mental health and immune function, the results of several studies of patients with severe depression are mixed. An impaired lymphocyte response and fewer B and T cells were found by Schleifer et al., (1984). However, when they compared patients with depression with those also in hospital but suffering from schizophrenia, they found that the only difference was a lower number of T-cells in the depressives. In a more recent study, Schleifer et al. (1989), controlling for the effects of age and sex, found higher levels of depression were associated with a lower response to mitogens in only some groups of patients.

In an extensive review of the literature investigating the link between stress and susceptibility to infectious diseases, Jemmott and Locke (1984), concluded that "when we consider the literature as a whole, we cannot resist the conclusion that stress is a potent factor in the aetiology of immune-relevant disease and can affect parameters of immunologic functioning". (p. 102)

Although the research is impressive and supportive of the conclusion that psychological factors play a significant role in the functioning of the immune system, a definite cause-effect relationship has yet to be established. There is also a distinct lack of prospective studies and a bias towards the study of major acute stressors, such as bereavement, examinations, surgery and significant life events, rather than long term chronic stressors. Nevertheless, this is a fruitful area of research, particularly as our understanding of the specific physiological processes improves. Of further interest are the cumulative effects of minor stressors and the implications of particular coping behaviours on our diet, sleep patterns and drug use etc., which may both impair our immunity and increase our susceptibility to disease.

5. STRESS IN THE WORKPLACE

There is a significant body of research which identifies sources of potential stress in various types of work environment. Many stressful situations are brief and have little impact on the individual, but for a large number of people the stress experienced at work can be excessive and unabated. While acknowledging that stress is a dynamic and interactive process, Sutherland and Cooper (1990) identified six major categories of potential stress in the environment, five of which are concerned with occupational issues. They include 1) *stress related to the job itself*, i.e. workload (Frankenhaeuser and Johansson, 1986; Cooper and Roden, 1985), excessive hours at work, poor physical environment (Mackay and Cox, 1978; Quick and Quick, 1984) and little scope for decision making (Mackay and Cox, 1978) etc., 2) *stress related to the role*, i.e. too much or too little responsibility, role ambiguity and role conflict etc., 3) *Interpersonal relationships* (Quick and Quick, 1984), 4) *career development*, i.e. lack of recognition and/or promotion, promotion beyond perceived abilities, job insecurity (Cottingham et al. 1986) and 5) *organisational structure and climate*, i.e. the restrictions, politics and culture. In addition to the stress of life changes and life events, they also acknowledge a further important additional source of stress which impinges on the worker and comes from demands made within the home and family environment. Stress resulting from these sources has a negative impact on a worker's health and, it seems, on their performance at work.

EFFECTS OF STRESS ON PERFORMANCE

Research to investigate the effects of stress on performance in the occupational environment is extensive. Time pressures and workload are common sources of stress within the workplace and often lead to excessive hours on the job which contribute to fatigue, loss of motivation and a poorer quality of work (Pines et al., 1981). Furthermore, individuals who experience high levels of stress are more likely to suffer accidental injuries at work than individuals under less stress (Quick and Quick, 1984).

The many negative effects of uncontrollable noise on performance are well established (for full account see Fisher, 1986) and, depending on the task being undertaken, noise may not only distract but also lead to more frequent and severe accidents, poorer productivity, a greater number of disciplinary problems and a higher rate of absenteeism (Noweir, 1984). Chronic noise can also affect cognitive performance (Cohen, 1980). People living in very noisy environments change the focus of their attention from the noise to relevant aspects of a task and unfortunately this 'switching off' can lead to generalised cognitive deficits because they have difficulty knowing which sounds to attend to and which to tune out

(Cohen et al., 1986). Studies with children exposed to this sort of environment show that they perform poorly on tests of reading ability (Glass and Singer, 1972). Gillis (1993) has recently claimed, however, that cognitive performance in terms of an individual's judgement is only impaired by external sources of stress if subjective distress is experienced at the time the judgement is made.

When people undertake tasks in dangerous environments, their level of arousal has an important effect on their attention capacity and ultimate performance. In a review of findings on performance in such environments by groups including deep-sea divers, soldiers in combat and army parachutists, Baddeley (1972) found that these situations tended to increase arousal, which in turn narrowed the focus of the person's attention onto the aspects of the situation which they perceived to be most important. If this aspect was the task, then performance was improved, but if the task itself was seen as peripheral to another activity, such as saving one's life, then performance deteriorated. However, in more everyday situations, when a person is experiencing stress this can lead to a reduction of attention to appropriate or task relevant information and, as a consequence, to poorer performance (Fisher, 1986; Choi et al., 1990). More specifically, and in line with the findings of Gillis (1993), it has been suggested that emotional responses such as worry, insecurity, fear and anxiety may lead to poor concentration as well as unsound judgement (Sutherland and Cooper, 1990).

In a review of literature examining the relationship between organisational stress, job satisfaction and job performance Sullivan and Bhagat (1992) describe four principle hypotheses that attempt to explain the relationship between stress and performance. The first suggests an inverted U-shaped relationship where low or high levels of stress impede performance through lack of or excessive arousal. Performance is at its peak under conditions of moderate stress, where individuals are activated to perform and have enough energy to enhance performance rather than using it unnecessarily to cope with stress. This explanation has much intuitive appeal, although it lacks empirical evidence, and is the most popular explanation of the relationship between stress and performance. The second hypothesis suggests that stress and performance have a positive linear relationship. The greater the stress the better the performance. However, this explanation does not take into account, and therefore cannot explain, the dysfunctional aspects of stress and individual differences in the way situations are appraised. The third hypothesis proposes that stress and performance have a negative linear relationship where all stress is dysfunctional. The greater the stress the more time is spent coping or engaging in undesirable activities rather than concentrating on performing efficiently. This explanation fails to acknowledge the positive effects of stress which motivate individuals to make adequate preparations for important events such as examinations etc. The fourth hypothesis suggests that there is no relationship between stress and performance and proposes that people can ignore stressors because they can focus on their

own productivity for which they are being paid (Jamal, 1985). The major criticism of this explanation is its assumption that individuals can behave rationally at all times and are always able to ignore potential stressors before they affect performance.

In a study by Jamal (1985) of 227 Canadian middle managers and 283 blue-collar workers, the results supported the negative linear relationship and limited support was found for the U-shaped relationship and absence of any relationship. There was no evidence of a positive relationship between stress and performance. However, this study only examined the effects of dysfunctional stress and Sullivan and Bhagat (1992) suggest that future studies should investigate the effects of both functional and dysfunctional stress on performance. In addition short and long term performance may be differentially affected by stress and may need to be considered as two separate dependent variables.

Recent findings from a study using 306 officer-cadets in the Israeli Defence Forces (Westman and Eden, 1992) consistently confirmed the hypothesised negative linear relationship between stress resulting from excessive demands and both objectively and subjectively assessed performance. High levels of stress experienced at different times were associated with substantially lower performance, with this relationship persisting across different events, raters and measures. Because the researchers used a longitudinal design the causal effects of performance on stress levels was ruled out. It was considered unlikely that low performance measured a year into the study would have caused stress at the beginning of the course. These studies provide further evidence that stress results in poorer, less effective performance.

Occupations such as nursing have been the focus of much research attempting to identify sources of stress (for review of the literature see Marshall, 1980). However studies of this occupation which place the emphasis on the effects of stress on performance at work are not as prolific. One study, however, by Glaser and Strauss (1967), showed that performance was affected as a result of stress in several different ways. For example, two common coping strategies used when nursing dying patients involved the adoption of a protective, yet impersonal attitude and avoiding or reducing patient contact. Using models developed through path analysis Motowidlo et al. (1986) suggested that feelings of stress in nurses led to depression and decrements in interpersonal (i.e., sensitivity, warmth, consideration, tolerance) and cognitive/motivational aspects (i.e., concentration, composure, perseverance, adaptability) of job performance. In a further study investigating the effects of stress on performance, Cavanagh and Snape (1993) asked nurses to fill in diaries/logs to record stressful events they had experienced on a daily basis and to report the impact these had had on their patient care. Many noted that they were short tempered, intolerant of their colleagues and generally tired and fatigued. However only one subject reported that their work had been directly affected and that was with regard to a paperwork error. It is possible that the nurses may have been reluctant

to admit any deficiencies in performance or that they were in fact able to maintain a high level of efficient and sensitive care but at a cost to themselves and/or their families. Whichever explanation, this occupation suffers a particularly high turnover rate, large numbers of nurses leaving the profession and high levels of absenteeism due to minor illness (See Pines et al., 1981 for review of 'burnout' amongst nurses).

Doctors, however, have more to lose in terms of career investment and may be more reluctant to leave medicine when they become disillusioned and generally exhausted. They may exhibit characteristics of burnout and become detached, dehumanising, mechanical and impersonal with patients, cutting consultation time to a minimum (Pines et al., 1981). The consequences for patients of the behavioural effects of stress are reviewed by Sutherland and Cooper (1990), and include poor consultations in terms of identifying problems and levels of explanation to the patient regarding their complaint, less attention paid to psychological variables, more prescriptions being issued and generally greater levels of dissatisfaction being reported by their patients (Grol et al., 1985).

Overall the literature provides strong evidence that stress can degrade performance as a result of cognitive deficits, poor judgements and concentration, greater emotionality, absenteeism and burnout symptoms such as emotional and physical withdrawal.

6. STRESS IN ACADEMIC LIFE

A. STRESS AND ACADEMIC STAFF

Given that increases in the demands on academic staff in recent years have been considerable, is the academic environment as comfortable and privileged as it has often been portrayed? It appears that for many it may not be, since efficiency, economy, competition and effectiveness have become the 'buzz' words of academia. As well as teaching and administrative duties, there are increasing pressures to improve one's own research reputation in order to enhance the research rating of the institution upon which the funding from government is determined. Fisher (1994) suggests that lecturers working in such conditions are vulnerable to role overload and role conflict, and argues that this is exacerbated by the continual increases in student numbers and an erosion of control over conditions of employment and hours of work.

Three key findings emerged from a report carried out by the National Foundation for Educational Research and commissioned by Natfhe, the university and college union, on lecturers' workload and factors affecting stress levels (The Guardian, 17.1.1995 p.6). Firstly, lecturers reported that their workload had increased substantially from between one quarter and a third over the previous few years. Secondly, 45% of lecturers in the survey reported that they experienced stress most or all of the time, and thirdly, there was a common belief among lecturers that their colleges were adding to, rather than easing, the pressures. Natfhe and the Association of Teachers and Lecturers is reported to believe that the problem is becoming serious, being unaware of any systematic action to tackle the problem of increasing stress and greater work pressures.

These figures have been confirmed in a study by Abouserie (1996) at the university of Wales. His results showed that 74.1% and 14.7% of the academic staff fell into the moderate and serious stress categories respectively with an significant inverse relationship between stress and job satisfaction. Again work appeared to be the main source of stress (doing research, time constraints, relations with others, teaching, bureaucracy and students' demands), followed by family demands, time pressures, financial difficulties, relationships with others and health problems. From findings such as 10.7% of the sample coping with stress by "not going to work", or 19.1% by "shutting myself in my office", he suggests that in line with studies of other professions, the results of burnout on the job are chronic absenteeism, lower productivity and high turnover .

In a study of academic staff at two randomly chosen Scottish universities, Fisher and Smith (1993) examined psychological health, absent-mindedness and personally perceived

problems and associated worry levels. Staff were requested to complete diaries of problems and associated hours of worry, the subject being responsible for judging whether a particular event was stressful enough to report. The researchers found academics to be more anxious, depressed and obsessional than the general population and that for those who reported problems with research, the level of worry was very high. In both this and a second study, 'overload' was identified as a major factor for all levels of academic staff, with 75% reporting 'always' or 'frequently' experiencing this problem. The importance and desirability of research was highlighted, since 70% of staff indicated that they preferred to be engaged in research, compared to 10% who preferred to spend their time teaching.

In a study using a combination of questionnaires and diaries, Snape (1992) identified four stress factors from the responses of 130 lecturers in eight colleges of further education in the north east of England. Factor 1 included items associated with lack of recognition by the 'management' and perceived injustices on a personal level, while Factor 2 was associated with poor resource facilities which interfered with successful teaching. Factor 3 was associated with relationships with students and to some extent revealed lecturers' expectations of student behaviour, and finally items in Factor 4 were associated with a lack of money for resources.

Although this work is valuable in terms of highlighting particular areas of concern, without substantial evidence that the performance of staff is being adversely affected as a result of stress, there may be little motivation on the part of managers to seek ways of improving efficiency and productivity.

B. EFFECTS OF STRESS ON PERFORMANCE - ACADEMIC STAFF

In addition to identifying sources of stress for lecturing staff, the effects of stress on performance was also investigated by Snape (1992). He asked lecturers to rate 100 potentially stressful incidents for the degree of stress they experienced, or would experience had the incident actually happened, and to indicate the degree to which the incident affected, or would affect, their teaching. Factor analysis on the latter ratings revealed four 'affectors' of teaching. The first was related to general management and administrative problems, the second to interruptions to the teaching process, the third to relationships with students and the fourth, to relationships with other members of staff. In addition to filling in diaries, all subjects were invited to include an example of how their teaching would be, or was, affected by recording an actual incident. Snape found that some of the emotional effects of stress included 'irritation', 'annoyance', 'anger', 'agitation', 'apathy', 'anxiety', 'frustration', 'lethargy', 'being worried' or 'on edge', as well as longer term effects such as 'lack of enthusiasm and motivation', 'feeling disillusioned',

and 'not feeling in control'. There were behavioural effects reported that directly interfered with the teaching process, for example, 'delays in giving results of work done by students, to students; 'not setting up activities for students'; 'taking undue time to relax' and 'spending more hours of work either marking or preparing at home' ... and 'complete withdrawal by going home rather than teach'. "That the role as teacher is affected by stress was further highlighted by lecturers who indicated a genuine concern for their students: 'students suffer and do not get through the work intended'. 'I know the lesson was less successful than it might have been'; 'the students were restless and I felt unable to cope'. Other responses included 'teaching disrupted', 'lesson disjointed', 'altered lesson', 'loss of teaching atmosphere', 'loss of rapport' and 'having to ad lib'. Actions by lecturers such as abandoning lessons and tutorials, arriving late to lessons and then shortening them and generally spending less time with students appeared to occur at an alarming rate" (p.13). This research is important in that it considered not only causal agents of stress but also the perceived effects of stress on the lecturers' own performance.

C. STRESS AND STUDENTS

Previous research with undergraduates has either focused on the various negative consequences of stress for physical and mental health, (Jemmott and Locke, 1984; Surtees and Ingham, 1980; O'Neil and Mingie, 1988; Schweitzer, et al., 1995) or has attempted to pinpoint high risk groups, for example new students (Lecompte, 1986) or particular subgroups of students, such as ethnic minorities (Edmunds, 1984; Pliner and Brown, 1985) or overseas students (Oropeza et al., 1991). There were a number of studies carried out in the 1970's which provided evidence that students in general were suffering high levels of distress, emotional problems and high mood disturbances (Mechanic and Greenley, 1976; Comstock and Slome, 1973; Christenfeld and Black, 1977). A ten year study by Koplik and DeVito (1986) and a review of research over the last decade of psychopathology in students (Stone and Archer, 1990) have suggested that stress in the college environment and the number of students with complex and serious psychological problems is on the increase.

Identifying sources of stress in medical, nursing and dental students is well documented (Coburn and Jovaisas, 1975; Cecchini and Friedman, 1987ab; Rosenthal, et al., 1990; Clark and Ruffin, 1992), particularly in the United States. Of the fewer studies which have examined sources of stress for non specific university undergraduates, these include the work of Beard et al. (1982). The results of this study indicated that the areas of potential stress fell into 3 general categories, personal-social, vocational and academic development. Out of a possible 20 areas of potential stress, generated by the 20 existing services of the counselling centre, note taking, interpersonal relationships, completion of

assignments, sexual concerns and personal problems were the five highest ranking items. Zitzow (1984) obtained items for an instrument measuring non specific college students' self-assessment of stress from the Social Readjustment Rating Scale (Holmes and Rahe, 1967) and a review of the literature. While emphasising the importance of measuring an individual's perception of stress, he identified academic concerns as being of paramount importance to students. Out of the six top rated sources of stress, all were of an academic nature and included studying for tests and self induced pressure to get good grades. Other frequent sources of stress, which one could argue have implications for academic success, included a lack of self confidence, anxiety or tension and depression. He concluded by reporting that the "academic environment received the strongest response for item frequency and stress intensity" (p. 164).

In a series of three extensive telephone surveys at the University of California in Los Angeles (UCLA) over a three year period, Christine Dunkel-Schetter and Marci Lobel (1990) identified four main areas of concern for all students at the university, academic, family relationships (a high proportion of US undergraduates live with their families), social relationships and finance. Most students (83%) reported that they felt that how they did academically was 'uncontrollable', with students who reported most stress not surprisingly being the ones who also reported a greater need to achieve good results. Competition was stressful for almost two thirds of students, and a third were "usually overwhelmed by course work". The double edged nature of family relationships was evident with 75% of students in the first survey reporting conflicts with their parents at least twice a week and 85% saying they did not get along with their parents at all, while 85% of students in the second survey reported that their families were somewhat or very supportive, Difficulties with social relationships affected many students, 27% of the sample indicated that they were having problems making friends and 14% reported feeling lonely 'often' or 'very often'. Half of the students did not belong to any social groups at university and 22% rarely or never socialised with fellow students. The final area of concern was related to financial problems. 40% of the sample 'often' or 'very often' felt that their financial responsibilities were overwhelming, with two thirds subsidising their income by working an average of seventeen hours per week in part-time paid employment.

When Dunkel-Schetter and Lobel examined general levels of stress they found that between a third and a half of all students interviewed said they 'often' or 'very often' experienced stress, 30-60% reported having shown signs of depression during the proceeding month, 15% reported often feeling depressed, and two thirds of students reported current problems with eating and sleeping or illness. Furthermore, overall satisfaction with college life seems to be related to having more friends on campus, belonging to a social group, and interestingly, having attended a school that was similar to the university. It is clear from the literature that seeking and receiving social support is

important when attempting to cope with stressful situations. Without this students have to rely on their own inner resources which may, for some, become increasingly difficult.

In this study the telephone interview consisted of a specific set of questions, developed and pretested by a class of approximately 10 senior psychology majors from the university studying survey research methods, although the researchers stated that whenever possible the questions were taken from other previously validated inventories. It could be argued that this method of generating items for a questionnaire may not lead to an instrument which represents the specific concerns of the target population, in this case, *all* students at the university. It is also possible that the psychology students generating the questions may be inhibited by the presence of the lecturer/researcher, who could be seen as having an influence on their academic future. In addition, there are inherent problems with telephone surveys. Not only does this method restrict the sample to those with access to a telephone but the study reported 40% of students in the sample were either not home when called during the evening and at weekends or were no longer able to be reached by telephone.

Abouserie (1994a) investigated sources of stress in a general sample of university students in the UK in order to help students to cope with life stress and specific academic demands. He gathered relevant items identified by other similar studies and additional, more general, potential problems generated by a class of 30 students to formulate the 34-item Academic Stress Questionnaire (ASQ). The findings revealed that the most significant sources of stress were 'examinations and their results, 'studying for exams', 'too much to do', 'amount to learn' and 'need to do well (self imposed)' and 'essays or projects'. As with other studies the range of potential stressors is restricted to those gleaned from previous studies and/or a small group of students, arguably unrepresentative of the student population as a whole. In addition, the wording of many of the questions or items is very general in so far as they may have different meanings for different students. As a result this provides less informative data on the precise sources of stress, making it more difficult to target intervention where it is needed, e.g. 'conflict with peers' versus 'you are working in a group where the other students are poorly motivated' or 'essays or projects' versus 'being unable to find any relevant books for an assignment in the library'.

Research by Snape (1993), in the capacity of an external researcher identified sources of annoyance, rather than stress per se, for students attending eight colleges of further education in the north east of England. Annoyance, it could be argued, is just one of many emotional responses reported by individuals following a stress provoking encounter. The questionnaire contained items partly based on interviews with students who were asked "to describe what they considered to be the sources of annoyance occurring in college" (p. 30) and Snape's own experience within further education. The responses to the

questionnaires were factor analysed and four specific annoyance factors emerged. The first was associated with a lack of empathy from the lecturers, e.g. 'lecturers being unsympathetic to their (the students) view' and 'being singled out by lecturers in class'. The second factor was associated with the presentation and delivery of a lecture, e.g. 'lecturers who were perceived as not structuring their lessons'; 'lecturers not giving sufficient information' and 'lecturers who lacked a sense of humour'. The third factor was associated with other students interrupting the learning process e.g. 'other students being disinterested during a lecture'; 'other students making too much noise'; and 'other student affecting concentration levels'. Factor four contained items concerned with barriers to learning, e.g. 'lecturers being called away from the teaching session'; and 'lecture rooms being occupied by other groups'. Snape concluded that most of the sources of annoyance for students were related directly or indirectly to their lecturers in their role as teacher, a conclusion which was supported by the entries in daily logs.

The sources of annoyance identified by Snape were specific and unambiguous. The items provided a standard reference base which had a mutually understood meaning for all respondents and as a result the data provided a clear picture of the sorts of experiences students found annoying. A surprisingly large number of responses were related to or involved lecturers and this may have been the result of the request for students to focus on *annoying* experiences *in* college and/or being more able to disclose any problems or difficulties with staff to a researcher from another institution. This study identified a large and influential area of potential stress for students which is barely mentioned in previous research. Indeed Abouserie (1994a) places 'Conflict with lecturers' in the penultimate position at the bottom of a table of potential stressors and Dunkel-Schetter and Lobel (1990) do not identify difficulties which involved, or were seen to involve lecturers/teaching staff as a source of stress at all. Research which acknowledge academic concerns appear to focus on the students themselves and the difficulties they have coping with those demands (Beard, 1982; Zitzow, 1984; Tyrrell, 1992). One exception is a study by Cushway (1992) who was herself a trainee clinical psychologist when she investigated sources of stress within that population. She found 'poor supervision' was the most frequently reported stressor (37%), with the importance of this relationship being confirmed by the item 'talking to supervisor' being rated among the top five coping strategies.

Nevertheless, despite this study and the many studies which have identified, to a varying degree, potential stressors for students, few have taken this further to examine potential implications for learning and academic performance.

D. EFFECTS OF STRESS ON PERFORMANCE - STUDENTS

The actual transition from home to college or university provides a major source of stress for many new students. Fisher's studies of the stresses encountered by students in the United Kingdom and Australia making that transition and, in particular, the prevalence of homesickness are well documented (Fisher, 1989, 1990; Fisher and Hood, 1985, 1987, 1988; Fisher, Elder and Peacock, 1991). Although only 18-20% of subjects reported homesickness as a stressful problem in their first term away from home, this figure rose to 66% when they were asked to endorse the appropriate cell on a category rating scale. Homesickness, characterised by a frequent and overwhelming domination of attention by home-related thoughts, was found to have a profound and negative effects on psychological and physiological health with far reaching effects on academic performance. Sufferers had a greater number of obsessional and somatic symptoms and higher levels of depression, anxiety and absent mindedness (loss of concentration, poor attendance at lectures or handing in work late) than non-homesick subjects. Fisher (1994) argues that "this leads to a spiral of poor progress and increasing distress owing to perceived failure" (p. 46)

Variables affecting academic performance have been the subject of much research and include some studies which have identified stress as a predictor of success, either directly or indirectly. In a study Hinton and Rotheiler (1990) found that those students who experienced difficulties coping with stress, were not only more likely to be poorly motivated and suffer more psychosomatic ailments, but if the motivation was low, particularly determination / enterprise, this was related to a poor exam mark average. Stress was seen to have a more direct relationship with performance when the reported stress was as a result of perceived concentration and attentional problems as these were more likely to result in poor performance and high fatigue. Although research has confirmed that unfavourable (as opposed to favourable) stress is associated with poor performance (Linn and Zeppa, 1984), care should be taken to clarify whether deficiencies in attainment are caused by unfavourable stress in general, or whether some sources of stress are more influential than others. A further study investigating the relationship among several measures of interpersonal stress and the academic performance of third year medical students revealed that performance scores most strongly related to, and were best predicted by, education-related interpersonal conflicts. Indeed, the researchers suggested that "variables that are specific to the learning environment may be more useful in predicting student performance" (Spiegel, et al., 1986a, p. 931). Potter and Fielder (1981) also examined different aspects of interpersonal stress, and found stress resulting from the high expectations of parents and academic instructors lowered intellectual performance, whereas stress resulting from interactions with peers and the company officers did not. They concluded by stating "efforts to understand the relationships between stress and job performance must take into account the nature of the stressor and not assume that stress arising from different sources will have the same effect on

performance" (p. 696). It is apparent from these findings that some sources of stress are more influential than others in predicting academic performance, with those pertaining to the learning environment being most useful in this respect.

Performance scores might be considered the end point in a learning process, the intermediate stage being when the student is gathering, assimilating and evaluating knowledge prior to an exam or test. Do students perceive any negative affects on their learning at this stage in their academic development as a result of stress?

Snape (1993) attempted to address this issue when he identified sources of annoyance occurring in a college for further education students. The students were asked to indicate, using a four-point scale, if a potentially annoying incident would, or did, affect their learning. A factor analysis was carried out on the responses and three factors emerged, which Snape referred to as, "affectors of learning" (p. 32). The first factor was associated with the lecturers' teaching methods and contained many items identified as causing annoyance, e.g. 'lecturers who fail to answer questions satisfactorily'; 'lecturers who didn't explain properly' and 'lecturers who did not explain what they wanted of the students'. The second factor was associated with lecturers' attitudes, e.g. 'lecturers who make you feel inferior'; 'lecturers who criticise you in front of others', and 'lecturers who are authoritarian' all indicating a desire to be treated as equals. The final factor was associated with interruptions to learning and suggested a willingness to learn despite being thwarted by for example, 'being sent on errands'; '(practice) fire alarm going off in the middle of a lesson', and 'lecture rooms being occupied by other groups'.

Daily logs were also used to gather qualitative information on how students perceived the effects of these annoying incidents on their learning. These entries supported Snape's suggestion that there was a desire to learn, which was reflected in entries referring to lecturers arriving late, lecturers finishing lessons early and lecturers not arriving at all. The effects on the students' learning were described in the diaries in terms of, 'not doing as much work as I would have liked'; 'missing whole session'; 'a waste of time'; 'learnt nothing', etc. From the results of this study there is little doubt that many students see their lecturer as a guide and facilitator to their learning and incidents such as those reported above appear to have had a negative affect on the learning process of the students involved. Although it is useful to quantify these perceived effects, this does not explore the process by which they actually affect learning.

It is evident from these studies that stress can act as a direct influence on performance with regards to concentration and attentional difficulties and indirectly in terms of lowered motivation to perform to potential. In addition it seems that some stressors are more influential than others in terms of degraded performance, particularly those relating to the learning environment. Although Snape's research may have had a narrow focus on

this aspect of college life, his findings revealed that the students' relationship with the teaching staff can be an influential yet problematic area and is one which has been relatively unexplored. For that reason it would be productive when formulating an inventory measuring the extent of perceived stress to use methods which ensure the inclusion of as broad a range of potential stressors as possible.

7. STUDENT LEARNING

Prior to 1975 very little was known about the process of student learning. This was despite the extensive research investigating the relationships between entry qualifications, abilities, personalities, motivations and study habits with degree performance. The pioneering work of Ference Marton (1975) and his colleagues in Sweden, stimulated a research interest to understand learning from the student's own perspective (Entwistle, 1981, 1982).

In two 5 year research programmes at Lancaster university spanning 13 years, Entwistle and Ramsden (1983) used a combination of interview and psychometric data to build a comprehensive description of student learning which attempted to explore both individual and contextual or environmental influences.

The first research programme aimed to identify factors associated with a student's success or failure at university. In line with data from interviews with students, correlational and factor analysis, revealed three distinct patterns of characteristics which were found, to varying degrees, to relate to academic success. The first group of students tended to have higher levels of ability, motivation and conscientiousness but tended to be competitive, unemotional and asocial. The second group was almost the exact opposite of the first group, suffering self doubt and fear of failure, yet were achieving above average marks through seemingly working long hours and sticking closely to the requirements of the course. The final group also appeared to work very hard but had their own individualistic ways of working. In addition they showed aesthetic interests and tended to hold radical views. The differences between the competitive, self-confident students, distinguished by their 'hope for success and the apprehensive, yet very industrious students plagued by their 'fear of failure' was evident in the interviews, particularly with regards to examinations.

The second research programme aimed to examine the strategies students use to learn and to determine the extent to which this reflected the effect of teaching and assessment demands rather than relatively stable characteristics of the individual learner themselves. Following on from the work of Marton (1975), which identified the adoption by students of a surface or deep approach to learning when reading an academic text, Entwistle and Ramsden (1983) aimed to extend these findings to explore student learning in a broader context across a range of tasks in their natural setting. Besides broadening Marton's two categories, the researchers introduced a third approach to learning. The deep approach is defined "by an intention to seek understanding" (Entwistle, 1987, pg. 17), the surface depends on "reproducing what is thought to be required" and the third

approach which is more strategic and, "involves the intention to maximise grades partly by the systematic management of time, effort and study conditions - but also by the manipulation of the assessment system to the student's own advantage" (see Table 1).

This third approach is credited to the findings of a study by Miller and Parlett (1974) who during interviews with students identified markedly varied perceptions of assessment procedures. Some students saw success as being down to their own knowledge and effort, whereas others saw benefits to being able to predict exam questions and pick up cues from lecturers as to what the important issues/topics were for them to learn for their exams/assessments.

Table 1: Defining features of approaches to learning (from Entwistle, 1987)

<p>DEEP APPROACH</p> <ul style="list-style-type: none">- Intention to understand- Vigorous interaction with content- Relate new ideas to previous knowledge- Relate concepts to everyday experience- Relate evidence to conclusions- Examine the logic of the argument <p>SURFACE APPROACH</p> <ul style="list-style-type: none">- Intention to complete task requirements- Memorise information needed for assessments- Failure to distinguish principles from examples- Treat task as an external imposition- Focus on discrete elements without integration- Unreflectiveness about purpose or strategies <p>STRATEGIC APPROACH</p> <ul style="list-style-type: none">- Intention to obtain highest possible grades- Organise time and distribute effort to greatest effect- Ensure conditions and materials for studying appropriate- Use previous exam papers to predict questions- Be alert to cues about making schemes
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It was found from interviews that students tended to use an approach to learning across a range of academic tasks which led the researchers to propose that to describe a particular approach as a characteristic of the individual was justified.

It is important to note that while the deep approach tends to have a higher degree of status compared to the other two approaches, Entwistle (1987) has found it may not be the best for all students in all circumstances. He argues that if there is a deliberate attempt to use it when there is not the time to do this properly, this may result in what he terms

"improvidence", which is when one collects facts without developing an overview, or "globetrotting", i.e. coming to a conclusion which is not based on evidence.

One of the aims of the second programme of study at Lancaster was to investigate various correlates of approaches to learning. The most consistent and prominent correlates were the contrasting forms of motivation. The earlier study had highlighted the difference in the study methods between students who 'hoped for success' or 'feared failure'. Intrinsic motivation (learning out of interest) facilitated deep or organised approaches, while fear of failure and extrinsic motivation (learning geared to vocational qualifications) were associated with a surface approach. Hope for success was related to a deep approach, but more strongly with being strategic in studying.

A finding from an earlier study by Entwistle and Wilson (1977) illustrated how personality was a factor in the type of study methods chosen by students. Stable introverts had more organised study habits, worked longer hours and obtained a better degree classification on average than unstable extroverts. However when an extrovert is well organised and has high achievement motivation they will be as successful academically as the stable introverts.

As has already been stated, Entwistle and Ramsden aimed to explore how a student's approach to learning is influenced by contextual factors. Despite the finding that students tend to have their own characteristic way of studying which is consistent across a range of academic tasks, Laurillard (1984) has stressed that perceived assessment demands affect a student's problem solving skills as much as the content of the task itself. In addition, Fransson (1977) demonstrated that students attempting to learn in a situation perceived as threatening would tend to adopt a surface approach. Therefore, the perception of the learning environment can be considered another individual difference. However, Entwistle and Ramsden considered that if the perceptions of a whole class were averaged this could provide a useful indicator of the learning context.

The influence of lecturer and departmental characteristics on approaches to learning were investigated in terms of students perceptions. Ramsden (1981) showed that students in departments considered to have 'good teaching' tended to have higher scores on deep approach to learning and intrinsic motivation. He provided a description from interview data which included "a lecturer's ability to pitch material at the right level, maintain an appropriate pace and provide clear structure". A good relationship between student and staff was also seen as important in order to anticipate potential difficulties and to provide sympathetic and prompt feedback on assignments and help with problems. The greatest contribution a lecturer could make to lectures was seen as providing the connections between the content of the lecture and the student's understanding of the world around them. Of course, what a student perceives as good teaching will depend on their own view

of learning. A student wishing to understand will appreciate a different type of teaching to a student who wishes to reproduce information without any major intellectual demands.

The influence of departmental organisation on the students learning strategies can be seen most clearly when examining assessment procedures. One interesting example of this was described by Gibbs (1981) where students on a psychology course were not following the requirements of the course and covering the recommended background reading. Talking to the students revealed that most of their time was taken up writing psychology practical reports, the marks from which were perceived as having a substantial effect on their end of year grades. Gibbs concluded that the students were strategically allocating time / effort in order to receive the greatest "pay off". The Lancaster study also found quality of feedback, particularly on coursework, type of learning materials provided, where detailed handouts were seen to foster dependency, and the lack of freedom over the choice of content and methods of studying as influential in the approach a student takes to their learning.

It appears from the literature that students will adapt their preferred learning style to their concept of what is required of them. If the examination requirements are seen by students to predominantly demand the recall of factual information then they tend to adopt a surface-level or rote-learning approach. Despite this being seen by universities as undesirable, several studies have shown that final degree examinations often require little more than the recall of factual information (Beard and Senior, 1980)

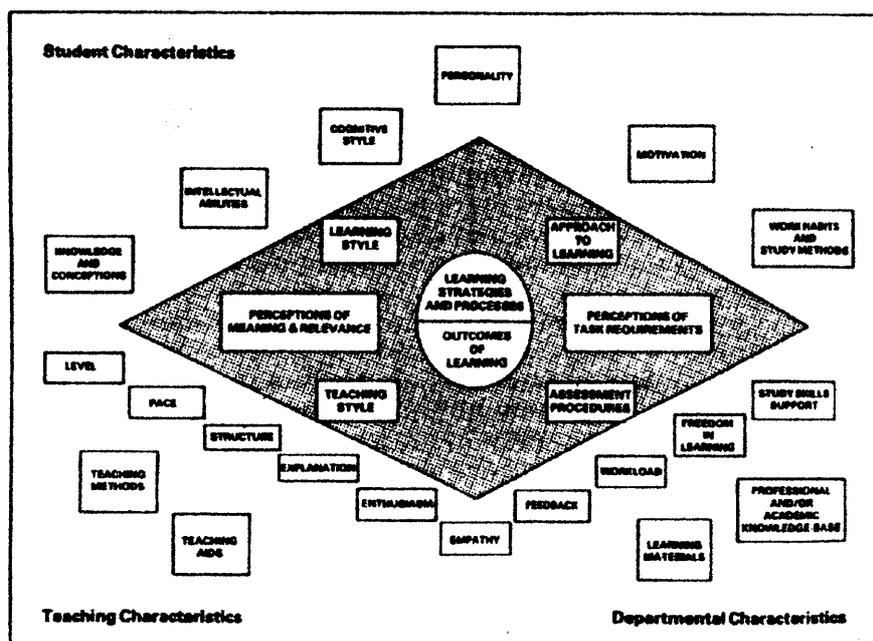
The following study clearly illustrates how the characteristics of the educational context can influence the approach a student takes to their learning. Newble and Clarke (1987) undertook a comparative study of two very different medical schools at universities in Australia. The first offering a six year course, at the university of Adelaide, was considered a traditional school with entrants, mostly direct from school, being selected on the basis of matriculation results. Teaching was heavily dependent on lectures, tutorial and ward work with assessment largely based on end of course examinations, ward ratings and an objective structured clinical examination. The second, at the university of Newcastle in New South Wales was seen in contrast as an innovative school. They offered a five year course, with half the entrants gaining a place on the basis of matriculation results and half, usually older more experienced entrants, through written tests and interview designed to assess intellectual and personal qualities. The curriculum was problem-based in that the students were required to confront selected clinical problems and acquire the relevant basic and clinical skills necessary to deal with them. Work was done predominantly in small groups or independently. Achievement was assessed annually, using a range of instruments to measure diagnostic and/or management skills and the ability to apply basic scientific knowledge. Observed patient interviews / examinations, an oral examination of clinical problem-solving skills and an evaluation of

research papers also formed part of this annual assessment. The results of this study show a marked difference between the responses of students from the two schools. Overall the approaches used by the Newcastle students rated high on the deep approach and very low on surface approach. Adelaide students, on the other hand, had less desirable attributes. They rated high on surface approach, although their initially low scores on the deep approach increased in later years. The researchers were not able to pinpoint the components of the environment which were most influential as the two medical schools differed in the areas of curriculum, teaching methods, assessment and staff/student relationships. It is possible that all were likely to contribute in some way.

The evidence presented here seems to suggest that, on the whole the attributes which characterise the deep approach are those which should be encouraged and fostered in higher education. It is therefore of considerable concern that the context within which learning takes place may be actually be inhibiting students from ever achieving these attributes.

The model presented below provides a summary of research findings of the teaching-learning process in higher education. Although the model does not attempt to establish or demonstrate a precise relationship between the components it does provide a starting point for discussion of the likely effects of teaching or departmental policy on students with differing characteristics.

Figure 5 : A heuristic model of the teaching-learning process in higher education
(Entwistle, 1987)



The central core of the model contains the learning strategies and processes which then lead to a variety of learning outcomes which can be observed. Style of learning and approach to learning are concepts which are closely linked with those strategies, processes and outcomes. Learning style is seen as being an expression of the more stable components of personality and cognitive style. A student's approach to learning, however, as has been emphasised by the research described here, is more influenced by personal motivation to study as well as on the degree, the direction and the quality of that effort (Taylor, 1983). The model shows how teaching style and assessment procedures filter through the students' own unique perceptions of meaning and relevance which are products of personality and intellectual characteristics as well as previous academic and personal experience. The heuristic model encapsulates the three-way interactions between students, teachers and departments irrespective of academic discipline.

The aspects of learning which this research is most concerned about are those where stress would seem to have the greatest impact. Self report measures which assess the extent to which students perceive their learning would be, or has been, affected as a result of stressful situations are seen as a first step to addressing this concern. Gaining an understanding of the affective, cognitive and behavioural responses students make following a stressful encounter should serve to illuminate which components within Entwistle's heuristic model of the teaching-learning process are particularly vulnerable to the effects of stress and whether there are further components which might be added to provide a fuller picture of the learning environment.

SUMMARY

Although the word stress is an umbrella term, used to simply describe a universally common and pervasive experience, the literature appears to provide no one agreed definitive definition of this term. Basic definitions assume that stress is caused by factors in our environment, or that it can be defined in terms of certain physiological responses. More recently the models have become more sophisticated and now include cognitive appraisal as an important element in the perception of stress. Although researchers have tended to emphasise those aspects of the definition that best suit their particular focus of research, it is now generally accepted that stress is a process, a subjective experience, dependent on the person and the situation and existing when an individual says it does. It is clear that current research recognises that personal factors, such as physiological reactivity and personality characteristics, will affect the appraisal of a potentially stressful situation. This appraisal will also be influenced by situational factors which may be intensified if there is little or no social support available and/or little or no control over events. In this study stress will be defined as a particular relationship between the person and their external or internal environment that is *appraised* by the person as taxing or exceeding his or her resources and endangering his or her psychological and/or physical well-being (Lazarus and Folkman, 1984. p.21). This definition incorporates how stress is a dynamic process between the person and their environment, the person's perception or cognitive appraisal of the situation and the proposition that stress is only perceived when demand is seen to exceed ordinary adaptive capabilities and is accompanied by a subjective emotional experience. In line with current thinking, the important issues of exploring the precise source of potential or actual stress, and investigating an individual's affective, cognitive and behavioural responses, will be addressed. In line with previous research, this investigation will aim to capture and measure the subjective interpretation that individuals makes of a potentially stressful event, regardless of the what others would see as the 'facts' of the situation, particularly in terms of their learning experience. The focus will clearly be on the students and their perceptions rather than using other methods of inferring levels/sources of stress, such as absenteeism, use of counselling services, frequency of ill health/visits to doctor, grade point average and/or the views of the academic/college staff.

Although a causal link between stress and health is a contentious issue, the evidence strongly supports the view that stress does increase behaviours that can put health at risk, such as smoking, alcohol and drug use. Furthermore, stress produces changes in the body's physical systems which may result in damage to the heart and blood vessels and deficiencies in immune functioning. The evidence is compelling that stress in the workplace has a direct impact on employees' physical and psychological health, which in

turn affects the levels of morale, performance and staff turnover and the ultimate profitability of an organisation.

Research to identify sources of occupational stress are prolific, and studies which focus specifically on the effects of stress on specific aspects of performance at work are increasing in number. With regard to the academic world, there is no doubt that it is undergoing massive changes. In addition to the Education Reform Act (1988) and the Further and Higher Education Act (1992), the old binary line between universities and polytechnics has been abolished to create a single sector of higher education, where the old polytechnics are self validating with the right to use university titles. Academic staff are now under greater pressure to balance the ever increasing demands from students, research and administration with their lives outside the university or college. The rise in student numbers, without a corresponding rise in the number of staff, undoubtedly leads to many lecturers being unable to nurture and support students as they feel they should, as there are not enough hours in the day to make this logistically possible. Although stress experienced by lecturers seems to have an effect on their students' learning, how and to what extent remains largely unexplored.

The learning strategies and processes a student uses and, as a result, the outcomes of learning have been shown to be dependent upon the interaction between the student's characteristics and those of the department and the teachers. It is a dynamic relationship where deficiencies or benefits affecting one component will impinge on others within the teaching-learning process. Understanding the way students respond when they encounter difficulties would serve to clarify the relative importance of these components and the relationship they may have with one another.

There is a need for research which a) identifies the precise sources of perceived stress for non-specific students in higher education in the UK, b) assesses the influence of biographical and personality variable in the appraisal of stress, c) assesses the extent of the perceived effects (positive or negative) of stress on the learning process and d) explores those effects from the students' perspective. The purpose of this study is to address these issues to enable strategies which minimise any adverse effects of stress to be formulated and implemented.

CHAPTER THREE : METHODOLOGY

1. DATA COLLECTION

There are a number of ways in which the data for this study could have been collected. The research questions aimed to provide a description, exploration and explanation of students' perceptions of stress and its implications for learning, and given the purpose of the study, and the nature and range of the research questions, a methodology had to emerge which would enable the collection of suitable data.

A quantitative design, concerned with the measurement of magnitude, size or the extent of a phenomenon, and with the statistical analysis of the data gathered, was considered to be the most appropriate for collecting information from a large number of students to address research questions 1-5. This method is used when a high degree of precision, reliability, generalisability and control over extraneous variable is required. Many studies which have aimed to identify stressors within the college environment have used for example, questionnaires, either distributed directly by hand or by post (Beard et al., 1982; Zitzow, 1984; Snape, 1992; Tyrrell, 1992) or used during a structured telephone interview (Dunkel-Schetter and Lobel, 1990). This data would be amenable to analysis using descriptive and inferential statistics. In addition it would be useful in identifying / quantifying general (and generalisable) trends / attitudes and opening up new areas of investigation. However, these results may be considered superficial as they fail to capture the complex human experiences, behaviour and characteristics in the analysis. Nevertheless the quantitative method was seen as effective in identifying provisional indicators which could then be followed by a method of data collection which would include the context surrounding a students response and the students' own, and perhaps unique, perception of the situation.

A qualitative design is one in which the researcher collects and analyses more subjective, narrative material and attempts to view, in this case, perceived stress and its effect on learning, through the eyes of the students themselves. This type of research design is more appropriate when asking research question 8. This method of data collection tends to generate large quantities of narrative data from semi-structured or open interviews and for this reason it is often seen as impractical and expensive to use on a large sample. However, as a result of obtaining the data from a smaller, more manageable sample, the extent to which the findings are generalisable to other students may be questionable. Nevertheless, the limitations can be offset by the insights gained from this material and from incorporating quantitative data. Qualitative research can be seen as enhancing other kinds of research, enabling a more comprehensible account of statistical measures. The

complimentary nature of quantitative and qualitative methods was recognised at the end of the last century by the social scientist, Charles Booth, "... the facts and figures may be correct enough in themselves - but they mislead from want of due proportion or from lack of colour" (as quoted in Simey and Simey, 1960, p. 78). In addition to providing colour, qualitative data can make a special contribution to an understanding of what it is actually like to be a student experiencing the stresses of everyday college life. When doing research which investigates stress from this subjective perspective, it is necessary to consider the nature of the questions being asked and to be flexible when adopting particular research approaches. The consideration of a wide range of research methods was forcefully advocated by Trow (1957), "Let us get on with the business of attacking our problems with the widest array of conceptual and methodological tools that we possess and they demand" (p.35).

Researchers who have cut across the usual method boundaries between qualitative and quantitative methods include Llewellyn (1981) and Graham (1984). They added small scale in-depth studies of women onto large survey research projects in an attempt to explore more fully the experiences of women. Other more recent examples of studies that have combined qualitative and quantitative data include Sohler (1988) who used questionnaires, records, scales, interviews, observation and diaries to explore how a child's psychosocial identity developed within the context of the family, and Laffrey (1990) who combined questionnaires, scales and semi-structured interviews to investigate whether adults with chronic disease develop a different pattern of health behaviour compared to healthy adults. These studies reflect an emerging trend to integrate quantitative and qualitative methods of data collection within a single study or related studies, counterbalancing the weakness of one method with the strengths of another. Therefore, following careful consideration, a combination of quantitative and qualitative methods was adopted as being the most appropriate strategy to address the research questions posed by this study.

2. FORMULATION OF THE STUDENT STRESS QUESTIONNAIRE

As has already discussed in the literature review, stress is a dynamic process between the person and their environment, with an external event or an internal thought being perceived as stressful only when demand is seen to exceed ordinary adaptive capabilities and is accompanied by a subjective emotional experience. An individual's cognitive appraisal will depend on a unique orchestration of personal and situational factors which can vary with every exposure to the same source of stress and accessible only by asking the person directly. An important feature of this questionnaire would be to capture and measure subjective rather than objective stress, i.e. how stressful each respondent perceives a particular event to be. In terms of validity and reliability, provided that the event has a clear, mutually understood meaning to each respondent, this measure can be seen as valid and accurately reflecting their perceptions of the situation. Furthermore, when a large number of these perceptions are obtained from a representative sample, common sources of stress within the surveyed institution are identified. As a result, the level of reliability increases, as does the extent to which generalisations can be made to other students within the institution. It was on this basis of the above considerations that the literature was reviewed for a suitable existing measure.

Previous research investigating the sources and extent of stress for various student groups have used a variety of measures. As the number of studies are few there are, as a consequence, very few measures of perceived stress and those which are available have limitations which make them unsuitable for the present study. On the whole questionnaires, inventories and scales have been formulated by incorporating/adapting stressors derived from the work of other researchers via what is referred to as 'a review of the literature' (Zitzow, 1984; Carmel and Bernstein, 1987; Vitaliano et al, 1988; Dunkel-Schetter and Lobel, 1990; D'Zurilla and Sheedy, 1991; Farne et al. 1992).

A number of researchers have selected relevant items from a) existing services of a university counselling service (Beard et al., 1982), b) standardised scales, such as the Perceived Stress Scale (PPS) (Cohen et al. 1983), c) a combination of standardised scales and a review of the literature (Zitzow, 1984) or d) a combination of literature review/standardised questionnaires and further items gleaned from varying numbers of their own students (Linn and Zeppa, 1984; Dunkel-Schetter and Lobel, 1990; Reifman and Dunkel-Schetter, 1990; Abouserie, 1994ab). The process of using existing literature/standardised inventories as the prime source of material used in a questionnaire may fail to identify important sources of stress, specific to the target population. In addition, when researchers use their own students as sources of material the issue of anonymity may arise and students may feel reluctant to divulge what they really think the sources of stress are.

Cecchini and Friedman (1987a) developed two 'stressor' scales, for two different dental hygiene classes from stressors gathered from a pilot study of chance selected dental students. These items were then judged for relevancy by three instructors before being shown to twelve dental students, six from each target group, who were asked if the items on the scales expressed what was intended. There was no details given as to the number or type, if any, of items selected in or out by the instructors. Again this may be seen as an censoring of possibly valid items by individuals outside the target population.

When looking at areas of stress in a US university campus environment Beard and her colleagues (1982) developed a survey questionnaire compiled by counselling staff which aimed to assess the extent of students needs in 20 broad areas of known potential stress. The questionnaire would have only contained those general problems which had been presented to the counsellors at their centre and may have omitted novel or specific stressors experienced by students unable or unwilling to visit a counsellor.

Crandall, Preisler and Aussprung (1992) developed an undergraduate stress questionnaire (USQ) to measure life event stress in the lives of college students in the United States. Items were drawn from undergraduates who generated a list of stressful life events ranging from major life crises (e.g. death of a parent) to minor daily hassles (e.g., sat through a boring class). A panel of students also nominated life events which could be considered stressful. These items were rated by the nominators and other students for their commonness and severity. These included items regarded as potentially embarrassing which were contributed anonymously. When the researchers administered their questionnaire they were consistently told by respondents how well the USQ had represented the stress in their lives, thus endorsing the method of going directly to the target population for nomination of stressful life events.

A similar method of questionnaire formulation was adopted in part by Delia Cushway, a post graduate student in clinical psychology at the university of Birmingham (1992). Fellow trainee clinical psychologists were asked to brainstorm stressors which were added to items chosen from other self-report stress surveys intended for other trainee health professionals. Being a fellow student the possibility of colleagues being reluctant to divulge problematic experiences relating to their supervision/teaching etc. was reduced, i.e. poor supervision was the most frequently reported stressor (37% of trainees reporting this difficulty).

The technique of using material gathered from a group within the target population has also been used by Spiegel et al. (1986b) to formulate a 99 item inventory measuring interpersonal stress from 377 conflict situations identified by 91 volunteers. Snape and Cavanagh (1993) regard the development of a questionnaire from interview data to be a

valuable technique as assumptions about populations under investigation have often been taken for granted. They raise important methodological concerns regarding the use of published literature as the prime source of material used in the formulation of a questionnaire. They argue that this process may fail to identify important sources of perceived stress which are specific to the target population, who are, in the current research, students within a particular college of higher education.

Following a review of related studies of student stress the benefits of gathering a broad range of stressors from students representative of the target population were apparent. This would provide a pool of institutionally relevant experiences from which to identify common sources of perceived stress for all full-time students within a college of higher education in the UK. In addition the scales/questionnaires/inventories used to measure the intensity and the extent of stressors would be written in such a way as to ensure a communality of meaning across respondents and those interested in the findings of this study. It should be possible for the results of this research to convey, to college administrators/staff, exactly what students perceive as hindering or helping their academic progress.

The comments provided by the students, and therefore the items in the pilot questionnaire upon which they are based, came from the students themselves under conditions of total anonymity and, as such, provided a wide range of experiences. It was the intention not to limit the items to those obtained from a) the subjective experiences of the researcher, b) an easily accessible, yet unrepresentative group of students, such as psychology students and/or c) a review of the literature, i.e. those identified by other researchers, who may or may not have been the students' lecturer.

A. INITIAL EXPLORATORY MEETINGS WITH STUDENTS

SAMPLE

In order to gather representative material to formulate a pilot questionnaire containing a broad range of potentially stressful experiences, a large sample of full-time students from across the institution were canvassed for their experiences.

As a first step to obtaining a representative sample of full-time students to contact, a letter was written to all 13 heads of schools, introducing the researcher and setting out the aims of the project and informing them of the immediate intention to contact fifty nine heads of departments/course leaders to draw up a list of lecturing staff who tutor 1st, 2nd and 3rd year full-time students. A contact number for any problems or queries was

included. (Appendices I and II for letters to heads of school and course leaders). In addition to a letter, the 13 heads of schools were visited to give them an opportunity to ask any questions they may have had regarding the research and to ensure they were fully informed as to the role they would play in the distribution of questionnaires, as and when necessary. From the information gained from the course leaders, a random selection of thirty five tutors from across schools and academic years was made in order to ensure that the views of a representative cross section of 1st, 2nd, 3rd and, in some cases, 4th year students was obtained. In order to keep these views anonymous to encourage honesty on the part of the student, they were not required to divulge their name, age, gender or course. As a result, these details are not available for this stage of data collection.

Tutors were contacted and with their permission their group/classes (without the tutor present) were visited at the end of the first term, with the exception of two groups, one of which was visited early in the second term. The other group was not visited by the researcher as discussions with course leader had revealed that the BEd students were seen by their tutors individually. Therefore, in order to obtain a sample comparable in number to other courses visited, a systematic sample of every 10th name was taken from the lists of all students (1st - 4th year) on the BEd notice board (n=24) and each student was sent an individual letter and reply envelope (Appendix III).

PROCEDURE

During the visits to the group/classes, usually lasting 10-15 minutes, the nature of the project was explained and students were then asked to write down on the paper provided, incidents that had happened to them as students that had left them feeling frustrated, annoyed, angry or upset. It was the intention to make the question as broad as possible so as not to restrict or inhibit replies. To encourage complete honesty they were told that they would not have to write their names or course on the paper provided and they were assured that all replies would be totally confidential and seen only by the researcher. The students were told that their responses would form the basis of a pilot questionnaire, which would investigate how other students perceived the incidents they were reporting and how often they were being experienced.

In total 190 full-time students from across the institution were canvassed. The experiences (866) gathered from these exploratory meetings covered many aspects of student life and were organised into categories as presented in Table 2 overleaf.

Table 2: Exploratory Meetings with Students: Responses organised into categories

Number of Student Participants: 190			
<u>Category</u>	<u>No. of responses</u>	<u>% of responses in category</u>	<u>% of sample having this concern</u>
Academic work issues	173	(20%)	91.0
Lecturers	141	(16%)	74.2
Finances	130	(15%)	68.4
Personal	83	(9.5%)	43.7
Facilities	78	(9%)	41.0
Resources	60	(7%)	31.6
Accommodation	41	(4.7%)	21.6
Other students	41	(4.7%)	21.6
Transport	31	(3.6%)	16.3
Lectures	26	(3%)	13.7
Placements	23	(2.5%)	12.0
College organisation	16	(1.8%)	8.4
Miscellaneous	13	(1.5%)	6.8
Expectations	6	(0.7%)	3.0
Child Care	4	(0.5%)	2.0
TOTAL	<u>866</u>		

Similar experiences were reported by many students, particularly with regard to finances and work issues, i.e. reporting either having ‘a lack of money’, being in ‘financial difficulties’ or ‘unable to clear workload’.

3. THE PILOT STUDY

The aims of the pilot study were, a) to identify those experiences which were considered by the majority of students or specific groups of students to be *most* stressful and use these experiences to formulate a questionnaire for the main study, b) to ascertain the frequency of such experiences and c) address any problems with questionnaire design. In order to address these aims and gain a broad overview of issues that were important to students, a predominantly quantitative methodology was adopted.

The pilot study was undertaken using the data obtained from a cross section of students at a single point in time. This method of data collection is practical, relatively easy to administer and economical. Although it is not possible to infer changes or trends over time, such data is useful for providing a snapshot of the sources, the extent and the general perceptions of stress within the student population.

SAMPLE

In order to obtain a representative sample of all full-time students across the college to receive the pilot questionnaire, and have sufficient numbers comparable to other similar pilot studies (Zitzow, 1984; Snape, 1988; Dunkel-Schetter and Lobel, 1990; Tyrrell, 1992), one course was randomly sampled from eleven of the thirteen schools at the college.

Table 3 : Courses receiving Pilot Questionnaire

	<u>Potential number of students on course</u>
SCHOOL OF HISTORICAL AND SOCIAL STUDIES	
3rd year History	51
SCHOOL OF HEALTH AND LIFE SCIENCES	
2nd year Human Biological Studies	60
SCHOOL OF LEATHER TECHNOLOGY	
1st year Leather Technology	18
SCHOOL OF ENVIRONMENTAL SCIENCE	
3rd year Environmental Biology	12
DEPARTMENT OF BUILT ENVIRONMENT	
1st year HND Building Studies	70
DEPARTMENT OF ENGINEERING AND TECHNOLOGY	
1st year HND Computer Systems	35
DEPARTMENT OF ART AND DESIGN	
2nd year HND Graphic Design	70
SCHOOL OF INFORMATION SYSTEMS	
1st year Accountancy Foundation	14
SCHOOL OF BUSINESS	
2nd year LLB	40
TOTAL NUMBER OF STUDENTS ON COURSES:	370

However, following further investigation into the large numbers of students on these courses, two courses were randomly removed from the sample due to a shortage of time for processing the data. This left a potential sample of 370 students, four first year, three second year and two third year courses as shown in Table 3.

INSTRUMENT

An initial pool of 866 comments or incidents were collected from a total of 190 full-time students and within this pool many were found to be of a very similar nature. In these cases general descriptions were written which were broad enough to subsume several similar incidents and the information was condensed into 309 core incidents which formed the basis of the pilot questionnaire (Appendix IV).

These items, which best represented the views of the students canvassed, covered fourteen areas of concern, which can be seen in Table 4.

Table 4: PILOT QUESTIONNAIRE: Items organised into categories

<u>Category</u>	<u>No. of items in category</u>
Lecturers	61
Academic work issues	40
Personal	36
Other students	30
Finances	29
Lectures	27
Facilities	21
Accommodation	17
Resources	16
Miscellaneous	12
Child Care	7
Transport	6
College organisation	6
Placements	1
<u>TOTAL</u>	<u>309</u>

The general layout of the pilot questionnaire was based on that used by Snape (1993) and in association with Cavanagh (1993). The layout of the questionnaire in these studies was clear, concise and easy to follow and was confirmed in feedback from respondents.

In order to address the tendency of some respondents to avoid extremes on larger rating scales, while others use them frequently (Kline, 1993), students were asked to rate, on a four-point scale, how stressful they would consider the incident to be, had it actually happened, for example, not at all (1), just a little (2), moderately (3) or very stressful (4). They were also asked to rate the frequency of the incident, again using a four-point scale, for example, never, rarely, sometimes or often. The purpose of providing an even four-point scale, rather than one with an odd number of options, was to avoid the tendency to choose a neutral mid-point option which forces a more informative response in one of two

directions (Zavala, 1965). If the incident was deemed to be totally irrelevant to the student, for example it related to child care and they were not responsible for a child, then they were instructed to put a line through the item. For any student not able to complete their questionnaire, they were given an envelope with instructions to take the completed form to the reception area at one of the two college campuses. After lengthy consideration and discussion as to whether inducements may influence who would actually complete and return their questionnaire, whether this would have implications for the reliability of the data and the ethical consideration of offering the chance of financial gain to a subject group notoriously short of money, it was decided that it would be reasonable to offer the chance to win £25 worth of book tokens to encourage a good response rate. Tedin and Hofstetter (1982) found that including a small monetary incentive was a productive and cost-efficient method of yielding a greater response rate and, as this was a single one-off mailing to students, without any prenotification, follow-up or personalised letter, it was seen as a necessary option.

Nine heads of schools were visited, a) to show them a copy of the pilot questionnaire, b) to inform them of the courses within their schools to be targeted and c) to discuss how they could facilitate the distribution and completion of the pilot and a later main study questionnaire. It was agreed during the discussions that the researcher would be responsible for distribution, administration and collection of the questionnaires, with the heads of school contacting the appropriate members of staff to arrange access to the students. A total of 237 pilot questionnaires were distributed by hand by the researcher to the students, with most being able to complete the task immediately during the lecture/seminar session in the presence of the researcher, thanks to the co-operation of the academic staff.

ANALYSIS OF PILOT STUDY DATA

From a total of 237 questionnaires distributed to students on target courses, 173 useable questionnaires were collected or returned, constituting a response rate of 73%. Table 5 shows the biographical profile of respondents. It is important to note that many of the full-time HND (Higher National Diploma) courses do not have a third year, with some of the management and business courses offering a year out in industry after the second year which may account for the skewed distribution of the sample (see Table 5 and Table 3).

Table 5: Pilot Questionnaires: Sample of Respondents

MALES 102 (59%)			FEMALES 70 (40%)		
17-21 yrs. 74 (42%)	22-30 yrs. 19 (11%)	31+ 8 (4.6%)	17-21 yrs. 51 (29%)	22-30 yrs. 9 (5%)	31+ 10 (6%)
FIRST YEAR 74 (42%)		SECOND YEAR 60 (35%)		THIRD YEAR 37 (21%)	
Gender Unknown		1 (0.5%)			
Age/Year Unknown		2 (1%)			
TOTAL SAMPLE: 173					
RESPONSE RATE FROM 237 QUESTIONNAIRES: 73%					

106,927 points of data were entered onto the SPSSX statistical software package. The analysis of the data from the pilot questionnaire produced descriptive statistics which included the mean stress/frequency rating for each of the 309 items and percentage distribution for each of the four-points on the rating scale. All items were ranked in order of mean perceived stress rating. The highest rated 100 *general* items (<10 students responding to item as 'irrelevant' in the pilot questionnaire (n=173) and therefore salient to more than 94% of the sample) and 39 *specific* items (relevant to particular groups of students, e.g. those with children/transport etc.) were included in the main 'stress/effect on learning' questionnaire (Appendix VIII).

The experiences contained in the pilot questionnaire perceived as most stressful by the majority of students covered issues relating to the attitudes and behaviour of lecturers, academic work, other students, resources, organisation and personal circumstances. Those issues which were perceived as most stressful by particular groups of students were related to exams, transport, finances, partners, rented accommodation, child care and placements (see Table 9)

The layout of the pilot questionnaire proved easy to use with the wording of items being reported as clear and comprehensible. Internal consistency of the perceived stress scale using coefficient alpha (Cronbach, 1951) was determined as 0.9838. In addition, unequal length Spearman-Brown split half reliability for 319 items was calculated as 0.9317.

4. THE MAIN STUDY

The aims of the main study were, a) to identify those experiences that were considered by the majority of students or specific groups of students to be most stressful, b) to identify those experiences that were considered by the majority of students to have the greatest potential effect on learning, c) to assess perceived stress from different perspectives, using the variables of age, gender, year of course and personality and d) to explore in depth, how these experiences were specifically affecting learning from the students perspective. A combination of quantitative and qualitative data /analyses were used. Both cross sectional and longitudinal designs were employed to gather data via stress/effect on learning questionnaires, student diaries and semi structured interviews.

A. THE 'STRESS AND EFFECT ON LEARNING' QUESTIONNAIRE

SAMPLE

A random sample was taken from those 82 full-time courses not targeted for the pilot questionnaire or the diaries (see Appendix XI for details of all targeted courses). During this process, an estimate of the potential number of questionnaires needed was calculated in order be comparable with other similar studies and to stay within time constraints. A total of 33 courses, with potentially 2,100 full-time students, were randomly selected to receive the questionnaire and are listed in Table 6 with details of response rates for each course.

Although 2,100 questionnaires were produced, it was anticipated that many would go unused as this number was assuming 100% attendance of every students enrolled on a particular course at the time the questionnaires arrived to be distributed. The total number of respondents in comparable studies has been 180 (Dunkel-Schetter and Lobel, 1990), 213 (Snape, 1993), 265, (Beard et al., 1982) and 300 (Zitzow, 1984). With such a large potential sample it was envisaged that the total number of useable questionnaires should be at least equal to a mean sample of 240.

As with the sample returning pilot questionnaires, the distribution across year of study in Table 7 reflects the lack of third year students on HND and Diploma courses within the Faculty of Design and Industry and Management and Business. The lower numbers of second year respondents was due to a poorer response rate from this year as there were more potential second year students on targeted courses than first years (825 vs. 777).

Table 6: Questionnaire: Courses Targeted, Potential Sample and Response Rates

<u>COMBINED STUDIES</u>			<u>Total number of</u> <u>students on course</u>	<u>Questionnaires</u> <u>Returned</u>
1st Year	ENVIRONMENTAL BIOLOGY		40	20
	SOCIOLOGY		75	15
	PSYCHOLOGY		80	23
2nd Year	BUSINESS ADMINISTRATION		240	7
	AMERICAN STUDIES		130	0
	ECONOMICS		32	0
	ENGLISH		160	27
3rd Year	EARTH SCIENCES		64	4
	PSYCHOLOGY		67	17
	LAW		80/90	0
	ART AND DESIGN		12	1
	HUMAN BIOLOGICAL STUDIES		38	6
 <u>FACULTY OF EDUCATION, HEALTH AND SCIENCE</u>				
1st Year	PODIATRY		48	25
	BEd HUMANITIES		30	23
	PROJECT 2000	2x90		28
2nd Year	PODIATRY		39	0
	HND LEATHER TECHNOLOGY		22	15
	B.ED SCIENCE AND TECHNOLOGY		36	26
3rd Year	PODIATRY		48	2
	B.ED MATHEMATICS		27	19
 <u>FACULTY OF DESIGN AND INDUSTRY</u>				
1st Year	BSc BUILDING CONSTRUCTION		25	18
	HND FASHION		19	3
2nd Year	HND BUILDING STUDIES - CM		20	19
	HND ENGINEERING		27	14
	HND GRAPHIC DESIGN		70	0
 <u>FACULTY OF MANAGEMENT AND BUSINESS</u>				
1st Year	HND COMPUTING		114	33
	EUROPEAN BUSINESS		90	39
2nd Year	HND COMPUTING		100	24
	BA BUSINESS STUDIES		90	19
4th Year	MA INTERNATIONAL BUSINESS		35) 12
	DIP. IN EUROPEAN BUSINESS		40)
 <u>FACULTY OF HISTORICAL AND SOCIAL SCIENCE</u>				
1st Year	DIP. HE AND DIP. SOCIAL WORK		26) 26
2nd year	DIP. HE AND DIP. SOCIAL WORK		42)
Number of questionnaires returned where course was unspecified				30
TOTAL number of questionnaires sent to courses			<u>2,100</u>	
TOTAL useable questionnaires				<u>495</u>
Number of questionnaires returned unused			860	
TOTAL number of questionnaires distributed			<u>1,240</u>	

In order to assess any possible differences between the respondents to the pilot questionnaire (Table 5) and the respondents to the main questionnaire, where the achieved response rates had been 73% and 40% respectively, a later comparison of mean ratings was made between all 100 general items on the main questionnaire and the corresponding mean rating for the same item on the pilot questionnaire. The findings showed that the

Table 7: Main Study Questionnaire: Sample of Respondents

MALES 158 (32%)			FEMALES 325 (66%)		
17-21 yrs. 83(17%)	22-30 yrs. 54(11%)	31+ 19(3.8%)	17-21 yrs. 198 (40%)	22-30 yrs. 44 (8.9%)	31+ 82 (16.6%)
FIRST YEAR 241 (49%)	SECOND YEAR 173 (35%)	THIRD YEAR 57 (11.5%)	FOURTH YEAR 15(3%)		
Gender unknown: 12 (2.4%)					
Age Unknown: 15 (3%)					
Year Unknown: 9 (1.8%)					
TOTAL NUMBER OF RESPONDENTS: 495					
RESPONSE RATE: from a maximum of 1240 distributed (860 returned unused): 40%					

responses of the main study sample were *not* significantly different in terms of perceived stress from those of the pilot study sample ($t=1.384$; $p> 0.05$). This was despite a large difference in response rate between the two studies and a proportionally larger number of female students compared to male students in the main study.

In order to compare the figures contained within Table 7 with the number of students in these categories in the college population as a whole the following descriptive statistics were obtained from the college registry (Table 8).

Table 8: Total numbers of students in college population by gender and age.

MALES 1511 (34.08%)		FEMALES 2920 (65.86%)	
17-21 yrs. 2987 (67.38%)		22+ (Mature students) 1444(32.57%)	
Gender unknown: 2 (0.04%)			
TOTAL NUMBER OF FULL TIME STUDENTS: 4433			

Despite these being the only figures available, it can be seen that the proportions of male and female students within the sample population is very representative of the proportions found within the total population of the college. The numbers in each age group vary by around 10% when compared with the total population.

INSTRUMENT AND PROCEDURE

Based on the results of the pilot questionnaire, a 'stress/effect on learning' questionnaire was formulated using only those incidents which were perceived by students as being most stressful. A four point rating scale for both perceived stress and perceived effect on learning was retained on theoretical grounds (Kline, 1993; Zavala, 1965). The pilot study had shown the layout to be clear and concise and the content and rating system easy to understand.

The items of the 'stress/effect' questionnaire were selected on the basis of the mean rating, in preference to the median, as this was the most sensitive measure with which to differentiate one item from another. Items were ranked in order of mean perceived stress rating. All those with *less than* 10 'irrelevant' responses (salient to more than 94% of the pilot sample, n=173) were considered to be 'general' stressors and the top 100 were included in the first part of the main questionnaire. Those items with *more than* 10 'irrelevant' responses were categorised as being specific to particular sub groups of students and 39 of these were included in the second part of the questionnaire, under an appropriate headings, for example, rented accommodation, exams, child care, transport, finances, partners and placements (See Appendix VIII for Questionnaire). There was an instruction to the respondent at the beginning of this second section to answer only if the item was relevant to them. Therefore, the final questionnaire contained the 139 highest rated items in terms of perceived stress from the pilot questionnaire and Table 9 shows the range and number of items organised by category.

Table 9 : Main Study Questionnaire: Items organised into categories

<u>Category</u>	<u>No. of items in category</u>
Lecturers (Attitudes/Behaviour)	29
Academic Work	28
Finances	15
Other Students	9
Accommodation	8
Resources	8
Organisation	8
Personal	7
Exams	6
Partners	5
Miscellaneous	5
Facilities	4
Transport	4
Child Care	2
Placements	1
TOTAL	<u>139</u>

For each item on the questionnaire the students were asked to rate on a four-point scale the degree of perceived stress they had experienced, or would experience had the incident actually happened: not at all (1), just a little (2), moderately (3) or very stressful (4). In order to ascertain how influential these items were considered to be on learning from each student's perspective and to address research question 2, they were also asked to indicate, again using a four-point scale, the degree to which the incident affected, or would affect, their learning, not at all (1), just a little (2), moderately (3) or significantly affected (4).

In addition and in order to address research question 3, respondents were requested to place a plus sign (+) against any incident where the effect on learning had been, or would be, positive, rather than negative. It has been suggested by Sutherland and Cooper (1990) that we know little about the type of stress "that motivates, challenges and provides variety and stimulation at work" (p. 224) and it was in response to this gap in the literature that this measure was included.

In addition to a *letter of introduction*, an *instruction sheet* and a *biographical questionnaire* (Appendices VI, VII and X), a *personality inventory* was also included with the main 'stress/effect' questionnaire to investigate how the personality variables of anxiety and self esteem would affect perceptions of stress (Appendix IX). Eysenck's second of three typologies of temperament, that of emotional instability-adjustment, was finally selected and permission was gained for its use (Eysenck and Wilson, 1975). The internal consistency and reliability of the Eysenck scales are all beyond 0.7, and Kline (1993) states that the validity of the scales are "unquestionably the best validated factors in the psychometrics of personality. This arises from the extensive experimental work of Eysenck and colleagues, as well as many other psychologists, into the nature of these factors" (p. 60). This questionnaire, standardised by using well over 12,000 people from all walks of life, has been used extensively for many years and with many populations, differing in age and culture. It was presented in its unabridged version containing 210 questions, with self esteem and anxiety being two of the seven sub-factors measured. The unabridged scale was presented to avoid the items appearing too open in terms of the trait they were measuring. According to Guilford (1956), the ideal is to score a subject on traits which he does not know, by asking questions about what he does know, and it seemed that this was more likely to be achieved by using all the items in the Eysenck scale.

Using the scoring system devised for the Emotional instability-adjustment questionnaire by Eysenck and Wilson (1975), each student was given an overall score for self esteem and anxiety. Table 10 shows what are considered 'average' scores on these attributes.

High scorers of self esteem tend to have plenty of confidence in themselves and their abilities, to consider they are worthy, useful and well liked by other people. "Low scorers

have a low opinion of themselves, believing that they are unattractive failures" (Eysenck and Wilson, 1975, p.82). High scorers of anxiety are "easily upset by things that go wrong and are inclined to worry unnecessarily about things that may or may not happen ... Low scorers are placid, serene and resistant to irrational fears and anxieties" (p.84).

Table 10: Scoring scale for self esteem and anxiety as presented in H. J. Eysenck and G. Wilson (1975)

EMOTIONAL INSTABILITY	AVERAGE		STABILITY ADJUSTMENT
Inferiority feelings	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	22 23 24 25 26 27 28 29 30	Self esteem
Anxiety	30 29 28 27 26 25 24 23 22 21 20 19 18 17 16	15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0	Calm

During the discussions with each head of school (see Initial Exploratory Meetings with Students), the procedure for the distribution, administration and collection of the main questionnaire was agreed. During one day at the end of the second term, 2,100 questionnaires were delivered in boxes to pre arranged contact points around both campuses of the college, collected by the appropriate member of staff and distributed to targeted courses over the following week. These boxes were labelled with the relevant course title and, in order to help staff and standardised the administrative procedure, a step by step instruction sheet was included (Appendix XII).

A follow-up letter was sent to all heads of school, thanking them and their staff for their help and support (Appendix XIII) and detailing the number of questionnaires received from all targeted courses (see Table 6). A request was made for a reminder to be given to students to return completed questionnaires and to inform the researcher of any unused questionnaires needing collection.

B. THE STUDENT CROSS SECTIONAL DIARY

SAMPLE

In order to compare actual experiences occurring on a day-to-day basis with the potential experiences contained within the questionnaire, a total of 140 diaries or logs were delivered to five courses not previously targeted, two first year, two second year and one third year, (see Table 11) while the students were attending a lecture. As these were delivered in person by the researcher, this number was calculated on the basis of numbers of students attending the lecture when the diaries were distributed, not the numbers of students enrolled on these courses.

Table 11: Courses receiving Diaries (including number of students in attendance)

COURSES	1st year Human Biological Sciences majors	(26)
	2nd year Psychology majors	(45)
	3rd year Geography majors	(32)
	1st year Diploma of Community Nursing	(12)
	1st year HND (Higher National Diploma) Design Print Management	(25)

Table 12 shows the biographical details of those students who returned useable diaries. This table clearly shows there were very few male students in the study despite the Diploma of Community Nursing being predominantly female and the HND Design Print Management course being predominantly male.

Table 12: Biographical details of students returning diaries

MALES			FEMALES		
6 (15%)			33 (85%)		
17-21 yrs.	22-30 yrs.	31+	17-21 yrs.	22-30 yrs.	31+
3 (7.7%)	2 (5.1%)	1 (2.6%)	17 (43%)	7 (18%)	9 (23%)
FIRST YEAR		SECOND YEAR		THIRD YEAR	
23 (59%)		3 (7.7%)		13 (33 %)	
BIOGRAPHICAL INFORMATION UNAVAILABLE: 3					
TOTAL SAMPLE: 42					
RESPONSE RATE: 30%					

INSTRUMENT AND PROCEDURE

Personal accounts contained in diaries or logs have traditionally been used as a source of data in historical research. Indeed, educational research has incorporated this method to provide accounts of daily events rather than relying on retrospective memories or making observations. In addition to conducting interviews with primary school staff, Burgess (1985) devised weekly diary sheets for teachers to record details of their mathematics timetables along with comments on individual lessons. The diary was designed to be completed in a limited time and to suit the situation being investigated. Indeed, it was Flanagan's (1954) view that much better results could be expected when respondents are requested to record daily rather than after a longer time interval. Both Burgess (1988) and Snape (1993) have found this a useful method to complement non-participant observation or to establish criterion-related validity of data obtained from a survey questionnaire.

The principle of using multiple sources of data in order to draw conclusions about what constitutes the "truth" is known as triangulation. However, in this study it is methodological triangulation (Denzin, 1989) which has been used where multiple methods are utilised to address a research problem, i.e. survey questionnaires interviews and diaries. Although a diary or log can include semi structured questions, the researcher has little control over the amount or the relevance of what is written. If, however, a sufficient number are completed over a period of time and used in conjunction with other instrumentation, this would ensure that any disadvantages of using this method of data collection are kept to a minimum. The aim of the diaries (Appendix V) was to collect accounts of stressful experiences as they happened on a day-to-day basis and, in doing so, provide a method of evaluating the information contained within, and obtained from, a large scale survey questionnaire.

The delivery of 140 diaries was made at the beginning of the students' lecture and the researcher was able to explain briefly the nature of the research and the purpose of the diaries. These were later distributed by the lecturer to students at a more convenient time in the lecture. These students were asked to record the most stressful single or series of incidents that happened to them each day over a 5 day period from Monday to Friday and in addition, they were asked to record, a) if the incident had affected their learning, b) if it had, what action, if any, had they taken to minimise this affect and c) whether they envisaged any long term affects on learning as a result of the incident.

C. THE LONGITUDINAL INTERVIEW

SAMPLE

In the light of findings by Fisher and Hood (1985, 1987), (see Chapter Two, Section 6D), it was decided that the longitudinal interviews would concentrate on the experiences of new first year students, as opposed to existing students, as this would narrow the breath of data collection and focus the research on students who, on the whole, were new to higher education and were having to cope with this adaptation.

The names and addresses of a systematic sample of 250 prospective first year full-time students (111 male, 139 female) was obtained from every tenth acceptance form returned by the student to all faculties. Other comparable studies which have included details of total student population under investigation, have distributed questionnaires to between 5 - 15 per cent of enrolled students (Beard et al., 1982; Zitzow, 1984; Dunkel-Schetter and Lobel, 1990) and therefore, ten per cent was considered an acceptable proportion of the college population. A coding system was used throughout the study on all correspondence in order to aid collation while maintaining anonymity and confidentiality.

A total of 118 students returned a short questionnaire (See Appendix XIV, XV and XVI) in the pre-paid envelope provided and of these 75 indicated that they would be willing to participate further in a longitudinal study of student stress and its effect on learning during their first year at college (19 male and 56 female). Four students, despite sending acceptance forms back to the college, decided not to take up their offer of a place and one student deferred entry until the following September. Twenty five first year student volunteers were randomly allocated to be interviewed on three occasions over the course of one academic year.

This group were informed, via course notice boards, that they had been selected to be interviewed (For letter see Appendix XVII). Three methods of replying were given, by phone, by using the enclosed stamped addressed envelope or by using the post room at the main campus building. They were requested to provide a home phone number and a time when they could be contacted in order for an interview to be arranged at their convenience.

As illustrated in Table 13, despite two attempts to contact non respondents, 22 out of the 25 volunteers replied (88% response rate). 84% of those interviewed on the first occasion fulfilled their commitment to be interviewed on all three occasions, this figure being 64% of the original random sample of 25.

Table 13: Longitudinal Interview - Details of Sample and Response Rates

	Total	Male	Female	Age group		
				18-21	21-30	31+
Total random sample	25	9	16			
Volunteers successfully contacted	22*	8	14			
Response rate	88%					
Refusal/non obtainable rate	12%					
Achieved sample** - November	19	6	13	14	3	2
Achieved sample** - February	18	6	12	13	3	2
Achieved sample** - May	16	6	10	11	3	2

* These respondents were drawn from 21 courses.
 ** Actually turning up for interview (see discussion section)

Analysis to compare volunteers with non-volunteers, in terms of self esteem and anxiety revealed no significant differences. However all of these students were respondents to the original questionnaire sent at the beginning of their course and one cannot rule out the possibility that they may have differed in these personality characteristics from students who did not respond at all.

RATIONALE

Having gathered data on the incidents students found stressful and the extent to which students perceived these incidents to be affecting their learning, the next stage in the study was to explore in depth if and how these experiences were specifically affecting learning from the students' perspective.

There are two principle theoretical approaches used in qualitative research which were considered prior to data collection. Ethnography involves the collection of data, first hand through participant observation and questioning the participants in their natural setting. It is concerned to understand the perspective of the people under study and observe their everyday activities, rather than using personal accounts of this behaviour or experimental simulations. As the behaviour is studied in a natural setting, one of the strengths of this approach is that it is observed in context and thus provides a high level of realism (Polit and Hungler, 1991). Some of the characteristics which make ethnography such a useful research method are also potentially problematic. In addition to the problems of replication, if the researcher becomes too immersed in the group's activities they may become less objective as a result. In order to address the research question 8

posed by the current research, the role of researcher as a participant observer within a select group of students was considered unnecessary, as there was a greater need for narrative rather than observational data, and as somewhat restrictive, in terms of student sample. Furthermore, if the emphasis of this research question was on the student's subjective view of their own experiences and concerns, then this would be more consistent with a phenomenological approach. Unlike ethnography, phenomenology relies on a personal account of what an individual thought, felt and did during an experience rather than observing activities within a target group as they happen. The aim is to present these perceptions clearly and then, through a process of interpretation, to understand their structure and meaning. If the focus of the research is the participant's subjective perceptions, then it is the only approach available which has this aim as its core objective.

Therefore, in order to address research question 8, a predominantly qualitative methodology using a phenomenological approach was considered the most appropriate in order to fully understand the student's own view of how their learning was seen to have been affected by a stressful experience. The researcher was concerned to capture the students' introspective interpretation of the situation and its implications, if any, on their progress, as well as monitoring how their perceptions may change over the course of one academic year to the same stressors. Thus the second stage of the study was longitudinal, with the principle mode of data collection being through tape recorded semi-structured interviews using the items contained in the main study questionnaire as prompts to discussion with a small sample of students on three regular occasions mid-way through each term over one academic year.

A longitudinal study involves the collection of data at more than one point in time. The type of longitudinal study used in this research took the form of a panel study, where the same students were contacted at various points throughout their first academic year. This design enabled an exploration of the impact of perceived stress on learning from the student's perspective over a period of great change and adjustment. However, one of the problems with this method of data collection is maintaining a high level of participation. A loss of subjects, differing in important respects to those who continue, will influence the overall validity of the study. Nevertheless, despite this difficulty, these types of studies are valuable in that it is possible to infer changes or trends over time.

SCHEDULES

THE INTERVIEW FORMAT - NOVEMBER

It was considered important to create a comfortable and trusting rapport with the student from the outset and although general topic areas in the early stages of this first interview were predefined, the precise questions and their order grew from the exchange with the

student (see Appendix XVIII for Schedule) Coffee/tea and refreshments were always available.

Although the presence of an audio tape recorder may initially be of concern to students, having a complete and accurate record of each discussion was considered to be vital for later analysis. Furthermore, recording the interview enabled eye-to-eye contact to be maintained throughout the interview. This was essential as the researcher wished to transmit an open, accepting and interested interviewing style and, in doing so, encourage the student to discuss their views, opinions and feelings. Although this method of recording may have an inhibiting effect on the students, a recognition of the benefits, in terms of quality of data from, and interaction during, the interview, led to the decision to use a tape recorder during the interviews.

All students agreed to their interview being recorded in this way and were told they could ask questions at any time or conclude the interview if they wished. After general information had been gathered (introductory or warm up stage), the students were asked to think back over their time at college and relate any incident that had happened to them that they had considered stressful and had in some way affected their learning, either positively, e.g. increasing effort/motivation or negatively, e.g. decreasing effort / motivation. During the following stage of the interview they were asked to look at and rate any of the 139 items contained in the main 'stress/effect' questionnaire (Appendix VIII) which they had actually experienced since their arrival at college. In addition students were asked to place a plus sign (+) against any incident where the effect on learning had been positive rather than negative. After the students had rated relevant items they were asked to describe each incident as fully as possible, i.e. how they felt, what they thought and what they did, both at the time of the incident and after it had happened, beginning with those with the highest perceived stress rating. If the students perceived an effect on learning (positive or negative) as a result of the incident they were asked to expand on this and to explain how they felt it had been affected. If the effect had been negative, they were asked to consider what they could, should or would have learnt had the incident not happened. If the students did not perceive their learning to have been affected in any way they were asked why they thought this was the case.

All interviews were concluded with a debriefing session which consisted of the student being thanked and asked if he or she had any questions, comments or concerns about what they had been asked to do. The researcher informed the participants that they would be contacted approximately three months later for a follow up interview being given the opportunity to say how they felt about this and decline if they wished to do so.

THE INTERVIEW FORMAT - FEBRUARY

The second interviews took place around the middle of the second term and followed a similar format to the first with the exception of different topics being covered in the introductory/warm up stage of the interview. These focused on more specific aspects of college life and how the student perceived their academic progress (Appendix XIX). Again a high priority was given to providing a relaxed and friendly atmosphere. In order to reduce the time taken to complete the questionnaire the layout was restructured. The items were categorised under an appropriate heading, such as, resources, personal issues, etc., however, following the first five interviews, it was decided to revert back to the original layout, as the time taken to rate items was found to take even longer. In addition, rather than following the procedure of the first interview, i.e. asking the student to rate every item on the questionnaire that they had experienced in the previous three months *prior* to any discussion taking place, the students were encouraged to discuss each incident as they rated it and while it was fresh in their thoughts. This approach proved less time consuming and was adopted for the following set of interviews.

THE INTERVIEW FORMAT - MAY

The format for the third and final interview, mid-way through the third term, began with the students' accounts of a personal stressful incident, followed by working through the questionnaire, discussing each item as it was rated, and finishing with a check list of questions covering issues such as, the accuracy of the prospectus, information that might have been useful prior to coming to college, the students' awareness of the student support initiative and the counselling services, academic progress, achievements, adjustments, costs and future plans (Appendix XX).

D. THE LONGITUDINAL DIARY

SAMPLE

Twenty five students were randomly assigned to the group receiving a series of 5-day diaries over the course of one academic year. Table 14 shows the biographical profile of the initial sample and respondents.

Table 14: The Main Study - The Longitudinal Diary: Sample

		Male Female		Age group		
				17-21	21-30	31+
Total random sample	25	9	16	20	5	0
Respondents	14*	5	9	10	4	0
Response rate	56%					

* These respondents were drawn from 11 courses and completed at least one diary.

INSTRUMENT AND PROCEDURE

The aim of the diaries (Appendix XXI) was to ascertain the frequency of reporting specific stressful experiences over the course of an academic year by collecting accounts of such experiences as they happened on a day-to-day basis at a point midway through each of the student's first three terms in November, February and May.

These students were asked to record the most stressful single or series of incidents that happened to them each day over a 5 day period from Monday to Friday. In addition, they were asked to record whether, in their opinion, their learning had been affected in any way as a result of the incident. An example was given to students on the first page of the diary. At the end of each day's entry there was a list of prompts which were included to encourage respondents to consider, at a deeper level, the way their learning might be affected. Having filled in the log for the day, the students were then asked to look through a list of common stressful experiences (Appendix XXII) and, if any had occurred that day, to describe the incident on the reverse side of the day's sheet and to describe in what way, if any, it may have affected their learning. If there had been more than one incident, then the one that had had most effect on learning was the one they were asked to report.

SUMMARY

A combination of quantitative and qualitative research designs were considered the most appropriate for the purposes of this study which aimed to a) ascertain the perceived sources of stress, the extent and the general perceptions of stress within the student population and b) to explore the impact perceived stress may have on learning from the student's perspective. Both cross sectional and longitudinal designs were used to gather data via informal meetings with students, survey questionnaires, diaries and semi-structured interviews. To summarise, numerical and narrative data was collected by a variety of methods employing a range of instrumentation and used to address the questions posed by this research.

5. METHODOLOGICAL ISSUES

Whilst the instrumentation used in this study has provided useful data, it is appropriate to take into account some of the methodological issues encountered during the course of the research prior to the presentation of the results.

SAMPLING

Exploratory meetings were conducted principally with tutor groups/classes via the tutoring staff and only those students actually attending would have been able to contribute to the research. Those not attending could either have been at home working, were ill or were staying away from college for other reasons. Therefore, the experiences which were used in the pilot questionnaire were from students who were actually attending classes and would not have included any annoying, upsetting or frustrating incidents which may have happened to those students who, for whatever reason, were not present during the visit. The visits were carried out at the end of the first term and the beginning of the second and perhaps, if they had been visited earlier in the first term when attendance is usually high, these students may have revealed additional sources of stress. However, a disadvantage would have been that first year students would be new to the college environment and may not have had a broad enough experience of college life to provide useful feedback.

The problem of targeting all students was again a difficulty at the times when both questionnaires were distributed. However, according to lecturers, the period just prior to the Easter holidays with the examinations taking place after the vacation was considered a good time to carry out the main study to ensure a higher than average turnout, although this may have been a time of heightened sensitivity to internal and external stressors. An additional problem involved gaining access to targeted courses. Students from five of the thirty three courses receiving stress/effect on learning questionnaires did not respond at all. It was difficult to ascertain why this had happened, although in three instances the lecturers forgot to distribute the questionnaires on the designated day. As a result of a decision at managerial level, half the number of the students on the Project 2000 course were not permitted to take part in the study despite the researcher gaining the permission of the senior nursing tutor and the intervention of several senior staff within the college. Nevertheless, twenty eight students from this course did return useable questionnaires.

As part-time students represented 50% of the numbers at the college it initially seemed unreasonable to exclude them. However, after considering the benefits, the decision ultimately weighed in favour of focusing only on full-time students. Informal discussions with several part-time students and their lecturers had revealed that these students were

generally older, funded themselves or were funded through their employers and tended to combine academic work with paid employment, often having a much higher expectation of what should be provided by the college because of their time schedules and funding arrangements. It was felt that many of the difficulties faced by these students might be qualitatively different from those experienced by full-time students and deserving of research in their own right. To have included these students would have meant a) a greater number of exploratory interviews having to be undertaken, b) the formulation of a larger and more diverse questionnaire, and by necessity c) a much larger sample of students required to complete the both questionnaires. As a result, one limitation of this study is that it is possible to extrapolate the findings only to full-time students at the college.

Although the number of students taking part in the pilot survey, the main survey and the interviews were sufficient, the number of students volunteering to complete a longitudinal diary and actually fulfilling their commitment was disappointing, only seven returning all three diaries (28%). In retrospect a greater proportion of prospective students should have been canvassed in order to increase the number of potential respondents. In this way, assuming a higher number had volunteered to take part in the study, more students could have received diaries. The poor internal postal system was considered a major handicap on each of the three occasions when longitudinal diaries were distributed. Students were expected to collect their mail from a central set of pigeon holes serving the thousands of students within the college, and the quantity of mail some students had to sort through dissuaded many from bothering. It was for this reason that notice boards were used to precariously pin up the rather bulging envelopes and it is possible that some literally 'fell by the wayside' and never reached their destination, despite hand written letters and reminders. Had a more efficient system been in operation, perhaps a set of alphabetically labelled pigeon holes available for every course, all communication to students would have been more likely to have reached them and thus may have improved the return rates.

Difficulties were experienced achieving and maintaining 100% attendance from students over the course of three interviews (for details of sample, see Table 13). From a total of 22 volunteers contacted at the beginning of the academic year, two students failed to turn up for two pre-arranged interviews and one student could not be contacted on the telephone number supplied as he had moved to other accommodation. Therefore an achieved sample of 19 students were interviewed during November, 18 during February (one student moved out of the halls of residence leaving no forwarding address and failed to reply to messages left on course notice board) and 16 during May (one student withdrew from her course and the second failed to turn up for the interview and then left the country immediately after the exams were over). Although Breakwell (1990) recommends an achieved sample for unstructured or semi-structured interviews of between 30 - 40, she concedes that the

sample has to be balanced against the depth of the information gathered. The aim of these interviews was to gather ideographic data from individuals in order to enhance the findings of the quantitative analysis by providing a conceptualisation and a holistic understanding of the consequences of a particular stressful episode on an individual's thoughts, feelings and actions. The intention was not primarily to make comparisons between individuals, but to extend the quantitative findings by illustrating, in line with Lazarus (1966, 1977), the ways individuals respond to a potential stressor given personal and contextual factors, as well as the intensity or inherent quality of the event. Therefore, although it was considered important to obtain a representative sample, the large numbers advocated by Breakwell (1990), although desirable, were seen as less vital for the purpose of this study as opposed to one where interviews are providing the only source of data.

INSTRUMENTATION AND PROCEDURAL ISSUES

The internal consistency of the pilot questionnaire was determined as 0.98, with unequal length Spearman-Brown split half reliability calculated as 0.93. These are acceptable levels of reliability. Feedback confirmed that the items both in the pilot questionnaire and in the 'stress/effect' questionnaire were clear, relevant, easy to understand and rate, with unambiguous instructions for completion. This feedback was substantiated by the very low numbers of 'spoilt' questionnaires and the ease with which students were able to describe the events during interview. In addition, although the response rate for the 'stress/effect' questionnaire was 40%, when matched items from the pilot questionnaire were compared, no significant difference in level of perceived stress was found, despite a higher response rate of 73%.

The importance of validity in an exploratory study such as this is extremely important. The stress/effect questionnaire aimed to measure how stressful an event was perceived to be and the extent to which it was seen to affect the student's learning. It is important to note that this perception is not based on fact, but based on the subjective interpretation of an event by the respondent. In terms of concurrent/criterion validity, or how well does this measure compare with another measuring the same concept? It is difficult to establish this as there are no equivalent measures of perceived stress with which to compare, as a result, the questionnaire was developed for a particular population. In terms of construct validity, or how far the measure truly represents the theoretical construct it is supposed to measure, one can go back to how the items were generated to assess this. Students from a population were asked to anonymously reveal experiences that they themselves had *perceived as stressful* so they could be presented, without addition or distortion, to a different, much larger sample from the same population to assess how stressful they would perceive the experience to be. It is clear from previous discussion that some methods of questionnaire formulation can influence the overall

validity of a study by only presenting a partial representation of stressful events for students.

Much of the research investigating sources/extent of perceived stress in the student population have used self report measures. One could suggest that respondents, when rating items on the questionnaires, filling in diaries or contributing to an interview, may have had an 'axe to grind'. This is a criticism which could be levelled against any self-report measure which relies on a subject's own subjective perceptions and one which could lead a student to exaggerate their responses in the hope that this will ensure action by the 'powers that be'. Nevertheless, if students feel strongly about particular situations then this is a valid and real concern for them and warrants attention and if this also emerges as a general problem for a larger sample, then it is important to recognise that others have a similar level of concern. However, it should be acknowledged that any self report measures can also be bias and distorted, with a respondent presenting a particular picture of events that is seen as being required. Although this can be difficult to detect and always remains a potential limitation of this method of data collection, maintaining a calm and neutral questioning style, when seeking clarification and a deeper level of understanding, can help the interviewee also remain calm and objective.

Following each item contained within the main 'stress/effect' on learning questionnaire a four point rating scale was provided for students to indicate the degree to which the incident affected, or would affect, their learning. Rather than heading this column "Perceived Effect on Learning" this column was headed "Perceived Affect on Learning" which was consistent with Snape's usage (1993). With hindsight, this was considered to be potentially confusing for respondents, however when other students were later asked for their comments on this the researcher was told that it was seen as nothing more than a typing error.

In the main survey questionnaire, item number 119 and 120 (which appears on the following page) were identical and as far fewer students responded to item 120, it was assumed that they had realised this item had already been rated. During analysis the data was recorded from the responses for item 119, with the data from item 120 being discounted. In addition, there was a similarity between the meaning of item 6, "You are unable to find any books on a particular topic in the library" and item 54, "Being unable to find any relevant books for an assignment in the library". It was decided to include both items, as the first has a broader, more exploratory goal, when a student needs additional information to read round and support the material provided in lectures for their own benefit or for the preparation of a seminar, etc. The second item is much more urgent and immediate, having as a specific goal, an assignment, the mark from which may have a more direct consequence on a student's achievements.

The number of items contained in the pilot (309) and main 'stress/effect' questionnaire (139) may have been a deterrent to those students who were given it to complete in their own time, and this was an issue that had been anticipated. With regards to the former, it was considered vital to use a broad spectrum of potential stressors in the pilot study to ensure a representative array of incidents reported by the students themselves. The high response rate of 73% owes much to the support of the staff who allowed their students to spend lecture time filling them in. Discussions with students after the questionnaire had been completed gave the researcher the impression that they had not minded too much. Again the main study questionnaire was substantial given that the unabridged version of Eysenck's 210 item emotional instability - adjustment scale was included. It is difficult to ascertain whether the response rate would have been higher than the conservative 40% if the questionnaire had been shorter. This may be dependent on additional factors such as, the content, the timing and manner of distribution and the sample.

A measure of motivation was included in the short questionnaire sent to new first year students prior to the start of their course (See Appendix XV). However, it was found to be unreliable due to the very brief instructions available on how a student's written responses to three questions relating to future goal orientation were to be scored (Wankowski and Cox, 1973). Validation by a second scorer confirmed this lack of clarity and it was decided that this measure would be discounted in all further analysis. In future work obtaining a verbal rather a written response to the questions may provide more material on which to make a more accurate classification of the intensity of student motivation. Measuring motivation is generally fraught with problems as it is so diverse in its meaning and its influences on behaviour. This is perhaps why motivation, in terms of learning, has received less research attention than it deserves (Richardson, 1987) and why there is a scarcity of scales or inventories measuring this attribute.

One of the major problems with data gained from questionnaires and interviews is relying on retrospective accounts of feelings, thoughts and actions following an event which may have been experienced by the student up to three months prior to the completing any one of the questionnaires or taking part in the interview. This was despite the use of the 'stress/effect' questionnaire as a prompt during the interviews enabling students to recognise many events that they may have been unable to remember by free recall. However, from the analysis of cross sectional five day diaries used in this study, the sources of perceived stress and effects on learning reported by the students were remarkably similar to many in the questionnaire and those which emerged during the interviews. Nevertheless, this was only a five day snapshot and a tape recorded verbal or written daily report over a longer period of time may have captured more accurately the long term consequences on learning, a method of data collection worthy of consideration in future work.

It is often difficult to recognise when an interviewee is not being completely honest, is too embarrassed to tell the whole truth, does not feel comfortable with the interviewer, is presenting an acceptable image and/or is only saying what was perceived to be required by the researcher. There seemed to be little that could be done to prevent these response effects, apart from making every effort to ensure that the student felt comfortable, in control and able to terminate the interview at any point. The inclusion of the questionnaire during the interview enabled students to recognise rather than remember events which they had experienced in the previous three months, a process which produces better recall (Glass and Holyoak, 1986), and rate those events for perceived stress and perceived effect on learning.

One student made the most of being able to talk at length to someone who was interested in what they had to say and used it as an opportunity to unload a considerable amount of 'emotional baggage', from childhood up to the time of the interview. Many attempts were made to gently bring the student back to issues related to the research, however, due to the intensity of student's emotions, some attempts were more successful than others. During these exchanges a neutral role rather than one resembling a counsellor was adopted, as this was considered appropriate in the circumstances. Much of this student's data was useful, particularly when the interview became more structured and focused on relevant issues. Nevertheless, because of the costs involved and the need for confidentiality, the dialogue unrelated to the research aims was not transcribed. During their first interview several other students were allowed to 'control the flow' and although some time was spent on deviations from the interview schedule, there was an awareness that being overly assertive at this stage may be counterproductive in the long term, inhibiting a natural dialogue and appearing uninterested in what the student had to say.

There is evidence that matching interviewers on age, sex, social class and race with those they are interviewing is likely to produce more valid responses (Nederhof, 1981). Being a female interviewer may have led to a bias in the responses of the students. It has been suggested that during selection interviews the female-female applicant-interviewer pairing produces a greater openness on the part of the applicant, with male pairings going the opposite way (Breakwell, 1990). On the whole the data gathered from male students in this study came from four who appeared relaxed and open and two who seemed more guarded and somewhat less willing to talk about situations unrelated to academic work. An instant rapport was struck with most of the women interviewed, who were, irrespective of age, honest, open and very keen to discuss most aspects of their lives, whether or not it was obviously related to the research. There were however, two female students who, like the two male students, were more difficult to draw out and appeared to be defensive about poor attendance or difficulties they were having with their academic work. It is possible that being interviewed by an older female researcher, perhaps equivalent in years to their mother, may have led to the perception of a relationship of unequal power leading to a

reluctance to fully and honestly disclose what they really thought, felt and did when faced with a difficult situation in their lives. Everything that could be done was done to make the students feel at ease and aware of the aims of the research. However, although the bias was not overly apparent in the data, this was a factor that would only be amenable to objective measurement with the use of a second interviewer.

The issue of assumed knowledge arose on several occasions e.g. when the student being interviewed stated, "You know what I mean". Having been a full-time student it was possible that many signals, such as nods and smiles, were given to show that their words had struck a cord and it was necessary to ask the student to describe 'how it was for them' in order to record the details on tape for later analysis. An awareness of a further issue arose after one of the respondents said after her second interview, "Oh I do love coming to see you, I feel so much more relaxed getting it all off my chest". The interview may have acted as a catalyst or a sounding board for some students. It is possible that the act of verbalising how they responded to specific events, perhaps realising the consequences of this on their learning, may have influenced later behaviour with remedial action being taken after the interview. It is difficult to ascertain whether recognising that there may have been negative consequences on progress, as a result of stressful events, would have led to a greater determination to minimise these effects by a more productive coping strategy next time the event occurred or whether the knowledge of one's own deficiencies in coping adequately would compound the problem and make the event more threatening in the future. Therefore, one of the unforeseen consequences for students taking part in the study was an increased awareness of potentially stressful events and their possible effects, which may have served to increase levels of perceived stress when confronted by, and as a result of, subsequent similar experiences.

There were several problems which occurred during the interviews which, in retrospect, should have been avoided. Firstly, the majority of students were very happy to have the interview audio taped using a small unobtrusive machine. However, one student was extremely sensitive to its presence and required a lot of reassurance that the data collected would not be listened to by anyone who would recognise her voice. At times she would lower her voice as though the recorder was 'listening' to her and as a result this dialogue was sometimes inaudible during transcription. It would have been sensible to have made a written note of what was said at these times to provide greater accuracy as a result of using two methods to collect the same data. Secondly, the poor design of the tape recorder and being actively involved with the interviewee lead to operating errors and contributed to parts of some interviews not being recorded or being taped over (less than 4% of the all the interview data collected). Active listening is very demanding and it had not been foreseen how difficult it would be to stop a student 'mid-flow', change tapes and press the correct buttons while maintaining a facial expression of 'just hold it there'. Using a recorder with a clearly marked large 'record' button and where the play button

and the record button require a finger each to operate them may have helped to avoid this problem. Thirdly, the last interview during May with student 96 took place at her home. She was only attending college on the days of her exams and carrying out an interview on these days was considered inappropriate. During the interview in her kitchen she actively sought the views of her friend and flatmate, who had come in to make a drink, to the questions being asked. As a result of this interaction she became more animated and more open about her experiences and, rather than ask her friend to leave which may have created tension as this was their home and it was obvious that the student wished her friend to be present, it was decided that the full discussion could be transcribed with only the subject's responses being included in any analysis. This was an example of research in the real world, in situations where the researcher has less control over external factors than might be considered ideal, yet where the subject may feel less constrained as a result and thus present a more valid picture of their lives.

CHAPTER FOUR: RESULTS

Tables 6 and 7 in the Methodology chapter show course and biographical details of students completing and returning the main 'stress/effect' questionnaire. From a total of 1,240 questionnaire distributed to students on target courses, 495 useable questionnaires were collected or returned, therefore achieving a response rate of 40%. Despite the large difference in response rate between this study and the pilot study (73%) analysis showed no significant difference in the levels of perceived stress reported for matched items and provided some reassurance that the second sample was as representative of the student population as the first.

The questionnaire contained the 139 highest rated items in terms of perceived stress from the pilot questionnaire (see Table 9 for categories of items). One hundred 'general' items and 39 items relevant to specific groups of students (for details see page 69). 214,830 points of data were entered onto the SPSSX statistical software package and were examined initially using non parametric analysis. Mean perceived stress and effect on learning ratings were calculated for each item. In addition, the data were categorised according to gender, age and academic year and the results of these analyses are presented later in this chapter.

RESEARCH QUESTION 1: WHAT EXPERIENCES WILL BE PERCEIVED AS MOST STRESSFUL BY THE STUDENT?

Using a four point rating scale, not at all (1), just a little (2), moderately (3) and very stressful (4), general items (1 - 100) with the highest perceived stress rating, i.e. those with a mean rating greater than 3.0, were related to managing academic workload, finding books/material in the library, the attitude or behaviour of lecturers, getting access to equipment and feedback on marked work. (see Table 15).

The items are presented in descending order of mean perceived stress rating and include the measure of central tendency. However, from this value it is not possible to judge how consistent the responses are within subject. These measures provide a basic, yet illustrative, guide to the relative general importance of items as perceived by a large sample and the degree to which responses deviate from the mean. It should be noted however, that the items which appear at the bottom of the following tables and even those not included in the main questionnaire itself should not be regarded as insignificant to all students despite the greater incidence of students rating them 'not at all' or 'just a little' stressful. It is possible there are some students who regard them as serious concerns although it is not apparent from the mean rating.

Table 15: Items perceived as being most stressful (Mean > 3.0)

<u>Rank</u>	<u>Mean Stress Rating</u>	<u>S.D.</u>	<u>No.</u>
1	3.443	.88	81. You have deadlines for several assignments all set in the same week.
2	3.352	.90	91. You have an assignment deadline very close to exams.
3	3.308	.93	17. You are unable to clear your workload.
4	3.295	.85	65. A lecturer tells you that you are producing work below an acceptable academic standard.
5	3.271	.96	35. You feel unable to cope with the workload.
6	3.266	.96	75. Forgetting to do an important piece of work until it is too late.
7	3.229	.94	73. You need an important book for an assignment and the one copy is not only out, but it has many reservations on it.
8	3.224	1.03	21. Mislaying or losing your work
9	3.203	.93	54 Being unable to find any relevant books for an assignment in the library.
10	3.187	1.05	59. Lecturers who try to make you look stupid in front of your class.
11	3.185	.93	1. Being given insufficient time to complete assignments.
12	3.182	.89	6. You are unable to find any books on a particular topic in the library.
13	3.177	.90	66. Getting a bad mark on a piece of work.
14	3.152	.88	88. You have difficulty getting access to equipment vital for the completion of an assignment.
15	3.151	.86	34. You are given incomplete/vague instructions by a lecturer regarding a task he/she wants you to do.
16	3.142	1.01	52. A tutor/lecturer mislays your work.
17	3.092	.90	76. You are unable to find up to date material for an assignment in the library.
18	3.084	1.01	32. Lecturers who expect you to 'go away and get on with it' without any guidance and support.
19	3.077	.99	86. You receive what you consider to be an inaccurate/unfair mark for an assignment.
20	3.072	.94	39. Feeling as though you are skimming over topics because of a lack of time.

RESEARCH QUESTION 2: WHAT EXPERIENCES ARE PERCEIVED BY THIS SAMPLE AS HAVING THE GREATEST EFFECT ON LEARNING?

General items (1 - 100) perceived by students as having the greatest effect on learning were again those with a mean rating greater than 3.0. These can be seen in Table 16 and were related to managing academic workload, a lack of resources in the library and the attitude and behaviour of lecturers.

Table 16: Items perceived as having the greatest effect on learning (Mean > 3.0)

<u>Rank</u>	<u>Mean Effect Rating</u>	<u>S.D.</u>	<u>No.</u>	
1	3.289	.89	6.	You are unable to find any books on a particular topic in the library
2	3.192	1.02	81.	You have the deadlines for several assignments all set in the same week
3	3.145	1.01	91.	You have an assignment deadline very close to exams.
4	3.135	.94	73.	You need an important book for an assignment and the one copy is not only out, but it has many reservations on it.
5	3.101	.96	54.	You are unable to find any relevant books for an assignment in the library.
6	3.066	.91	34.	You are given incomplete/vague instructions by a lecturer regarding a task he/she wants you to do.
7	3.064	.97	39.	Feeling as though you are skimming over topics because of a lack of time.
8	3.058	.98	35.	You feel unable to cope with the workload.
9	3.053	.95	17.	You are unable to clear your workload.
10	3.052	.97	65.	A lecturer tells you that you are producing work below an acceptable academic standard.
11	3.045	.98	19.	Feeling too tired to study when you get home.
12	3.042	1.00	78.	You find you have difficulty concentrating on your work.
13	3.041	1.00	32.	Lecturers who expect you to 'go away and get on with it' without any guidance and support.
14	3.038	.95	88.	You have difficulty getting access to equipment vital for the completion of an assignment.
15	3.019	.91	76.	You are unable to find up to date material for an assignment in the library.
16	3.002	1.03	2.	Being unable to hear the lecturer.
17	3.000	1.01	42.	Lecturers who do not give you enough time to write down even important points from an overhead.

Each of the 139 items on the questionnaire showed a significant positive correlation between perceived stress and effect on learning, i.e. the more stressful an incident was perceived to be, the greater its perceived impact or effect on learning (r ranging from .44 - .76, $p < 0.001$). There were no items where there was no relationship or a negative relationship between perceived stress and perceived effect, and therefore responses indicate a common perception that if an item is regarded as potentially or actually stressful it would also be considered by the majority of students (>81.4%) to potentially have or have had a negative, rather than positive, effect on learning.

RESEARCH QUESTION 3: WHAT EXPERIENCES WILL BE PERCEIVED AS HAVING A POSITIVE EFFECT ON LEARNING?

Students were requested to place a plus sign (+) against any incident where the effect on learning had been, or would be, positive rather than negative. Analysis of items with the greatest number of positive responses showed that the percentage of students perceiving any of the experiences as motivating was never greater than 18.6% of the sample ($n=92$). Nevertheless, for a minority of students, working with competitive students, worrying about or receiving poor marks, comparing themselves with other students, an increase in workload and finding work difficult/challenging, seemed to spur many of them on to work harder and report that their learning had benefited as a result of the experience. It is interesting to note that issues such as, a lack of resources, money, personal difficulties, poor delivery of lectures and lack of lecturer empathy were not represented in a list of the twenty items with the greatest number of positive responses (Appendix XXV). These were considered by a minimum of 95% students to have a negative rather than a positive effect on learning.

RESEARCH QUESTION 4: HOW DO STUDENTS PERCEIVE ASPECTS OF STUDENT LIFE IN TERMS OF STRESS AND EFFECT ON LEARNING

The items contained in the main 'stress/effect' on learning questionnaire were placed in logical categories in descending order of mean rating to illustrate the extent to which aspects of student life are seen as stressful for students. General sources of perceived stress relevant to most students are presented in Tables 17 - 25 ordered according to the highest mean perceived stress rating for the first item, with Table 26 containing various sources of perceived stress for specific groups of students. The number of students who indicated a *positive* effect on learning as a result of the incident is presented in brackets

and the extent to which students perceive the item to have affected learning is indicated by the mean effect value placed in the third column.

Table 17: Mean Perceived Stress Rating Ranked and Categorised by Source of Stress - ORGANISATIONAL ISSUES

Rank	Mean Stress Rating	Mean Effect Rating	+	No.	ITEM
1	3.443	3.192	(24)	81.	You have the deadlines for several assignments set all in the same week.
2	3.352	3.145	(20)	91.	You have an assignment deadline very close to exams.
3	3.185	2.959	(49)	1.	Being given insufficient time to complete assignments.
4	2.994	2.481	(43)	60.	Making a presentation or perform something in front of other students with very little prior notice.
5	2.885	2.763	(8)	80.	You experience difficulties getting hold of your tutor to discuss a problem or answer a question.
6	2.845	2.791	(8)	27.	Academic departments which are disorganised.
7	2.801	2.633	(6)	3.	Lecturers who fail to return work after you have worked hard on it.
8	2.653	2.605	(16)	15.	You are caught between one lecturer saying one thing and another saying something else.

It is interesting to note the numbers of students in brackets indicating a positive effect on learning and how for some students working under a time pressure is seen as motivating (Item no. 81, 91, 1, 60). Many of the above items are organisational issues where the tutors/departments have the power to reduce the incidence of what are seen, to many students, as very stressful experiences.

In general, the mean perceived stress rating is seen to have a higher value than the mean perceived effect rating for the same item. This may be taken as a indication of the extent to which students perceive they are able to cope effectively with the stressor and thus are able to minimise any negative effects on learning.

Many of the items contained in Table 18 pinpoint specific problems students face when tackling the academic demands of higher education. Difficulties maintaining motivation, concentration, interest, confidence, persistence and a calm attitude towards work may be

closely related to other sources of perceived stress which impinge on the finite resources available to a student.

Table 18: Mean Perceived Stress Rating Ranked and Categorised by Source of Stress -
ACADEMIC WORK ISSUES

Rank	Mean Stress Rating	Mean Effect Rating	+	No.	ITEM
1	3.308	3.053	(19)	17.	You are unable to clear your workload.
2	3.295	3.052	(90)	65.	A lecturer/tutor tells you that you are producing work that is below an acceptable standard.
3	3.271	3.058	(15)	35.	You feel unable to cope with the workload.
4	3.266	2.915	(10)	75.	Forgetting to do an important piece of work until it is too late.
5	3.224	2.611	(9)	21.	Mislaying or losing your work.
6	3.177	2.855	(76)	66.	Getting a bad mark on a piece of work.
7	3.072	3.064	(8)	39.	Feeling as though you are skimming over topics because of lack of time.
8	3.041	2.894	(8)	46.	You leave course work/assignments until the last minute because you don't know/understand what to do.
9	3.006	2.864	(27)	72.	You feel that a topic/subject/option you chose beyond your abilities.
10	2.986	2.868	(18)	9.	Finding that you cannot remember what you think was important material.
11	2.944	3.042	(10)	78.	You find you are having difficulty concentrating on your work.
12	2.939	2.592	(38)	20.	Getting a lower mark than expected on a piece of work.
13	2.932	2.83	(28)	63.	You realise that you have not understood the work as well as you had thought.
14	2.927	2.453	(64)	67.	Giving a peer assessed presentation.
15	2.925	2.494	(47)	28.	You find yourself worrying about your marks.
16	2.911	2.865	(9)	84.	You find it difficult to study.
17	2.911	2.609	(81)	30.	Having the feeling you should be working harder.

Table 18: Cont.

Rank	Mean Stress Rating	Mean Effect Rating	+	No.	ITEM
18	2.899	2.674	(13)	48.	You have the feeling that you've 'bitten off more than you can chew'.
19	2.880	2.781	(28)	18.	You do not understand something in a lecture that other students seemed to understand.
20	2.876	2.726	(5)	55.	Being unable to get any feedback on your progress.
21	2.851	2.906	(8)	89.	You have difficulties maintaining your motivation.
22	2.784	2.649	(32)	16.	You are not sure how hard you have to work to attain an acceptable academic standard.
23	2.764	2.818	(11)	44.	You are unable to understand a book/article you are reading.
24	2.697	2.547	(3)	61.	You are just getting down to work and something unexpected crops up.
25	2.537	2.128	(27)	94.	You are unable to answer a lecturers' question during a lesson.
26	2.501	2.605	(5)	45.	You feel that a topic/subject/option you chose is a great deal less interesting than you thought it was going to be.
27	2.499	2.459	(4)	40.	You have difficulties prioritising tasks.
28	2.473	2.691	(40)	7.	You revise a subject you found really boring.

Several of the above items (78, 89, 44, 45 and 7) have a mean effect rating greater in value than the mean stress rating. If this is taken as an indication of an inability to cope effectively with the stressor and to minimise perhaps the direct negative effects on learning, then situations where motivation is low, concentration is difficult to maintain, understanding is a struggle and the work is boring are clearly areas where students need extra support, guidance and tools/skills to manage these situations more effectively.

Table 19: Mean Perceived Stress Rating Ranked and Categorised by Source of Stress RESOURCES / FACILITIES

Rank	Mean Stress Rating	Mean Effect Rating +	No.	ITEM
1	3.229	3.135	(11) 73.	You need an important book for an assignment and the one copy is not only out, but it has many reservations on it.
2	3.203	3.101	(8) 54.	Being unable to find any relevant books for an assignment in the library.
3	3.182	3.289	(11) 6.	You are unable to find any books on a particular topic in the library.
4	3.152	3.038	(10) 88.	You have difficulty getting access to equipment vital for the completion of an assignment.
5	3.092	3.019	(8) 76.	You are unable to find up-to-date material for an assignment in the library.
6	2.927	2.851	(7) 26.	You need a book from the library, which should be there, but cannot be found.
7	2.841	2.730	(19) 47.	You obtain a book/article shortly before an assignment is to be handed in.
8	2.809	2.848	(6) 13.	Not being able to find a book or text a lecturer has recommended.
9	2.576	2.609	(8) 95.	Having a lecture in a room/theatre that is too noisy.
10	2.57	2.680	(11) 12.	There is loud background noise in the library.
11	2.285	2.013	(9) 93.	The photocopier doesn't work.
12	2.145	2.340	(9) 10.	Having a lecture in a room/theatre that is too cold.

As can be seen by the mean effect rating, many of the above items, particularly those related to getting access to library resources, are seen by students to have, or have had, a considerable effect on their learning with very few students seeing the difficulties as beneficial. It is interesting to note the similarity of values for each item in the mean rating columns. Indeed, there are some items (6, 13, 95, 12, 10) where the mean perceived effect rating is greater than the mean perceived stress rating, indicating an greater difficulty coping with, managing or controlling those particular situations to reduce the negative impact on their learning.

**Table 20: Mean Perceived Stress Rating Ranked and Categorised by Source of Stress -
ATTITUDE OF LECTURERS**

Rank	Mean Stress Rating	Mean Effect Rating	+	No.	ITEM
1	3.187	2.883	(10)	59.	Lecturers who try to make you look stupid in front of your class.
2	3.084	3.041	(20)	32.	Lecturers who expect you to 'go away and get on with it' without any guidance or support.
3	3.025	2.449	(3)	43.	You are late handing work in because of a genuine reason and receive very little understanding or support.
4	3.0	2.871	(11)	38.	Being told by a lecturer you are stupid when you make a mistake.
5	2.940	2.304	(4)	74.	Being singled out for doing something wrong when the behaviour of others goes unnoticed.
6	2.938	2.944	(12)	79.	You have problems with your work but you do not feel that the lecturer teaching that area is approachable.
7	2.921	2.878	(19)	85.	Your lecturer/tutor appears to have given up on you.
8	2.907	2.884	(10)	31.	Lecturers that get angry when you genuinely don't understand what they are saying.
9	2.813	2.429	(10)	62.	Lecturers who treat you in a patronising way.
10	2.794	2.612	(42)	50.	You overhear comments by staff that you are in a poor academic group compared to others they have taught.
11	2.765	2.749	(8)	33.	Tutors/Lecturers who always seem to be busy and in a hurry.
12	2.742	2.458	(3)	49.	Tutors/lecturers who give you the impression they think your problems are insignificant.
13	2.73	2.667	(15)	36.	You have a lecturer who is intimidating.
14	2.65	2.618	(9)	8.	You work particularly hard and get no encouragement or praise for your efforts.
15	2.609	2.412	(5)	99.	A lecturer cuts you off when you try to ask a question in class.
16	2.582	2.094	(4)	96.	Lecturers who are always late but become annoyed if you are late.
17	2.534	2.297	(18)	11.	Lecturers who assume that theirs is the only, and the most important, subject you do.

From the experiences contained in Table 20, the attitude of some lecturers towards their students both in and out of the teaching situation could be described as degrading, intimidating, patronising and dismissive. Students consider lecturers to be a vital source of support, guidance and information and when this is found to be lacking and unavailable from other sources, the impact on learning is potentially very serious.

Table 21: Mean Perceived Stress Rating Ranked and Categorised by Source of Stress - THE BEHAVIOUR OF LECTURERS

Rank	Mean Stress Rating	Mean Effect Rating	+	No.	ITEM
1	3.151	3.066	(10)	34.	You are given incomplete or vague instructions by a lecturer regarding a task he/she want you to do.
2	3.142	2.523	(5)	52.	A tutor/lecturer mislays your work.
3	3.077	2.645	(21)	86.	You receive what you consider to be an inaccurate / unfair mark for an assignment.
4	3.035	3.000	(7)	42.	Lecturers who do not give you enough time to write down even important points from an overhead.
5	2.859	2.786	(10)	70.	You are trying to listen to useful material at the same time as write down what is on an overhead.
6	2.77	2.489	(27)	29.	Getting a low mark on an assignment/essay despite only positive comments from the marker.
7	2.711	2.729	(5)	64.	A 'useful' overhead is difficult to read.
8	2.694	2.794	(10)	58.	Lecturers who speak too quickly.
9	2.685	2.546	(11)	57.	Lecturers who assume a higher/lower level of understanding from your class.
10	2.65	3.002	(14)	2.	Being unable to hear a lecturer.
11	2.611	2.310	(2)	23.	Waiting over one month for your work to be marked and returned.
12	2.777	2.608	(4)	90.	You are given very little explanation on an assignment with regards to your mark.

It appears from three of the items in Table 21 (42, 70, 64) that rather than enhancing a lecture, the use of an overhead projector can create stress, with implications for subsequent learning as a result of the confusion and gaps in disjointed lecture notes. Non-existent, insufficient, late or unhelpful feedback on marked work was also seen as a considerable source of perceived stress and as impeding learning. Other items (64, 58, 2) where the mean effect rating is greater than the mean perceived stress rating, may again indicate the extent to which students feel unable to change or control a lecturer's verbal and written presentation to minimise the negative effects on their learning.

Table 22: Mean Perceived Stress Rating Ranked and Categorised by Source of Stress - OTHER STUDENTS

Rank	Mean Stress Rating	Mean Effect Rating	+	No.	ITEM
1	3.07	2.923	(18)	77.	You are working in a group where the other students are poorly motivated.
2	2.905	2.633	(20)	92.	You are working in a group where there is a clash of personalities.
3	2.884	2.707	(6)	87.	Other students talking loudly next to you even though its obvious you are working.
4	2.734	2.164	(23)	82.	Other students who get good grades without appearing to do any work.
5	2.717	2.000	(4)	53.	Another student borrows your equipment/belongings without asking.
6	2.617	2.453	(92)	100.	You are in a group where the students are highly competitive with one another.
7	2.587	2.513	(8)	97.	Other students talking during a lecture.
8	2.546	2.050	(39)	5.	Other students boasting about their projects/assignments when you think you haven't done very well.
9	2.301	2.160	(8)	14.	Other students who behave very immaturely.

A lack of consideration for the feeling of other students appears to be a common feature of this category (Table 22). It is interesting to note that working in a group where the other students are highly competitive was seen as a situation most likely to lead to a positive learning outcome whereas if there was conflict within the group or the other students were poorly motivated this was less likely to be seen as positive and regarded as having a greater impact on learning.

Table 23: Mean Perceived Stress Rating Ranked and Categorised by Source of Stress - FINANCES

Rank	Mean Stress Rating	Mean Effect Rating	+	No.	ITEM
1	2.996	2.28	(4)	41.	You have unexpected expenses which have not been budgeted for.
2	2.854	2.872	(4)	24.	You are not able to afford a vital book or piece of equipment recommended for your course.
3	2.747	2.588	(6)	68.	Going without food.
4	2.275	1.706	(3)	69.	Paying community tax.

Although a student's finances may be seen as being unrelated to the process of learning it is clear how the above items, and those headed 'Specific Financial Problems' in Table 26, can influence learning, motivation and ultimate performance in assessed assignments, as in the case of items 24, 68 and 122. Indeed, the higher mean effect rating for item 24 may reflect a student's perceived inability to modify the impact on learning.

Table 24: Mean Perceived Stress Rating Ranked and Categorised by Source of Stress - PERSONAL ISSUES

Rank	Mean Stress Rating	Mean Effect Rating	+	No.	ITEM
1	2.96	2.737	(13)	83	You are finding work difficult and you do not know who to turn to for help.
2	2.899	2.849	(7)	4.	Not being able to sleep.
3	2.89	2.394	(11)	51.	Your Parent/s or partner do not seem to appreciate the level of stress you are under.
4	2.884	2.654	(7)	37.	You have a personal problem that you feel unable to talk to anyone about.
5	2.801	3.045	(5)	19.	Feeling too tired to study when you get home.
6	2.559	2.279	(10)	98.	You feel lonely.
7	2.556	1.743	(11)	25.	You meet someone who assumes that students lives are stress-free and that they have taken an easy option.

Several of the items in Table 24 and Table 25 highlight common problems faced by students, the perceived lack of emotional support or academic guidance from others, feeling lonely or tired, and having worries about the future.

Table 25: Mean Percieved Stress Rating Ranked and Categorised by Source of Stress - VARIED

Rank	Mean Stress Rating	Mean Effect Rating	+	No.	ITEM
1	2.911	2.219	(3)	56.	Having a problem and being dealt with in an unhelpful and unfriendly manner by administration staff.
2	2.845	2.791	(9)	22.	Reading about poor job prospects for graduates.
3	2.764	2.438	(9)	71.	You begin to have strong doubts that you are on the right career path.

As can be seen below in Table 26 the mean values for perceived stress and effect tend to be higher than those contained in Table 17-25. Only those students who considered the item relevant to their lives were requested to rate items 101 - 139 on the questionnaire and as a result respondents were more likely to view the incident as meaningful or salient. Consequently the degree of perceived stress experienced tended to be higher and therefore not comparable statistically with levels of perceived stress reported for items 1-100. Again the categories are presented in descending order of mean perceived stress rating for the highest ranked item.

Table 26: Mean Perceived Stress Rating Ranked and Categorised by - VARIOUS SPECIFIC SOURCES OF STRESS

Rank	Mean Stress Rating	Mean Effect Rating	+	No.	ITEM
-	3.084	3.027	(6)	101.	Attending at least 5 hours of continuous lectures.
-	3.217	2.841	(0)	102.	You hear of the sudden death of a fellow student.
<u>EXAMS</u>					
1	3.784	3.493	(20)	104.	Failing your final exams.
2	3.576	3.250	(25)	105.	Only having one chance to pass re-sits in September, having missed the exams in May/June due to ill health.
3	3.456	3.140	(5)	103.	You have more than one exam in a day.

Table 26: Cont. : EXAMS

Rank	Mean Stress Rating	Mean Effect Rating	+ No.	
4	3.448	3.144	(10)	107. You don't have any free days between exams.
5	3.397	3.239	(14)	108. You are given a seminar or a presentation to prepare when you are trying to revise.
6	3.085	2.745	(37)	106. You talk to another student who seems better prepared to take an examination.

TRANSPORT

1	3.578	2.274	(3)	112. You return to your car to find it has been damaged.
2	3.26	2.358	(2)	111. Your car fails to start.
3	3.22	2.463	(1)	110. Allowing plenty of time to park at college but being unable to do so.
4	3.196	2.556	(2)	109. Being late for a lecture because of difficulties in finding a car parking space.

CHILD CARE

1	3.557	3.154	(1)	138. Making complex child care arrangements when you have a lecture at 9 am.
2	3.519	3.266	(0)	137. Your child care arrangements break down.

SPECIFIC FINANCE PROBLEMS

1	3.408	2.617	(2)	117. Your grant cheque is over a month late.
2	3.37	2.413	(3)	113. Finding that you are well over your overdraft limit.
3	3.284	2.227	(2)	118. You are refused money at the cash point.
4	3.274	2.883	(3)	122. The electricity is cut off.
5	3.216	2.345	(2)	114. Receiving a letter from the Bank regarding the lack of money in your account.
6	3.093	2.547	(1)	116. You are not able to afford adequate food.
7	2.984	2.24	(4)	119. Being unable to find a part time job that would supplement your grant.
8	2.877	2.118	(3)	115. Borrowing money.
9	2.854	1.88	(1)	123. You receive what you consider poor service from the bank.
10	2.74	1.931	(0)	121. The bank refuses to give you a cheque book.

Table 26: Cont.

Rank	Mean Stress Rating	Mean Effect Rating	+	No. ITEM
<u>PARTNERS</u>				
1	3.398	2.954	(5)	124. Your partner expresses that you are growing apart.
2	3.089	2.677	(1)	125. Experiencing difficulties in a romantic relationship due to the geographical distance between you.
3	3.087	2.849	(3)	128 Studying when your partner wants you to be with them.
4	3.078	2.693	(4)	127 Experiencing difficulties in a romantic relationship due to a lack of trust.
5	3.051	2.701	(4)	126 Experiencing difficulties in a romantic relationship due to volume of work.
<u>PLACEMENTS</u>				
-	3.376	2.94	(1)	139. You receive a rejection letter for a placement vital to your course.
<u>RENTED ACCOMMODATION</u>				
1	3.242	2.084	(0)	130. Someone you share a house with is unwilling to pay their share towards house bills.
2	3.151	2.585	(1)	136. Experiencing difficulty in finding accommodation.
3	3.169	2.732	(3)	133. Someone you share a house with plays loud music late at night.
4	3.114	2.788	(2)	132. Someone you share a house with has the TV on loud while you are trying to sleep or work.
5	3.025	2.855	(2)	131. You pay rent when you are not in your accommodation.
6	2.978	1.993	(0)	129. Someone you share a house with doesn't clean up after themselves.
7	2.872	2.25	(4)	135. Moving into accommodation with other students you don't know.
8	2.861	2.541	(2)	134. Moving in the middle of term.

It is interesting and surprising to note the number of students, as indicated by the numbers in brackets, who regarded some items as leading to a *positive* learning experience.

FURTHER ANALYSIS

In order to identify underlying dimensions in the item pool, exploratory factor analysis was carried out. It is considered to be a powerful tool for psychologists studying attainment, ability and personality and is most suitable where data are complex and where there is uncertainty what the most important variables/common factors are. In addition, the ratio between variables and sample size was approximately 5:1 which was high enough for emerging factors to be clear and meaningful (Kline, 1994). A factor is defined as a construct or dimension which can account for the relationships (correlation) between variables, and a factor loading is defined as the correlation between the variable and the factor (Kline, 1994).

Using SPSSX information analysis system, principle factor analysis was applied to the data extracted from the 100 general items of the questionnaire. Varimax orthogonal rotation (Kaiser, 1958) was then specified. Factor loadings greater than 0.25 were extracted and presented by magnitude in order to aid the identification of clusters. An eigenvalue is the total amount of variance explained by each factor and calculated from the sum of squares of the factor loadings, therefore, the larger the eigen value the more variance is explained by the factor. In this analysis, all factors with eigenvalues of less than one were suppressed in line with Kaiser's criterion, which states that "only the factors having latent roots (eigenvalues) greater than one are considered as common factors" (pg. 37, Child, 1990). Arguably the most subjective process of labelling or classifying factors was carried out by both the author and an independent judge, knowledgeable in psychology and 'blind' in terms of the aims of the study. The resulting labels focused on the similarities of both definitions for each factor. A decision was taken not to include the full results of the factor analysis within the main text as this level of detail was seen as unnecessary and somewhat of a distraction from the findings already presented. There was a wish to maintain clarity and coherence and to this end only an overview of the extracted factors is presented. The items contained within each factor appear in Appendices XXIII and XXIV.

The main stress factors

Following analysis, the varimax orthogonal method of rotation provided the clearest definition and generated a total of 16 independent stress factors, extracting 62% of common variance and using 72% of the data. This provided a subject to factor ratio of 31:1 which was greater than the 20:1 recommended as a minimum by Arrindel and Van der

Ende (1985). In order to provide a clear definition of factors, those where the variance was spread between more than two factors were excluded. The 16 stress factors which emerged are presented in full in Appendix XXIII and include, where applicable, loadings on secondary factors.

The five largest stress factors (> 5 items) revealed clear sources of stress for students, and were as follows. Factor I: '*Lack of understanding/empathy*' (principally from academic staff, accounting for 31.7% of common variance), Factor II: '*Difficulties managing workload*' (4.2%), Factor III: '*Availability of and access to resources*' (2.9%), Factor IV: '*Relationships with peers within the learning environment*' (2.5%) and Factor V: '*The content/environment of lectures*' (2.3%). It is interesting to note that non-academic issues such as, finances, personal problems and accommodation, which were represented within the questionnaire did not emerge within any of the above factors.

The main factors affecting learning

The varimax orthogonal method of rotation again gave the clearest definition and generated a total of 20 independent factors, extracting 61% of common variance and using 94% of the data. This provided a subject to factor ratio of 23:1 which was greater than the 20:1 recommended as a minimum by Arrindel and Van der Ende (1985). In order to provide a clear definition of factors, those items where the variance was spread between more than two factors were excluded. The 20 factors relating to effect on learning are presented in full in Appendix XXIV.

The six largest factors (>5 items) revealed stressful experiences which were considered by students to have an effect on learning. The factors were, Factor I: '*Work related difficulties*' (accounting for 26.9% of common variance), Factor II: '*Availability of and access to resources/information*' (4.8%), Factor III: '*Adjusting to student life*' (3.0%), Factor IV: '*Disruptions in the learning process*' (2.9%), Factor V: '*Academic attainment*' (2.1%) and Factor VI: '*The degrading behaviour of lecturers*' (1.9%).

To summarise, the poor access to, and availability of, resources seems not only to be a clear source of stress but also an issue which has an impact on learning. Perceived stress as a result of managing workload is principally concerned with getting assignments completed and handed in on time, whereas not being able to discuss problems (personal or academic) and general deficiencies in understanding, motivation, energy and confidence seem to be common elements which affects learning as a result of work related difficulties. Students also see learning affected by further concerns which focus specifically on adjusting to student life, academic attainment and, the degrading behaviour of lecturers.

RESEARCH QUESTION 5: WHAT INFLUENCE WILL BIOGRAPHICAL AND PERSONALITY VARIABLE HAVE ON THE PERCEPTIONS OF STUDENTS?

5a. GENDER

Female students perceived the items to be significantly more stressful than their male counterparts ($t=9.372$; $p < 0.0001$) and to have more effect on learning ($t=5.03$; $p < 0.0001$). However, more female students indicated that the effect on learning would be or had been positive ($t=5.311$; $p < 0.0001$). An examination of the items which most strongly differentiated the groups revealed only four incidents which male students regarded as a greater problem. Paying rent when not in accommodation, paying poll tax/community charge, receiving poor service from the bank and experiencing difficulties in a romantic relationship because of the geographical distance were all seen as more stressful for males.

5b. AGE

The data from the questionnaire were categorised according to the age of student, 17-21 ($n=281$), 22-30 ($n=98$) and 31+ ($n=101$). A one-way ANOVA revealed a significant difference between the three age groups when comparing responses to all items in the questionnaire ($F=19.09$; $p < 0.0001$), with the middle age group showing the highest mean perceived stress score overall (2.87; 3.04; 2.81). When the responses to the general items only (numbers 1-100) were compared this also showed a significant difference between groups ($F=22.97$; $p < 0.0001$), again with students aged 22-30 having the highest mean score. This pattern was repeated for effect on learning (all 139 items: $F=8.459$; $p < 0.0002$ and 100 general items: $F=12.74$; $p < 0.0001$). When the number of plus signs or positives for all items were compared there was a significant difference between each age group (all items: $F=36.922$; $p < 0.0001$ and general items: $F=34.42$; $p < 0.0001$). However, in this instance it was the younger students who were significantly more likely to indicate a positive effect on learning as a result of the experience, a tendency decreasing with age (analysis for trend: $t=7.85$; $p < 0.001$). Incidents reported by students in this age group as having the most positive effects included working with other students who are highly competitive, being told by a lecturer/tutor you are producing work below an acceptable academic standard, getting bad mark or a lower mark than expected on a piece of work, giving a presentation and having the feeling you should be working harder.

Although not the subject of statistical analysis, identifying those items which had the greatest differences in mean ratings between the three age groups of male and female

students revealed some interesting findings. Younger students were more likely to lack confidence both within the lecture situation, (asking questions and giving presentations) and with other students, (working in groups and making new friends), male students in the middle age band (22-30 years) seemed to have greater concerns with their domestic responsibilities and to make the most of lectures and do well academically. They also appeared to be more sensitive to the negative attitudes of lecturers compared to older male students and appeared less confident and/or assertive in these and other situations.

5c. ACADEMIC YEAR

The data were categorised according to year of study. The one-way ANOVA showed no significant difference between the first, second and third year groups ($n= 241/173/57$) when comparing responses to all items in the questionnaire ($F=1.26$; $p>0.05$). When the responses to the general items only (numbers 1-100) were compared this again did not show any significant differences between groups ($F=.59$; $p>0.05$). This pattern was repeated for effect on learning only when general items were considered ($F1.917$; $p>0.05$). However, when all items were included in the ANOVA, the effect on learning was significantly different for the three groups ($F=6.1$; $p<0.002$) with second year students having the highest mean perceived effect rating. Second years considered the effects of difficult house mates and accommodation, difficulties with partners and job prospects, along with other students boasting, talking in lectures and behaving immaturely, to be of greater detriment to their learning than students in other years. (For items where ratings increase across the three year groups see Appendix XXVI, where they decrease, see Appendix XXVII). When the number of plus signs or positives for all items were compared there was a significant difference between each year group ($F=23.57$; $p<0.0001$) (general items: $F=25.98$; $p< 0.0001$). In this instance it was first year students who were significantly more likely to indicate a positive effect on learning, a tendency decreasing with the passage through college (analysis for trend for all items: $t=5.96$; $p< 0.001$, for general items: $t= 7.55$; $p< 0.001$). Incidents reported by first years as having the most positive effects on learning were extremely similar to those reported by 17-21 year old students. However, there were over three times the number of positive effect responses made by first year students to the top nine items compared to students in the younger age group ($n=312$ vs. $n=86$). Items included working with other students who are highly competitive, being told by a lecturer/tutor you are producing work below an acceptable academic standard, worrying about marks, getting a bad mark or a lower mark than expected on a piece of work, giving a presentation with very little notice and having the feeling you should be working harder.

5d. SELF ESTEEM

A student's overall score for self esteem from the personality inventory was entered onto the SPSSX statistical analysis package, following their ratings for items on the main 'stress/effect' questionnaire. The students were ranked according to their score for self esteem and those with a score greater than 25.5 (the upper quartile, n=126) were allocated to the 'high self esteem group'. Those students with a score of less than 14.0 (the lower quartile, n=119) were allocated to the 'low self esteem' group (See Table 12 in Methodology for the Scoring Scale). When dividing the sample into an upper and lower quartile there were clusters of students above and below each cut off point which led to the slight discrepancy in sample size

When comparing the responses of students, 138 out of the 139 items in the questionnaire were perceived as being more stressful by students with low self esteem. The exception being item no. 3: "Lecturers who fail to return work after you have worked hard on it." (T-test analysis: $t= 13.36$; $p<0.0001$). Furthermore, the degree to which learning was affected was perceived to be greater for these students ($t= 8.704$; $p< 0.0001$), although there was no differences between the groups in terms of whether this effect was seen as positive ($t= 0.51$; $p>0.05$).

Differences in the perceptions of stress

Items regarded as most stressful for both groups were very similar and were predominantly related to managing workload and getting access to books from the library and information from lecturers. However, students with low self esteem included items referring to a lack of help, support and guidance and a topic being beyond abilities. The items which differentiated the two groups seemed to be most informative (Appendix XXIX). The item where the difference between the mean perceived stress ratings was greatest, with students with low self esteem scoring higher, was 'You feel lonely'. This group also regarded other students who got good marks without appearing to do any work, working with highly competitive students and giving a peer assessed presentation or a presentation at short notice as more stressful than students with high self esteem. Experiencing difficulties in a romantic relationship due to a lack of trust, geographical distance or volume of work, trying to study when your partner wants you to be with them and feeling unable to talk to anyone about personal problems were all personal issues that were perceived as being considerably more stressful to those with low self esteem. In addition, maintaining motivation, prioritising tasks and having difficulties studying were work related problems giving rise to greater perceived stress for this group.

Differences in the perceptions of effects on learning

The items differentiating the two self esteem groups regarding the effect on learning can be seen in Appendix XXIX and cover a range of issues predominantly regarding academic work both within and outside the lecture room. A feature of these items seemed to be that any negative effects on learning could have been minimised by assertive action, an attribute possibly lacking in students with low self esteem, for example, being unable to hear the lecturer, being given incomplete or vague instructions regarding a task, and overheads that are either difficult to read or taken away too quickly.

Motivators

A minority of students (no more than 21%) in both groups considered many similar items to have had a positive effect on learning. However students with high self esteem found, giving a presentation with little prior notice, realising work has not been understood as well as the students had thought, getting a lower mark than expected on a piece of work and not understanding something that others seemed to have understood more beneficial than students with low self esteem.

5e. ANXIETY

A student's overall score for anxiety was entered onto the SPSSX statistical analysis package, following their ratings for items on the main 'stress/effect' questionnaire. The students were ranked according to their score for anxiety and those with a score greater than 16.5 (the upper quartile, n=124) were allocated to the 'high anxiety group'. Those students with a score of less than 7.0 (the lower quartile, n=127) were allocated to the 'low anxiety' group. As before, while dividing the sample into an upper and lower quartile there were clusters of students above and below each cut off point which lead to the slight discrepancy in sample size.

When comparing the responses of students, every item (139) on the questionnaire was perceived as being more stressful by students with high anxiety ($t= 15.61$; $p<0.0001$). Furthermore, the perceived effects of every experience on learning was greater for these students ($t= 10.57$; $p<0.0001$). However, there was a greater likelihood of this effect being seen as positive ($t = 3.21$; $p<0.001$).

Differences in the perceptions of stress

Items regarded as most stressful for both anxiety groups were very similar and predominantly related to meeting and forgetting deadlines, clearing and coping with workload, receiving poor marks and getting access to books from the library. However, students with high anxiety included items referring to not knowing who to turn to for help when the work was difficult, worrying about marks and lecturers who offer little or no guidance and support. Students in the low anxiety group included practical difficulties such as mislaying or losing work, a lecturer's incomplete or vague instructions and getting access to equipment vital for an assignment. The items which differentiated the two groups again proved more informative and were predominantly related to academic issues (see Appendix XXX). Those students with higher levels of anxiety considered the following items considerably more stressful than students with low anxiety, other students getting good marks without appearing to do any work, other students boasting, working with highly competitive students and giving a peer assessed presentation or a presentation at short notice, not being able to sleep, feeling lonely and too tired to study when arriving home, finding it difficult to study, lecturers who are intimidating or unapproachable, not having or being unable to talk to anyone about personal or work problems and working hard without praise or encouragement.

Differences in the perceptions of effect on learning

The items differentiating the two groups regarding the effect on learning can be seen in Appendix XXX and are very similar to those perceived as stressful. They again cover a range of issues predominantly regarding academic work both within and outside the lecture room. Many of the item which were perceived by students with high levels of anxiety as more stressful and as having a greater effect on learning are similar to those which were reported by students with low self esteem. It is noticeable that many of the incidents take place in situations where these students may feel they have little personal control over events.

Motivators

Of students in both groups who reported a positive effect on learning as a result of an incident, less anxious students found giving a presentation with little prior notice, realising work has not been understood as well as the students had thought and being unable to answer a question in a lesson and not understanding something that others seemed to have understood more beneficial than students with high levels of anxiety. In contrast, students with high levels of anxiety were more likely to report worrying about their marks and working in a group where there is a clash of personality as having a positive effect on learning.

RESEARCH QUESTION 6: HOW WILL THE EXPERIENCES REPORTED IN DAILY DIARIES COMPARE WITH THOSE CONTAINED IN THE SURVEY QUESTIONNAIRE

As can be seen in Table 11 and 12 in the Methodology chapter, out of a potential 140 diaries distributed to those attending five randomly selected courses, 42 were returned thus giving a response rate of 30%. A total of 136 incidents were recorded in the diaries, a mean of approximately three entries for each student over a five day period.

The qualitative data extracted from the diaries were analysed using content analysis which involved identifying specific sources of perceived stress for each diary entry and organising these into seven common themes or categories validated by an independent judge. These themes are presented in Table 27.

Table 27: Student Diaries: Themes

	<u>THEME</u>	<u>% of Total Number of Entries</u>
1.	Poor organisation	(27%)
2.	Resources	(23%)
3.	Lecturers/Tutors	(16%)
4.	Work	(15%)
5.	Personal	(8%)
6.	Car Parking	(6%)
7.	Other students	(1.5%)

Examples of actual sources of perceived stress as reported by students are detailed below in Tables 28 - 34. In addition, quotations from the diaries are included to illustrate how the students considered their learning had been affected by the experience.

Table 28: Sources of perceived stress in the Theme 1: Organisation

a)	<i>Last minute timetable changes</i>
b)	<i>Cancelled lectures</i>
c)	<i>Wasting time in lectures</i>
d)	<i>The slow pace of lectures</i> " Pace of lecture very slow, I was resentful at what seemed an inefficient use of time I would have loved to walk out..." (4)
e)	<i>Lectures</i> " Having to rush from lecture to seminar and then to another lecture and the seminar always starts late and finishes late so I'm late for the lecture. I'm all 'het up' and have to unwind so I can concentrate. It's bad planning to have three sessions running one after another with no time allowed to get to different buildings, so I sometimes miss out on a lecture if the door is shut, I don't like walking in 15 minutes late." (36) " Long day with long, intense lectures, it gets hard to concentrate,..." (27)

Table 28: (Cont.)

- f) *Out of college visits* " ...eventually arrived at the place tired and generally irate... . Topic area covered... but as most of us appeared tired and harassed did not gain as much from session as might have if arrangements had been more satisfactory.(42)
- g) *Room allocation* "room allocated... was far too small for the number of students... concentration difficult... heat goes up, oxygen goes down. Took time to fit everyone in and find seats and took longer to settle as a class at start of lecture...this type of incident very frequently occurs". (21) "...room too small - falling over chairs to get to own seat... it makes one irritable and resentful... this is a common problem". (22) "poor concentration ... physical symptoms - start of headache and tiredness". (42) "Members of the group have complained many times but have received no feedback... Unable to sit comfortably and unable to see OHP. Complained to lecturer. Unfortunately I fear our continued dissatisfaction with the room allocation may affect our relationships with our tutors". (14)
- h) *Assignments - guidelines/deadlines:* "...again guidelines appeared vague and I lack confidence in my ability to complete satisfactorily ...feeling so anxious I was rather preoccupied with negative self-talk and not hearing lecturers comments as well as might have..." (42) "...felt very stressed, especially as I have a lot of other work to do... This term I had 4 essays and 3 projects to do, last term - only 3 essays, not very well planned!! " (6)
- i) *Department:* "Hearing a rumour that an essay (which had received a very good mark) was being downgraded by some amount because the tutor had used a different marking scale... Checked for my name of the 'naughty list' on the notice board. It was there, so guess I'm one of the people affected. I've been asked to see my personal tutor, whom I find unapproachable. Perhaps I could phone instead? After all I don't have to continue with this subject, which has caused so much hassle over the 2 years. I was due to major in it. But I have two other majorable subjects. I'll seriously consider majoring in one of them, as I'm worried about doing a dissertation with a department where help is so hard to obtain. This could have far reaching career consequences" (4)

Table 29: Sources of perceived stress in the Theme 2: Resources

- a) *Despite library search, books not found:* "Couldn't find the books I wanted, VDU showed them in but couldn't locate.... . Will have to either buy the book or borrow it from someone before the exams". (28)
- b) *No books for essay/assignment:* "Trying to find books for another assignment due next week. ...I wasted time looking...couldn't do anything because all the books I wanted were already reserved. Have to resort to basic text books - again! It may affect grade on the assignment".(19) "No teaching books left in the library for next assignment, it made me very angry and therefore unreceptive to course work. I went to the book shop and spent £11.50 on the only book on Clinical teaching. Hopefully OK. Without the information I would have been unable to complete assignment correctly." (12)
- c) *No books from reading list available*
- d) *No time to recall unavailable books*
- e) *Last page missing from article*
- f) *Shortage of seating*
- g) *Using short term loan books*
- h) *Queuing for book loan/photocopier*
- i) *Photocopiers not working*
- j) *Computer unavailability/viruses*

Table 30: Sources of perceived stress in the Theme 3: Lecturers/Tutors

- a) *Poor teaching:* "...a waste of time, feel extremely angry ... and continue to get more angry as the session continued, therefore I did not learn anything. I try hard to concentrate... but this soon is lost as content normally appears inappropriate for me...the atmosphere in the room is so hostile that even if the tutor did try and teach us something appropriate, we would not hear it or get the most out of that lecture." (16)
- b) *Boring lectures:* "..went onto a subject way over my head. Switched off basically... ." (34)
- c) *Inadequate lectures*
- d) *Being unavailable despite appointment:* "Waited for 40 minutes for my dissertation tutor to turn up as arranged. Left note to go back later - still wasn't there. Couldn't find him. Caught up with him 3 hours later... couldn't make phone calls to county councils...may be too late for (the information) to go into dissertation which may affect result." (38)
- e) *Threatening teaching style:* " style of teaching threatening and uncomfortable ... you're not really able to internalise what is being taught.."
- f) *Unapproachable/Unwilling to give time*
- g) *Assuming a lower level of understanding from the class*
- h) *Upset by student evaluations:* "One tutor upset and angry re: our comments. I find this threatening and will consider it when asked to evaluate more...they do not want constructive evaluation and behave in a childish manner when it is done. (14)
- i) *Not turning up for lecture:* "The lecture was cancelled, the area we were to cover will have to be done another time.. Read the relevant chapter in my text book.. Only long term effects if the area is not covered as I do have some questions that need explaining". (31)
- j) *Turning up late for a lecture and going over at the end*
- k) *Talking too fast*
- l) *Difficult to locate*
- m) *Not marking work within arranged time*
- n) *Insufficient feedback on assignments and dissertations*
- o) *Not providing enough information*

Table 31: Sources of perceived stress in the Theme 4 : Work

<p>a) Assignments: <i>Late/unsatisfactory mark or feedback/difficult topic</i></p> <p>b) Having difficulties concentrating/understanding/maintaining motivation: "Appointment with college counsellor, finding it difficult to concentrate on my work sometimes, due to 'emotional' difficulties. I just try to work that much harder and take my mind off other issues".(6) "Misunderstood practical session - fellow students upset. Had to do test again. Lost the understanding of session. ... I just copied the written work down for later revision and discussion. I will have to find someone to explain the experiment to me". (28)</p> <p>c) Worrying about work: "Genetic problems... made me worry a great deal about my exams and how much I didn't know... In theory, it should improve my learning in that it scared me, because I didn't know enough so I should work harder". (35) "Waking up to realise that I've got less than two weeks to finish my dissertation, made me panic and do some work". (2)</p> <p>d) Exams: "I'm worried about exams, especially as they begin only 2 weeks after the holiday and all take place in May. Seems ridiculous to have the whole of June off - just waiting for exam results in July. I came here to study!!!" (6)</p> <p>e) Giving presentations: "In front of the rest of the group. Didn't take in what the rest of the group were presenting before me, as I was so nervous. Didn't take in much after me due to relief!!" (8) My turn to 'teach a skill' to the rest of the group. In spite of positive feedback, I spent the rest of the lesson wondering how I could have improved the teaching session, this reduced concentration.... I might not have absorbed all the information given subsequently and consequently give reduced performance in exams." (22)</p>

Table 32: Sources of perceived stress in the Theme 5: Personal

<p>a) Bereavement: "Saw a counsellor, this upset has caused poor concentration ... Drugs given by doctor are making me drowsy. Unable to concentrate for many reasons, exemplified by drowsiness". (3)</p> <p>b) Child care</p> <p>c) Illness</p> <p>d) Tiredness: "... became forgetful, nodded off during lectures. ...lacked attention ... lack of lecture content and unreadable notes while I was dozing... unable to take a break even though my body is demanding one". Falling asleep during lectures ... happened 4/5 times over a 2 hour lecture ... poor understanding of lecture material". (4)</p> <p>e) Lack of Money</p>
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Table 33: Sources of perceived stress in the Theme 6: Car Parking

<p>a) No space in the car park: "... late for lecture, (I) disturbed other students coming in late, found it difficult to settle. Had to copy notes". (1) "... a waste of time and annoying, put me in a non working mood, had to have a cup of tea before attempting to do any work". (2) "...got into lesson late as I had to take the car down the road to park. Started off the day in a bad mood."(7) "Time took to park the car. Delayed the time I was able to start work in the library."(20) "Had to use a disabled persons space (felt very guilty)...felt flustered for the rest of the morning ... couldn't concentrate very well. I kept wondering whether a disabled person was having to park a long way off because I took up their space". (22)</p>

Table 34: Sources of perceived stress in the Theme 7: Other Students

- | |
|---|
| <p>a) <i>Harassment</i>: "(a fellow student) following me around and turning up every where I go ... agitated until I got peace and quiet ... avoided the dependency in the library ... (he) knows my timetable inside out and I can't rely on friends not to tell him where I'm going ... It puts me in an indifferent mood and I don't develop ideas as much, but I still listen... ". (32)</p> <p>b) <i>Disputes</i></p> |
|---|

As can be seen many of the experiences reported in the diaries were similar to those contained within the questionnaire (see Tables 17 - 26). The data collected in the diaries provided further evidence from a qualitative perspective that many of the experiences contained and being rated retrospectively in the questionnaire were occurring on a day-to-day basis. Furthermore, the qualitative data obtained from the diaries provides an initial insight into precisely how certain unnecessary demands can deplete and erode concentration, understanding and motivation.

RESEARCH QUESTION 6 (CONT.): IS THE FREQUENCY OF REPORTING A SPECIFIC STRESSFUL EXPERIENCE DEPENDENT UPON THE TIME OF YEAR?

Of the 25 students receiving longitudinal diaries mid-way through each of their three terms, 14 students completed and returned at least one, with seven completing all three (for details of sample see Table 14)

The themes which emerged mirrored closely those extracted from the diaries collected during the first stage of the study (see Table 27). There were variations in reporting certain incidents depending on the time of year and these can be seen in Appendix XXVIII. Experiences identified as problematic in the first term only, related to extreme tiredness, boring lectures, coping socially, problems with landlord / landladies, doubts about being on the right course, and having difficulties with unmotivated, competitive or difficult students. The diaries completed in November and February (first and second terms) contained all twenty one incidents relating to poor teaching or busy, insensitive, unavailable, disinterested or patronising/sarcastic teaching staff. During February, students reported many more difficulties with work, feeling overloaded with assignments, lack of or late feedback, and money worries.

Obtaining material from the library, illness ('genuine') and worrying about work were among those items most often mentioned in the first two terms and, not surprisingly, exams and related difficulties were mentioned more often in the May entries. The only incidents to often be occurring consistently, regardless of the time of the year, were those related to personal difficulties with friends, family or partners

RESEARCH QUESTION 7: WHAT ARE THE THOUGHTS, FEELINGS AND BEHAVIOUR OF STUDENTS DURING AND FOLLOWING A STRESSFUL EVENT AND HOW DO THEY PERCEIVE THEIR LEARNING EXPERIENCE TO HAVE BEEN AFFECTED AS A RESULT

As can be seen from Table 13, 22 out of a total of 25 students agreed to be interviewed, however the achieved sample (those actually turning up for the interview) in November was 19, 18 in February and 16 in May.

All 53 audio taped interviews, each averaging 1 hour 15 minutes duration, were transcribed in order to retain as much of the detail as possible, detail which may have been lost if coding had been carried out directly from the tapes. The interviews were divided into two relatively distinct stages, an informal open discussion followed by discussions prompted by items in the main questionnaire. Although much of the data was already structured by the discussions stimulated by items on the questionnaire, the rest of the data were also analysed objectively and inductively for concepts and themes (in line with the principles of Glaser and Strauss's Grounded Theory model, 1967), with any material being extracted which could add to an greater understanding of perceived stress within a framework of sources, mediators and effects on learning. As a result of analysis categories emerged from the data which are presented, with some contextualisation and interpretation, under a broader theme heading.

The main aims of the analysis were to a) investigate the thoughts, feelings and behaviour of students during and following a particular stressful experience and b) to focus specifically on their interpretation of how, if at all, their learning may have been affected. If learning had not been affected a third aim was to c) identify what variables minimise or negate the effects on learning.

FINDINGS

The intention of the diaries, which had been distributed at the same time as the main survey questionnaire had been to provide supplementary data from another parallel perspective. The qualitative data gathered during the interviews with a small group of students was seen more specifically as a means of exploring an identified range of potentially stressful experiences, from a deeper and more detailed perspective. Despite many of the items contained in the questionnaire being the source of discussion, the dominant themes which were important to students and those upon which they seemed to have most to say, mirrored those themes identified as being the most stressful and/or as having the greatest effect on learning (Tables 15 and 16) and the categories contained in Tables 17 - 26. For example resources, particularly in the library, the attitudes and behaviour of lecturers, feedback and academic attainment and other students are themes

which have emerged from the analysis of qualitative interview data. It became apparent during analysis however, that the effects on learning following difficulties with, for example, stressors related to academic work, finances, accommodation and transport were so varied in nature and so unique to the circumstances of the individual student that these data were not amenable to categorisation. It was therefore considered inappropriate and meaningless to present such a broad range of unconnected experiences here. Therefore, the structure which emerged as a result of the analysis was firstly, an identification of common experiences and secondly, to focus on each student's unique perspective of how it was seen to affect learning.

The following findings resulting from the interviews are presented with verbatim responses (in italics, followed by the student's subject number and page location in transcript) in an attempt to provide the participants' in-depth perspective on actual experience of stress in particular situations and how the student believed this had affected academic progress.

1. RESOURCES/FACILITIES

Many of the experiences reported by students during the interviews provided an in-depth subjective perspective of incidents contained within Tables 15, 16 and 19.

Every student had at some time experienced difficulties locating, finding or borrowing the books they needed from the college library. The only positive comments about the library came in the first term. One student compared it favourably with his sixth form library and was particularly impressed by the use of a computerised index system rather than index cards, and another was pleased with the material provided for teaching practice. Students who had been shown around during induction week found much of the information given to them was of no use as the layout of the library had changed dramatically in the intervening period. Book numbers which did not correspond with the numbers on the shelves and followed no apparent logical order also added to students' confusion and negative first impressions of the library.

... you've got 500 stuck up at the top of the shelf and you look down and you've got something like 1036. It's crazy. The numbers are totally out of synch ... it's like mounting a major expedition ... (36:4)

Using the computer to check whether a book is stocked and available was the source of much frustration. There were twenty one comments referring to books which should have been there but were not, and books which were not supposed to be in the library but were found when the student was looking for other books located nearby. This was seen to waste

valuable time, lead to high expectations followed by disappointment and reduce the confidence students have in the library system. This problem can, however, be caused by a student from a course hiding the material for their own personal use.

You can't find them because some pratt has put them in the French department ... if you can't read it you can't know what it said ... He (the lecturer) hasn't got the time to tell you everything you need to know about it in a lecture, so he gives you background reading and he puts it in the library to make sure it's there and available for everybody ... he has to put off his lecture until next week ... completely rearrange his schedule and lecture on something else until people have had time to try and get it or he doesn't get in anywhere near as much information as he was going to get into his lecture. (36:4)

Being unable to find any books on a particular topic in the library was viewed as having a considerable effect on learning for those who could not get the relevant material from another source. Students reported not being able to develop an individual point of view, wasting valuable study time with books a lecturer had not recommended, not knowing as much, or having enough material about a subject for an assignment or a forthcoming lecture and being over reliant on course books or lecture notes. Other effects on learning included having a poorer or superficial understanding of the topic, experiencing difficulties keeping to a work schedule and feeling de-motivated by the grade given for a piece of work where the necessary books were unavailable.

The libraries here are absolutely useless ... they've got millions of students after one book so you can't get the book so then you have to have something else instead and they go all around the topic ... I have a wad of information and only three lines are relevant ... I just give up with the college library half the time ... I find myself getting really panicky that I'll miss something really vital ... (147:7)

... it doesn't look good if you hand in work and you haven't used the books recommended. No matter how brilliant the essay may be. (96:9)

I had an idea and I said I wanted to do it in this style and I'd never done it before. I couldn't find the book so I'd go back to the old tried and tested stuff again, so I wouldn't have learnt as much. (200:4)

If relevant, up to date books or journals were not available to students they were not able to read additional, supporting (and in some cases, better organised) material, considered vital if lectures had been difficult to understand or had been poorly presented.

...it affects learning because this leads to an over reliance on lecture notes and if these are inadequate, it's hopeless. (96:7)

If there is a lack of confidence in the library system this can affect the motivation to persevere and follow up an important reference in the future.

... the system should have told me that it was out on loan, whereas it didn't ... the next time I see things, I'm just going to leave it aren't I? Even though it could have been really important. (27:6)

The failure of some students on a course to find recommended or relevant books in the library seemed to serve as an disincentive to others.

... it's just been so annoying that I haven't been able to find anything, probably by my next assignment I'll try again, but if people have tried before me and not been able to get anything out, I won't bother ... (138:8)

Thus confidence in the library as a reliable source of material was seen to decrease emphatically during the first year. Nevertheless, the students gave a rich variety of accounts of how they attempted to compensate for this lack of resources.

I don't use the library at all, there's no point ... I've gone out and bought it or been to see lecturers and said, "I know you've got a copy of this ... can I ... photocopy it and they'll always say, "Yes" ... There's 150 of us in the group and you get, "Well my mate wants it next so I'll put it in the music section ... and tell him where it is. You can't find anything. (36:2)

It was interesting to note how often parents, particularly mothers, family friends or partners were mentioned not only as sources of support or academic help but for their assistance in locating necessary books etc.

My mum has given me a few books that she no longer needs (mother is a teacher) One or two of them were the set books ... but a couple of them were extra books which is useful ... I've sort of given up on the library ... (138:1)

I don't know if it would affect learning that much ... cause my mum goes to town quite regularly, so I'd tell her to borrow me this book ... (217:4)

... we couldn't find any of the books on the reading lists, so we had to get other books so we don't know how much use they will be ... I've been phoning up Mum and asking her if she can get them and photocopy them from the local library and she's been sending them up to me... (96:4) ... all my history essays have been written from books from her. All her stuff or her next door neighbour's... or libraries she's gone into ... it would have a lot of effect if I didn't have my mum to fall back on. (96:9)

Starting an assignment early before the majority of the course, continually getting a 'good' book renewed, buying the book despite severe financial pressure and sharing books with friends although the borrowing time was often too brief to be satisfactory were other measures taken to minimise the effect on learning. Northampton City Library was often mentioned as being an alternative, and for some students a more convenient, source of books for non-specialised subjects. One student with her own transport had in desperation taken a day to go to Leicester University Library on a number of occasions. The rush to the library after the lesson to 'grab' the few copies of a recommended book was a response in which students had either participated or witnessed. In addition, one student described one of her tutors forwarning her tutor group so that they would be able to get to the library first.

... some of our seminar tutors, they sort of say you're going to need this book, don't tell them I told you, go and get it from the library and don't get them all out from the library or it will look obvious ... apparently they're not allowed to give you that information ... if they've got the lesson before you then all the books are gone anyway ... (147:6)

When a lecturer had actually recommended a book or text for a seminar and the student has been unable to find it in the library, there was the added problem of attending the seminar feeling unable to understand or contribute to the discussion and believing their fruitless efforts to come prepared were not recognised by the tutor.

... he gave us 2 days notice and then gave us a list of books and they were on short loan ... there were 5 between 28 of us ... the first 5 went ... we went back the next day and there's another 5 and we haven't got a book for the seminar. So we didn't have the notes to do the seminar and we went into the seminar with a blank page ... you don't know what the hell he's going on about ... even though you wanted to do the work, it's not like you've been lazy ... you just get, "Oh" as if you haven't tried ... They say, "What's the point in teaching, if you haven't bothered". (151:10)

... it doesn't look good if you turn up and you haven't read the text or the book and you don't know what's going on. Some people take the time to go to the library to look for books and are unsuccessful, and are grouped with the people who haven't bothered at all ... unless the tutor actually knows you, they tend to think, "They haven't bothered", and "You're just using it as an excuse" ... (96:10)

Having difficulties finding up to date material was particularly detrimental to the creativity of this graphic art student.

The library upstairs has got a few up to date books, it says modern art but they were printed in the seventies. It's not really modern anymore. We're trying to come up with something new all the time ... Especially if you're in advertising, you want to do something new ... We either get the

ideas from that, or use it because that's what people are interested in now. What's up to date in year terms to you? ... the nineties, the last four years. (200:5/6)

2. LECTURERS

The issues for students under the general theme of lecturers centred around two main areas, their *behaviour* and *attitudes* towards students, which, although for the purpose of clarity are loosely separated at this stage, were for many students intrinsically linked, i.e. consistent lateness or a failure to turn up for a lecture conveying a casual attitude and a lack of concern to the students. Many of the items contained Table 20 and 21 relating to the understanding / empathy or behaviour of lecturers are enlarged upon here.

Lecturers' Attitudes

During open ended questioning, experiences such as lecturers not turning up at lectures, appearing very bored, taking no interest in the students, just going through the motions of teaching and not wanting to be there, tended to lead students to avoid asking questions in class to clarify their understanding, not bother to try and understand the material, lose interest and confidence in the subject, not go to lectures and express a loss of desire to learn.

... there's another teacher that I've found a bit threatening ... if you ask questions, ... he sort of implies that it's your fault if you don't know. How does that make you feel? That I don't want to go through it again. (245:2)

He's a bit daunting ... you don't ask any questions, you just can't ... he can see people panicking round the classroom ... you're trying to listen but you don't know what he's talking about ... we don't bother anymore ... There are some people who don't go to his lectures on purpose ... you're not even wanting to learn anymore. I've lost interest as well, I've just lost everything. (151:5)

When two students discussed action they could take to change or improve the situation they believed their efforts would be in vain.

I can't stand up to him (the lecturer) because he would take it personally and my personal work mark would suffer, so that's why I don't make a confrontation of it because I would not have the security of knowing that he would not mark me down because of personality clash. So not because of the man, but because of the power that he wields (70:8)

I think you could be victimised if you complained... (151:5)

One student, when asked whether she would take the option of a lecturer whom she had found very detached, said she was only taking it in the second year because someone else was teaching it.

If a student had problems with their work and considered that a lecturer/tutor was unapproachable this led to a unanimous belief that learning was being seriously affected. This impression had usually been gained through a previously unsatisfactory encounter/s with the lecturer and, as a consequence, avoiding the lecturer or giving up and not bothering were the most common behavioural and emotional responses.

When I've been to see him he just doesn't seem to want to know. I sort of go in, he looks up and mumbles something ... you feel like you shouldn't be there. He gives you the really cold shoulder ... He's my tutor ... even when I've seen him in office hours he still doesn't seem to want to know ... I've been to see my sociology tutor ... and every time I've been there, he's been so nice, he was really interested and that really gave me a boost as I thought "yeah, some people do care" ... if I've got a problem, I've got to do it myself. If I don't understand something, then it's up to me to look it up and if I still don't understand, then perhaps I could go and see him if I've got the nerve to go and see him. Do you? No I don't. (41:4/5)

... it annoyed me because she was going too fast ... you didn't know the main points to go and cover if you did want to cover it yourself, you couldn't ask questions because a boy asked questions beforehand and she was very intimidating so you wouldn't have gone to her anyway. (47:7)

Many students said that often their sentiments towards a particular lecturer and any lack of understanding of the material were shared by other members of the class and seemed reassured that they were not alone in feeling the way they did.

How does it make you feel? Not too bad because everyone is in the same boat as me... (37:7)

There were two instances where students considered that a lecturer had completely given up on them and their class and the following quote illustrates how this situation might develop.

I haven't really been bothered about doing any work for seminars because of the way he's so miserable. If he really cared about what I was doing, I'd think, "Yeah, well OK, I'll prepare for this seminar and I'll do something", but his attitude seems to be, "Well half of you aren't going to be here next year anyway, so it doesn't really matter" ... he's actually said that as well. That puts me off from the start. (41:7)

Having a patronising attitude, which was defined by one student as being made to feel that you do not know anything, yet at the same time being talked to over your head so you do not understand, led to a wish just to get out of the classroom and a questioning of the point of doing any further work 'for' the lecturer. This assumption that students work, not for their own benefit but for the benefit of the staff was verbalised by many of the students at some time during the interviews.

The desire to escape from the classroom was again one of the reactions when lecturers become angry with students who feel they genuinely do not understand what they are saying, in addition to frequently pretending to understand the material when asked, so as not to appear stupid. Worrying about being made to feel a fool of in front of the class for failing to understand a question or the subject under discussion often seemed to result in silent episodes both within lectures and in seminar groups.

... none of us have got a clue and there's like a silence and it's an uncomfortable silence. (52:7)

He (the seminar tutor) will just sit there ... it's the way he phrases questions ... you don't really understand them and so you don't really know what he wants, so no-one says anything in case it's wrong ... (21:3/4)

With enough determination, this mature student was able to channel her annoyance into increased motivation to learn.

I said, "Could you just say that again please" ... he said, "It's simple if you don't know it now you'll never know it" ... In the end he was so persistent that I said, "Oh yes I understand it now" and I didn't. That made me so annoyed. I got the book home and thought, "I'll bloody well understand it if it's the last thing I do ... and eventually I did. (104:8)

The attitude held by some lecturers that students should do the work they set personally as a priority, regardless of what else they have to do often resulted in feelings of guilt, a disproportionate amount of time being spent on these subjects to the detriment of others, and worry that the lecturer will think the student couldn't be bothered to do their work. One student reported that if the difficulties of managing the workload were acknowledged by lecturers with this attitude, she would feel calmer and be more able to concentrate as opposed to sitting and trying to learn one subject while thinking she should be learning another.

The disproportionately high workload in some subjects, particularly the law option of the combined degree, led one student who was having difficulties to question whether it was a viable option in the future.

I love doing the subject but do I want to do this next year ... (41:7)

Deadlines provided by the lecturer enforce a certain prioritisation and may result in greater efforts being made in one subject while neglecting another.

we're marked every three weeks ... whereas the other stuff, if that's going to show, it'll show at the end of the year. You always do what you're immediately required to do I suppose. (52:7)

Having a lecturer/s who expects you to go away and get on with it, without any guidance or support appears to have little effect on the learning of those who can get access to the relevant books or have a basic understanding of what is required. Guidance and support was seen as direction, feedback, constructive criticism, the necessary guidelines to get started and someone to say, "Yes, that sounds OK". When this is lacking students reported wasting valuable time doing a task wrong, coming unstuck at the first hurdle and becoming disheartened, carrying on begrudgingly or giving up, being confused and not getting as much out of a task as expected. Unfortunately this apparent lack of empathy can transmit itself to the students with negative repercussions, as the following quotation illustrates.

That really irritates me ... you get a real bad attitude to him, you don't listen to him. You think what's the point ... he just says "go away and do it, if it's wrong, it's wrong, if it's right it's right". This girl said "Oh I don't know what to do, I don't know where to start, and I'm not enjoying the lesson because of it and he says "well everybody's got hates haven't they? Go and do it" ... as it is now I don't understand anything. (151:8/9)

Again the overall impression was gained that students regard it as the lecturers' responsibility to make sure that the students fully understand what is required of them. In the longer term, if the mark for the work was poor, one student expressed the view that it was the lecturer's fault for not guiding her.

If lecturers always seem to be busy and in a hurry, this is not a problem for those students who can see them at another time or find out what they wanted to know from other sources. However if this is not possible essential guidance can be lacking which results time being wasted on assignments, confusion and a negative attitude developing towards those staff concerned. Students also reported rushing at the end on a project because they have delayed starting because of a lack of understanding, avoiding seeing a particular busy lecturer and getting annoyed yet leaving a problem unresolved.

Lecturers' Behaviour

During the general discussions the incidents relating to how a lecturers' behaviour was seen to effect learning were very diverse. One example of behaviour which students did

not expect from a member of staff involved the lecturer spending fifteen minutes with his back towards the class because students did not settle down quickly enough. When students were asked at the beginning of the interview to describe an incident they had experienced in the previous three month which they considered had affected their learning, poor presentation was the most common problem raised. A frequent example included lecturers reading from their notes, in one case staying seated behind a desk, with little intonation, resulting in the lecture being monotonous and boring. In this situation students had difficulties making notes or understanding the material because of the speed and the way the material was presented, with very little explanation or discussion. One such lecturer invited students to ask questions if they wanted to. However, one student explained he couldn't take notes, think about a question *and* try understand what the lecturer was saying at the same time. Generally the students expected the lecturers to have notes as guidelines to refer to occasionally and to talk facing the class rather than looking down at preprepared notes.

Two students had had the experience of being told not to take notes, or to note only the important points without knowing what these were. This led to feelings of annoyance and confusion and mentally disengaging from the lecture.

He made us sit there for an hour and he would not let us take notes, he wanted us to listen ... I switched off and did not learn a thing, did not remember a thing ... if I'm sitting there taking notes and I can see it on paper it's much better for me ... I was really trying hard to understand and listen to what he was saying and I just found myself thinking, "Oh what are we going to have for dinner tonight" ... when I see myself writing something, I think I'm learning because I don't write down the things I already know unless they're the main points in the area ... I think, "I've got to remember all this" ... and my mind gets overloaded and I think of something else, I think what the heck, forget it. (147:7/8)

When a lecturer speaks quickly, a style often justified to the students by a need to get through the material in the allocated time, this has a negative effect on the absorption and understanding of material during the lecture. Large chunks of information are missed from notes and while the student struggles to get something down in writing they only listen to intermittent parts of the dialogue.

You don't take anything in. You don't understand your notes at the end of it because you'd be usingshort hand and you're writing so quickly. (27:8)

You're missing out large chunks and you can't even often concentrate that quickly so you can't even memorise some of it for later... there are just some things I've never known because I haven't heard them or written them down ... (52:8)

Looking over a neighbour's shoulder or, if the student was confident enough, asking the lecturer to slow down, were actions that had proved unsuccessful, either because other students were having difficulties as well or because the lecturer was unsympathetic to the student's predicament.

... she says, "Oh you've got to keep up" ... and she will start moaning if you ask the same question again, tutting ... (41:9)

In addition the difficulties reported gaining access to books *and* having time to read up on information that the student only vaguely remembered from the lecture meant that positive action to counter the effects on learning were thwarted.

Six of the students interviewed had experienced being unable to hear the lecturer at all during a lecture. One student believed it happened when the lecturer was unclear themselves about what they were teaching, tending to mumble, turning towards the board or turning away mid sentence and doing something else. If students cannot hear they are not able to take any notes, have no understanding of what is being said and are unable to go back over the notes later to clarify any confusion, affecting the understanding of information given in that lecture and any additional related material presented in future lectures. When there was a need to get specific details correct, such as names and the dates, one student reported wasting a considerable amount of time looking through books for the names that sounded like those they had only partially heard in the lecture.

Students also mentioned trying to keep 'tuned' in but eventually switching off, becoming really bored, wasting an hour, asking others who could only guess at what had been said, not learning anything from the lecture and other students becoming restless, muttering that they couldn't understand and asking students around them what the lecturer was saying? In one class everyone stopped moving completely and became motionless so they could almost hear the lecturer until everyone get fed up and started grumbling and this was despite there being a microphone visible at the front of the class for the lecturer's use. Nevertheless, there was one incident where the student perceived that the effect on learning had been positive and this occurred when several students who had not heard the lecture spent some time before a seminar having a discussion about what they had missed.

The use of overhead projectors

Overhead projectors can be a valuable addition to a lecture, but if the writing on the transparency is too small to be seen by the audience, scruffy and difficult to read, taken off before even the important points have been written down or contains too much information to be copied in the time given, this resulted in confusion and a lack of understanding, annoyance, gaps in the students' notes, time wasted firstly during the

lectures asking for clarification and secondly finding and copying up missed material after the lecture.

No one gets the end of a quotation or the end of the sentence that wraps it all up ... no one seems to have learnt them and nothing seems to have sunk in and you just sit there and look and everyone is sitting there chewing pens, doodling, looking at things. (37:11)

It wasn't just a couple of words, it was chunks. I missed ... the last third ... I thought when I was doing it, I'll get the notes afterwards and fill in the little gaps. I just haven't done it ... I just haven't got the time to keep doing that. (104:5)

Feeling too embarrassed to ask the lecturer to put the overhead up again or to look at it after the lesson was also a problem for one less confident student.

... I wouldn't feel comfortable, especially when the whole class is there ... cause no one else seems to bother ... I think everyone will think I'm thick, so I daren't go up and say, "Can I have another look?" (163:6/7)

One student felt as though she had learnt literally nothing after one such episode and reported that she would avoid a question in the exam on the topic being taught because of the time it would take to do the extensive amount of background reading needed just to complete her notes.

It seemed to help if the student was able to make sense of their notes by talking to others after the lecture.

I miss things I could be using to form my own ideas from ... my writing gets in a real state, I can't read it and I think well what have they said and it's only until I've understood it from talking to other people that I can understand what I've written down. (138:8)

Some students reported developing tactics to minimise the negative effect on learning. These included trying to remember as much of the overhead as possible before writing it down, borrowing the overheads after the lesson from the lecturer and arranging with others that when overheads are used, one student copies from the bottom, another the first couple of points and a third copying from the middle section.

There was one specific situation involving the use of overheads that was experienced by almost all of those interviewed. Trying to listen to useful material at the same time as writing down what is on an overhead was for many very stressful with feelings of panic, annoyance, irritation or hopelessness being expressed. Most accounts convey desperate attempts to write down both forms of information, with limited success. The ability to

write in short hand or using a tape recorder seemed to be the only ways round this predicament. However the students without these options tended either to miss a large proportion of what was being said, opt to concentrate on just the overhead, or have verbal and written material unintelligibly jumbled together in their notes.

It's doing two things at once. It's hard to judge whether you should write down what he has just said or listen to what he's just saying or copy off the overhead, you feel it's going over your head and you panic a bit cause you can't get it all down ... My notes are just a mess, that's why I get a bit worried really, when I copy up my notes, cause I don't understand them. (8:8)

The verbalised information was regarded as a valuable addition to the basic points on the overhead and if the student did not include this to supplement their notes, a poorer grade on an assignment or an exam was seen as the long term consequence.

A lecturer may believe that he/she is enhancing the overhead with this additional relevant (or more commonly seen as irrelevant) material yet the effects on the student's understanding appear to be worse than if the lecturer had kept quiet.

I'm writing it down and I'm sort of taking in the stuff that I'm writing down to start with and then they'll start talking and I'll think, "Oh my God, this is important as well", so I'm trying to take in two pieces of information at once and they're cancelling each other out in a fight and I don't listen to anything, I'm just writing, but not taking anything in at all. (151:11)

In addition, if the subject is new to the student and one in which the student lacks confidence, then difficulties taking notes, understanding the material result in the stress and the effect on learning being perceived to be greater.

One can only imagine the feelings of this student who had information simultaneously coming from three sources.

He put up an overhead ... then he started writing on the board and he'd be talking about something completely different to what he'd been writing on the board or was on the overhead. You ended up with three bits of paper all going at the same time ... he assumes that you must have written it as well and because he's been talking, you must have had time to write the overhead and then he says, "As I was just saying" and you think, "Were you?" I'm on cerebral overload there. (36:6)

The efforts of the majority of students to record even the key points from all the information being given and then later make sense of their notes were, it seemed, in vain. The expectation seemed to be that the overhead would be displayed and the lecturer would run through it point by point at a reasonable pace, clearly interjecting relevant additional

information facilitating a sound basic level of understanding both during the lecture and later from well organised notes.

After the lecture the student may wish to contact the lecturer to ask a question or discuss a problem if, for whatever reason, they have not fully understood the material during its delivery. The use of office hours, generally seen as a good idea by students where tutors/lecturers set aside time specifically for students and display these details on their office doors, was a practice that did not appear to be widespread in the college. Without this allotted time, some students made their own appointments with their tutors with varying degrees of success and consequences of essay/assignment grades.

I went to see him about five times and he wasn't there. I made an appointment to go and see him and he didn't turn up ... I thought well I'm just going to have to do it myself, fingers crossed that I'm going to do it right ... now I've seen what he said was wrong with it, things I missed out I wouldn't have really thought of anyway. If I'd seen him he'd probably have told me all those things ... (41:8)

Feedback from Lecturers

The issues for students under the general theme of feedback, included worrying about marks, the delays in marking and returning work, the impact grade has on the recipient and the quality of feedback.

Worrying about marks is something many students admitted doing at some time, particularly when they were alone, had already received a poor mark for a piece of work or they were feeling that they did not want to let their parents down. Furthermore, trying not to think about it, forgetting other poor marks, having constructive feedback from tutors, talking to friends and family or working even harder seemed to alleviate the worry for some.

I talk to others about it and quite a lot of the time they are feeling exactly the same as well, talking about it normally helps. (138:5/6)

It spurs you on I would say, it's not nice, but it does spur you on ... the worry makes you work harder, you think "that was a bit 'O' level y" ... so you get your books out and you just check and make sure. (104:5)

Feeling overwhelmed with work and handing in work that one feels unhappy about also led one student to worry, to the point of not wanting the work returned.

I had load of work to do, all at the same time and I was trying to get them done and was handing it in thinking, "This is rubbish". ... I was worrying about them ... I was feeling a bit panicked and hoping I wouldn't have to re-sit ... I didn't want them back. I didn't want to know what I'd got for them ... I was quite happy for them to stay there forever. I was trying to put it out of my mind really. (41:4)

This comment ties in with an earlier finding on page 81 where the responses of students with high and low self esteem were compared with the latter perceiving only one item out of 139 on the questionnaire, "Lecturers who fail to return work after you have worked hard on it", as less stressful.

During exams, if one exam goes badly this can lead to a downward spiral in motivation. One student found it very difficult to motivate herself to revise for a second exam in the same subject area, as she felt her poor performance in the first had increased the pressure on her to do well in the second. Doing well, on the other hand, seemed to increase confidence, effort and positive self talk, such as, "I can do this".

Concern about marks can result from inadequate feedback on progress, leaving the student floundering, not knowing what whether the work is of an acceptable standard.

... I get worried when I'm doing an assignment because I'm thinking of what mark I'll get before I've even finished it ... Half the time I'm sitting there and what I'm writing isn't really going into my head. "Is this good enough to get this mark?". I do that all the time. I just think what do they want for this mark and I'll just shove it in (laughs) ... That's the only way we get any feedback ... you just get bogged down with the thought that you've just got to try hard, so you're not just relaxing and getting on with it ... I get all het up. (151:5)

Nevertheless, there were two students who commented on the positive consequences of worrying about marks, since in both cases it resulted in the students working harder, either for exam revision or, for the second of two psychology practical assignments and where although the mark for the first had been poor it had included a lot of helpful feedback from the tutor.

Delays of up to four months in marking and returning work seems to have various negative effects on learning. Being able to use the feedback to correct misunderstandings and recognise strengths and weaknesses in addition to being given additional information on what could or should have been included or omitted was overwhelmingly considered vital for learning. When this feedback is not given before the deadlines for similar assignments or exams in that particular subject, negative feelings, such as annoyance, anger and hostility were expressed and several reported a loss of motivation and confidence either during the lecture, assignment or exam.

...just knowing that I'd passed the essay before the exam would have given me a bit more confidence in the exam ... it's harder for me to get motivated to write a lot cause I think I'm going to write totally the wrong thing. (147:1)

*... the effect on my learning in this instance was extreme we came into the exam and we had a selection of questions for the essay, but the question that I did was repeated in the exam paper and I hadn't had my essay back ... I kept asking the lecturer, "Please can we have them back" ... She kept promising ... I have a friend who got hers back 2/3 weeks beforehand, had a lot of feedback on it and used the feedback from the essay for the exam ... How did that make you feel? ... Very unhappy. Very angry for days after the exam, it made me very, very stressed. It demotivated me when looking at the *** revision for the second exam ...It makes me feel why should I put so much effort in... (70:4)*

Being preoccupied with the thoughts that you might be wasting time on a current assignment repeating real or imagined mistakes was a common complaint.

... you might waste time repeating what you've already done and it's wrong in the first place. (104:7)

... It was just frustrating, how can you rectify your mistakes when you don't know what your mistakes are? ... it doesn't bother me how long a piece of work takes to come back, so long as you haven't had to put in another piece of work for that lecturer. (36:5)

There were reports of tutors providing really prompt and helpful feedback and this was seen as contributing to an improvement in marks.

... she (the tutor) got them all done quickly ... I'm sure I wouldn't have got such a good mark if I hadn't had the first one back ... (104:3)

There seemed to be an expectation that members of staff should mark and return work in a reasonable amount of time, reasonable ranging from two weeks, equal to the time given to write the assignment to as long as it takes, as long as it is before the deadline of a related piece of work, as expressed in the above quotation. When this expectation differs from reality emotions are heightened, particularly if penalties are incurred, as in the case of the following student.

...why is there this disparity between what students are expected to do and what the college gives you back in return, nobody minds putting the work and effort in if it's reciprocated, but if you're going to work your butt off, which you're expected to do and if you get it in late you get really

penalised for it and if you don't get it back from the lecturers, we understand they're busy people, we understand the workload they've got but there's a breaking point. (70:4)

When students have their work returned, a grade that is perceived as poor can induce feelings of depression, confusion, of being bruised, thoughts of "I can't do it", "I don't understand", wanting to sit and cry, not bother with the next assignment, give up and/or drop the subject. Poor marks were relative and some students, not expecting high grades, were 'relieved' if they passed with anything over 40%, while others become very dissatisfied if they received a mark lower than their last. Many students made comparisons with the attainment of others in their group and were reassured by similar or lower marks to their own. Receiving good marks in all cases seemed to increase effort and increase confidence.

I got 92%, I got the top out of everybody ... How do you feel now? Much more confident, yes, because in the seminars I did chip in ... now I've got these good marks, I think I'm a budding sociologist and you can't shut me up. (laughs) ... Good marks it really boosts your confidence and it makes you think, "Well, I am doing it right, so I'll stick with this. You sort of brush aside all these inadequacies and then you concentrate on your work ...(104:2/3)

If a student was aware that they had done well in an assignment or test there appeared to be an increased confidence in perceived ability in that subject, as they felt their knowledge had been shown to be sound, and therefore secure that new more complex information was being supported on a good foundation. Furthermore, one student believed that gaining this confidence stimulated her enjoyment and interest in the subject.

Taking remedial action as a result of the feedback seemed to be very dependent on the mark itself, whether the student really wanted to improve their performance on a subsequent assignment and the quality of the feedback itself. Irrespective of whether the work had received a mark that the student was pleased or disappointed with, as long as the feedback was seen as being constructive, informative, specific rather than vague and accessible rather than written 'highfaluting language' then the feedback was more likely to be read, understood and welcome, reportedly aiding progress and softening the blow of a poor mark.

I can cope with her giving me a bad mark because she tells me the things I have to put in it. (147:5)

... it's not as constructive as it was at 'A' levels ... here they give you something really vague... you don't really understand it so you say, well I got a high enough percent to pass it, so it doesn't really matter, so I don't really try to understand what he said... they don't really tell you much at

all, they might say the essay did not give as much information as it could ... I wished it was more specific. I just think that I could get on so much quicker if it was better. (21:12)

The mark average was 20% ... she just said, "You obviously don't understand" ... and kept saying today, "We did this point and I don't need to tell you this, it's work we've already done, you should be up to the point where you know it" and there was laughter throughout the class ... She should be able to tell ... I think she just doesn't want to. (151:6/7)

Feedback that is difficult or impossible to read is often ignored, and, if the student is persistent and well motivated, it may mean taking the time to make additional visits to the lecturer to decipher what has been written.

When a really poor mark confirms a serious deficit in understanding, written feedback often needs to be supplemented with a meeting with the tutor. However, when this situation was described by two students during the interviews, both ended up leaving the problems unresolved because of fear of what was going to be said to them. Having worked so hard on an assignment and not receiving good marks, one described the thought of talking about it to a tutor as 'torture' and preferred to 'just leave it'.

When comments were made which were interpreted as unfair, this resulted in considerable confusion, loss of motivation and/or a determination not to put so much effort into assignments marked by the same person. For one student a mark that did not reflect the relative quality of the work submitted (as compared to the work of others gaining higher marks) was 'the last straw' following a succession of negative experiences with one particular lecturer and as a result a decision was made to leave the course at the end of the academic year.

Most of the students interviewed viewed feedback on assignments as the only way they could gauge how they were performing in relation to their own expectations and compared to others on their course. Individual attention is a luxury when lecturers are teaching such large groups and, depending on the expertise of and relationship with the personal tutor, may lead to an over dependency on the grades and feedback on assignments in order to confirm or question the student's understanding of the subject. The following student saw her tutors' efforts as a measure of the concern they had for her progress.

If they give you feedback, they're concerned about the work you're doing - well if they just write, "This is crap" or "Yes, but you're not getting the point", then they're not really telling you anything, they're not really bothered ... If they don't give you feedback then it feels they don't really care what you're doing. (151:10)

3. OTHER STUDENTS

The data clearly indicated that the importance of social support in the process of stress and learning should not be underestimated. Many of the students related how they had found the help, information, advice and support of friends and colleagues invaluable when they were experiencing difficulties with academic work. Furthermore, some students reported that they preferred to go to their friends rather than to a tutor. This did not make them feel inferior, they often received a straight, understandable answer and/or they did not have to make an appointment.

... If you get stuck with anything you're more likely to go to your friends rather than the tutor 'cause it's quicker ... but it's also better 'cause your friends sit down and help you and you do the work together, so you have ideas off others ... (47:1)

When students were confused as to the requirements of an assignment the following students immediately turned to their peers for help and/or reassurance that they are not alone in having difficulties.

I can't do it ... unless I had other people to talk to I wouldn't be able to do it. (151:11)

I'd sit and talk to others about it, yes we'd talk to each other. (245:8)

...you talk about it with the rest of the group ... So if you get it wrong so does everyone else, which is a bit stupid. It makes you feel much better about it ... it's because you know that if you are going to get into trouble you know you are not going to be the only one. (8:5)

Meeting others regularly to revise for exams or phoning to discuss difficulties were other ways in which learning was enhanced by mutual support between students. Furthermore, sharing accommodation with others taking the same options resulted in understanding being cemented and enriched through comparing notes and the sharing of ideas, experiences and resources.

... I've only done 'A' level and one of the other girls has done a foundation and I'm not quite used to the thinking ... she teaches me a little bit of that, because I see her sitting there with her potato prints and things like this which are totally different ideas which inspires me to go and do some art ... (52:1)

... we tend to sit there and talk ... bounce off ideas ... we get a different perspective, selectively different or added information ... which is a big help ... we've all got the basic text books ... but other books we've got we just use each others. (96:4)

Obviously this can happen within the class and one student, studying graphic art, described how other students from different art backgrounds provided a rich and stimulating learning environment.

... they always have different ideas to us, you can pick up stuff from them. So someone who sits next to me ... his work is totally different. His work is all computers whereas another guy ... does it all by hand and it looks totally different, so you go from one extreme to the other. (200:5)

Missing family and friends and generally having difficulties in adjusting to college life were experiences that were reported by most of the students. Making friends or a friend with whom the student could trust and confide during the first term seemed to be very important to students in order to cope with the negative feeling associated with adjustment. Students with an established circle of friends in the area did not see this as being quite as crucial as those living away from home. However, having like-minded others to talk to, sit, work and socialise with at college and on organised trips was still considered very important for psychological well-being.

... I went home for a couple of days and I'd really had had enough because I was so lonely because I haven't made any friends. When you're in the lecture you sit there and you start talking to someone, I always try to sit somewhere different, most times, say, "Hello" to someone and that sort of worked a little bit, as soon as the lecture's finished, everyone goes and you sit there ... I have got a friend here already, whose been here a year and I'm really good friends with him. Which is good. That's probably one reason why I stayed because he said, "Stick it out, it can't be that bad, just give it a couple of days" ... he's introduced me to some girls ... so hopefully it should get better. (41:1)

The feelings of loneliness can come as an unexpected shock to students who have been used to the company of family, friends or work colleagues and is an experience that can continue throughout the year.

I haven't met as many people as I thought I would ... When I was at school it seemed to be that everybody was friends, especially the whole year group ... I've come from that to being very isolated here, that's what's hit me really, but I kept telling myself it will get better and it won't always stay like this, that's what keeping me going. (138:1/2)

It can take time to make friends and for groups to become cohesive. Working in organised groups did seem to encourage communication. However, groups of between 3-5 appeared

to produce the most positive comments as this was small enough for everyone to feel comfortable, fully contribute and get to know each other. Some students commented that changing groups around on a regular basis helped integration, improved learning and avoided, students 'being stuck in a group' or the formation of 'cliques'.

... people are in their set groups and ... I feel sometimes that's that group, that's that group, well what's left, you know ... I get stuck with the same people with the same view point, the same things which I find annoying. Sometimes I want to get into other groups so I can see what other people are saying, what their views are ... (138:2)

Students on the combined studies programme commented on the difficulties adjusting to being with a different group of students for each option or not 'moving round together', as they would if they were on a straight degree course. Forming three groups of supportive friends for a major, minor and complementary subject, rather than just one, seemed to be more difficult to achieve. Although these groups tended to be described as less cohesive, there was one straight degree course where the perceived differences between the younger and older students, compounded later in the year by the provision of extra tutor support for the mature students, led to conflict and the voluntary segregation between the two groups.

Our class is just divided into two areas, there's 5 rows of chairs and the two front ones are filled up with mature students ... who won't speak to us ... and then there are those at the back who are all my age (151:5)

I think our tutor should have said if anyone doesn't understand, then come to these tutorials because I've started going now anyway and he's not turning me away 'cause he's my tutor, but a lot of students won't go ... It's really helping me ... If I didn't go I'd still be lost really ... he says right, what don't you understand and I can see exactly the point I didn't understand ... you've got a one to one and he's explaining it to you ... I think the lecturer should have made us mix more 'cause you chose which groups you want to work in, so obviously you run to people you know, so you never get a chance to know them and you never get a chance to work with them. (151:2)

The actions of staff may be very influential in facilitating friendship and co-operation and a series of well planned activities very early on in the course seemed to produce long term benefits. For this mature student, the benefits were in terms of comparatively less loneliness and isolation in this particular subject and for the group, from the quickly developing cohesion and good working relationships between students.

... it is the most well organised, the most well motivated, the whole of the first seminar ... about an hour and a half was just getting to know the other people in the group by the end ... we all knew each other's names in the group and were we came from ... it was really, really good ... the drama group is gelling together so well. (70:13)

The behaviour of other students can create tension. Talking loudly when it is obvious other students are trying to work can make it impossible for more conscientious students to concentrate, work at the same pace and/or be as artistically productive. Long term deficiencies in understanding were reported when students were not able to hear the lecturer and take notes because of the background noise. They were unable to fill in the gaps in their notes because having been unable to hear, they could not remember precisely what they had missed.

... It's distracting my thoughts. If I'm reading something or trying to pick something up, I'll maybe miss a paragraph or something. Not take in what I was meant to ... it's not going in at all. So maybe I'll have to go back and read it again some other time ... (200:6)

...I thought, "God, just shut up, go out or something" ... it was quite difficult to understand and she was going really fast, talking ... and there were these two behind me talking and I just couldn't hear a word ... I was half listening to what they were saying and half listening to what she was saying ... (41:8/9)

However, one student who was finding his work particularly uninteresting happily got involved in a conversation going on nearby, which stopped his study altogether

In a lecture, the students look to the lecturer to maintain discipline and quieten those students who are causing a disturbance and distraction.

... it makes me want to get up and smack them ... if you say something then they just make fun, saying things like, "Oh shut up, get a life, you should enjoy yourself as well as learn". ... So many people have complained about them ... It's so disturbing ... the lecturer tells us that we should do something about it. He's not acknowledging them or telling them to shut up or anything ... effect on learning ... in that lesson, quite a lot. (151:8/9)

... the lecturer doesn't say anything, the people in the class have to say it, so you just keep turning round and looking at them but I don't think they get the message ... (163:6)

Students packing away before the end of a lecture can break the concentration of those still listening to the lecturer and make it difficult to hear a summing up of that lesson or useful details about the next. One student explained that it was particularly difficult to tell a popular member of the group to stop disturbing the whole class, whereas, if the person is not particularly well liked someone would usually say something. Another student experienced a similar dilemma when the person causing the distractions was a friend, who tended to behave more maturely outside the class amongst people with whom he felt more comfortable.

There was also the concern that the lecturer may react in a way that affects the quality of their teaching.

... If they carry on like that, the lecturer is just not going to care about what they're teaching. He might get a bit fed up and skim over it to get it over and done with. (217:5/6)

Students who boast about their work can undermine the confidence and motivation of some of their colleagues and in order to reduce these effects, they tended to be avoided as much as possible, particularly during examination time.

Working in a group where the other students were poorly motivated was experienced by six of the students interviewed. Generally the effects of this experience on learning was seen as minimal as all of the students said that they had to work even harder to compensate. However, if the group had to discuss a topic and then report back to the class, individuals who did not contribute, particularly if the group was small, were seen as having quite a negative effect on the quality and quantity of the finished presentation.

... you always wonder what the teacher is going to think anyway ... it's quite stressful and I suppose you don't know as much because you haven't been discussing it. (52:9)

The practice of marking the group as a whole, irrespective of the amount of work contributed, was the principal bone of contention. When all attempts to motivate have proved fruitless some students appealed to the tutor to bring students into line, with varying degrees of success.

... there was a guy who had hardly turned up for anything ... He had all this work he said he was doing ... he was typing it all out and we were all going to meet and give it in and he didn't turn up ... so we had to have an extension ... we were saying to the tutor ..."he hasn't done anything, he hasn't turned up with the work"... then it works out that he'll get equal marks,'cause you share the marks out ... she thinks he's the best ... she said, "Oh well you should have got it in by now, oh I only see what I mark ..." (41:9/10)

... Most of the people were working, pulling their weight ... We had an assessment, where we would mark each other ... we only failed one person because she turned up once last term ... she turned up the day before the presentation expecting to get a part and we just kicked her out there and then. We wrote a letter to her tutor asking for back up and we got it ... (37:4/5)

Being able to identify those students in the group who drain rather than contribute to a group's resources was seen, by some, as a useful learning experience. Nevertheless, despite the majority view that the effect on learning was often quite positive, the extra demands of carrying an inactive group member can encroach on the time allocated to other work.

... there was three of us and one girl didn't do anything and it had to be in ... a week before the exams started ... it was hopeless, we couldn't get anything done ... this girl didn't really care and she didn't bother turning up ... I was so tired, I was like a walking zombie trying to get it all done ... with one person not pulling their weight ... that was driving my revision down. The other poor girl spent all night trying to type it and she hadn't even started her revision at all. ((41:2)

All five students who had worked in a group where the students were highly competitive with one another spoke positively about their learning experience.

It definitely spurs you on to work that bit harder... you can't be outdone ... that's when the learning definitely increases ... everyone bouncing ideas off each other ... everyone pulls their weight together ... It's really where the majority is ... if no one is going to co-operate, then you're wasting your time ... (37:3/4)

That really stresses me ... It's positive because I want to beat them ... I think, "Right, you're not so clever". (151:12)

I like competition, it work very well for me ... I find at the end of it that you remember exactly what happened ... you go into this tunnel thing where everybody's trying to get down the same tunnel at the same time. Very task oriented? Yes extremely ... (36:7)

... a little bit of competition is OK. If you are in that situation, I wouldn't be in it by choice, you want to keep up with them don't you, especially if it's a group assignment'cause you think, "Oh they're not thinking I'm lazy ..." (104:7)

One student, aware of his own strong personality and wishing to enhance his learning experience, consciously identified others on his course with equally strong views who would be able to challenge him within a group. However, working with other students when there was a clash of personalities did not elicit the same number of positive comments. Sorting out personal disputes or being distracted from the task by another students 'annoying' behaviour often seemed to hinder progress and lead to deficiencies in learning. Only one student out of the five who reported this situation saw the conflict as benefiting them in any way.

... it's adding to group interaction. So it could be adding to the way we learn to work together. Rather than detracting from the academic learning. (70:14)

Others described situations where they felt they would have learnt more had they been working alone rather than in a group.

... we were doing a group presentation but he went away and did the whole lot so at the last minute we had to say to him, you've got to involve us as well, you can't just do it on your own ... he wouldn't listen to other people's opinions ... (47:8)

I was like different to them, my ideas were different to theirs, so I was always like the odd one out. I was trying to get my ideas across and you feel like giving up .. it was just a day project so it didn't really worry me. If it had been this project, I wouldn't have worked so well ... they'll tell you what they think of your ideas, so if they're rubbish they'll tell you ... It's better than no one taking any notice at all ... (200:3)

The following drama student was able to take action with a friend to reduce frustration. By opting to take responsibility for a parallel task (the lighting) they were able to minimise any potential negative effects on learning which they felt would have resulted from staying within the core group involved in the play.

I went through a very, very low period ... when I felt very alienated from the group because I got frustrated ... I felt that everything that I put in was being dismissed ... nothing was happening, everybody had this sense of 'we've got time immemorial' ... I'm so used to working within a time management structure ... That's why I wanted to do the technical side so that I could absent myself ... I'd have something else to get my teeth into. (70:7/8)

This qualitative data from the interviews illustrates how other students can be seen as a welcome source of support in times of need, providing help with academic work, enriching knowledge and cementing understanding, sharing resources and alleviating loneliness, dispondency and distress. Students also reported the benefits of well planned activities early in their courses which facilitated long term cooperation and friendship networks. However, it is clear that other students can also tax resources with negative consequences for learning, particularly if disruptive in lectures or in the library and if unmotivated or difficult to work with within a group situation.

As has already been mentioned in methodological issues, it is often difficult to recognise when an interviewee is perhaps too embarrassed or ashamed to go into the necessary detail regarding stressful events that have been experienced. Indeed it is important to mention that several students provided evidence of serious negative consequences on learning as a result of experiences such as, for example, an inability to obtain a book from the library (e.g. 147:6) and subsequently dismissed or minimised what appeared to the researcher to be quite serious effects. This may be interpreted as a way of coping with events which, because of the escalating difficulties they described, had become out of their control and as a result there was little point in verbally acknowledging the ultimate impact on learning which they may have been trying to forget or deny. It is probable that there are many more examples of how perceived stress might affect learning which were not

reported by students and as a consequence, this study might only provide a partial account of all the effects on learning which exist.

SUMMARY

The findings of this study can be briefly summarised as follows:

- it was possible to identify a wide range of experiences that students in this college of higher education would find or had found stressful. Those most likely to be considered moderately or very stressful covered issues related to, managing academic workload, finding books/material in the library, the attitudes and/or behaviour of lecturers, getting access to equipment and feedback on marked work.
- The experiences which were perceived as having the greatest effect on learning were related essentially to managing academic workload, a lack of resources in the library and the attitudes /or behaviour of lecturers.
- Experiences that were considered by a small minority of students to have a positive effect on learning were either confined to academic work issues such as worrying about or receiving poor marks, increases in workload and finding work difficult / challenging, or those involving other students, such as making comparisons between themselves and contemporaries or working in a group where the students were competitive with one another.
- The level of perceived stress reported on every item on the questionnaire was related to the extent to which the incident was seen to potentially affect, or have actually affected, learning. Therefore, for the majority of students, a stressful situation implied a *negative* effect on learning.
- Nine logical categories emerged from the data. Sources of perceived stress included organisational issues, academic work issues, resources and facilities, the attitudes of lecturers, the behaviour of lecturers, other students, finances, personal issues, general worries and other various aspects of student life such as, partners, transport and rented accommodation etc., relevant only to specific groups of students.
- The variables of gender, age, year of study, self esteem and anxiety influenced the levels of perceived stress *and/or* degree of effect on learning reported. Female students, second year students, students aged between 22-30 years old, students with low self esteem or high levels of trait anxiety were more likely to regard potential stressors as more threatening *and/or* as having a greater impact on learning than other students differing on these variables.

- First years, female students and students aged between 17-21 were most likely to indicate a positive effect on learning as a result of a stressful experience, a tendency which although decreased with age and did so more sharply with year of study.
- Many of the incidents reported in the diaries were similar to those contained in the main study questionnaire thus providing qualitative evidence from *another* perspective that many potentially stressful experiences were occurring on a day-to-day basis. The nature of entries were found to be related to the time of year, with the exception of personal difficulties which were reported consistently throughout the year.

The data from interviews was used to explore the experience of stress from a *deeper* perspective, through the eyes of individual students. They reported numerous ways in which learning had been affected as a result of particular stressful experiences. These were predominantly negative, but there were some situations which were considered by some students to have facilitated their learning.

CHAPTER FIVE: DISCUSSION

This research set out to identify experiences perceived as stressful by full-time students in a college of higher education and to investigate in what ways, if any, the student might perceive their learning to have been affected as a result of those experiences. Any perceived effects on learning as a result of a particular stressful event is an issue largely ignored by previous research which tends to list general sources of stress, often stopping short of specifying mutually understood experiences or exploring the impact these may have for learning from the students' perspective. In addition, the study also aimed to examine the importance of variables such as gender, age, academic year and personality in the perception of stress. In line with transactional stress theory (Lazarus and Folkman, 1984) with current thinking within the discipline (Briner, 1994; Lazarus, 1990; Sutherland and Cooper, 1990), the study aimed to identify the precise sources of potential or actual stress, assess their relative importance to students, explore moderating variables and investigate the emotional, cognitive and behavioural manifestations of stress as perceived by the students themselves. In line with previous research, this investigation aimed to capture and measure the subjective interpretation individuals makes when asked to consider a potentially stressful event particularly in terms of their learning experience. In order to address the main aims of the study, and in line with emerging trends within psychological research, the adoption of a combination of approaches was considered to be the most appropriate strategy. Cross-sectional questionnaires and longitudinal diaries and semi-structured interviews were utilised to gather qualitative or quantitative data to explore students subjective perceptions of stress from several methodological perspectives.

In order to formulate a perceived stress/effect questionnaire, exploratory meetings with representative groups of full-time students from a variety of different courses were undertaken. From information gathered at these meetings it was possible to identify a wide range of stressful experiences covering many aspects of student life which would be relevant to the main study's target population. Most prevalent were concerns about academic work, the attitude and behaviour of lecturers and finances. The method used in this study to devise a questionnaire is unusual in that few published studies report using material from a cross section of *all* students in an institution to formulate a questionnaire which measures perceived stress in that specific student population. There are very few student stress scales available and, although cost effective to use, somewhat predetermine the potential sources of stress thus potentially reducing the validity of the findings by omitting important current institutional or course specific stressors. Methods used by other researchers to formulate this type of questionnaire have included using existing off-the-shelf stress inventories, material from literature reviews and/or data from

interviews carried out by the researcher/lecturer with a varying number of their own students. (Mechanic 1962; Musgrove 1969; Zitzow 1984; Spiegel et al. 1986b; Dunkel-Schetter and Lobel 1990; Abouserie, 1994ab). These methods may restrict the items on a stress questionnaire to sources of stress already identified or to those that the student is happy to disclose to a member of staff. In this study it was possible to gather material from a wide cross section of students under conditions of complete anonymity by a researcher who was perceived as having no influence on a participating student's academic work or success.

The method of questionnaire formulation attempted to ensure that this measure of perceived stress would be valid in terms of the construct it aimed to measure, with each questionnaire item or potential stressor being relevant, recognisable and meaningful to each respondent. Each rating was intended to be a reflection of the student's perception of the situation in terms of stress and a reflection of how well they believed they would, or did, cope with that stressor in terms of the perceived effect on learning. Despite personal and situational factors being qualitatively different for each individual and leading to a unique interpretation of the event and its consequences, a average level of perceived stress and perceived effect on learning could still be ascertained using a large representative sample. This provided a useful indicator of common sources of stress within particular institution and the extent to which they were seen to influence the learning process.

1. INTERPRETATION OF RESULTS

The relationship between stress and effect on learning

The correlation analysis of the ratings for perceived stress and perceived effect on learning on each item gave a clear indication that these measures are closely related. The findings show that there is a common perception amongst students that the more stressful an experience is perceived to be, the greater its potential or actual effect on learning, irrespective of the nature of that experience. Furthermore, if the experience is related to a lack of resources, money, personal difficulties, the poor delivery of a lecturer or a lack of lecturer empathy, then the effects are overwhelmingly seen by the students as negative. It is important to acknowledge, however, that there were students, largely in their first year, who considered the effects as a result of some experiences, e.g. working with competitive students, worrying about or receiving poor marks, comparing themselves with other students, an increase in workload and finding work difficult/challenging, to be positive in terms of the learning taking place. However, this was the view of only a small minority of students, with the vast majority considering these to be unhelpful in the learning process. This is in line with the findings of Westman and Eden, (1992) where

stress consistently resulted in degraded performance. The findings that it was predominantly first year students who reported positive effects suggests that the frequency of an experience may play a part in whether there is a positive or a negative effect on learning. An example might be a student talking to another student who appears more knowledgeable. This may be seen as motivating if it happens occasionally in the first year, however, if this happens later as the student progresses through their course, particularly if they are older than the majority in the class, then this will be more likely to be seen as threatening to the student's self confidence, unhelpful and potentially demotivating.

In addition to the quantitative analysis providing evidence that there were strong links between perceived stress and effect on learning, the interview data revealed, in greater depth, many examples of how learning had reportedly been affected as a result of a stressful experience. Overall the effect or outcome seemed to be largely dependent on whether what was being asked of the student, or what they were asking of themselves, was beyond their perceived level of ability, whether there was enough time to achieve what they believed they could achieve and whether they had the internal and external resources to deal successfully with any encountered obstacles which could potentially make progress more difficult.

Sources of Stress

The data provided confirmation that academic concerns and study related issues were perceived as a major source of stress for students in higher education and are in line with studies of medical students (Wolf et al., 1988; Kohn and Frazer, 1986) and other comparable studies using non specific undergraduates (Musgrove, 1969; Beard et al., 1982; Zitzow, 1984; Dunkel-Schetter and Lobel, 1990; Tyrrell, 1992 and Abouserie, 1994ab). Items such as, 'You are unable to clear your workload' and 'You feel unable to cope with the workload' tended to be regarded as moderately or very stressful to the majority of students and as having a moderate or significant effect on learning. These and other similar concerns, such as a lack or loss of understanding, concentration, motivation and interest, which appear to directly interfere with the process of learning, were also unsurprisingly regarded as significant potential sources of stress.

The appraisal of stress is dependent upon the balance between perceived demands and the perceived ability to cope with those demands. A student can take an active role in reducing unnecessary demands as well as taking steps to enhance their skills to cope with stress. However, as the qualitative data show, if the source of stress is perceived as beyond the students' control, they will be more likely to attempt to reduce their feelings of discomfort by various emotion-focused coping strategies, such as resigned acceptance, emotional discharge or denial etc. One example might be, looking to see whether other

students are having the same difficulties, which may make the student feel better in the short term but may be less effective, or not effective at all, at modifying or addressing any negative effects on learning. The following areas of potential stress include many experiences where the student may exercise little control and are, as a consequence, in less of a position to influence any impact on learning.

Resources

Twenty five per cent of those items in the present study perceived as most stressful (mean rating >3.0) were related to finding or getting access to material/equipment for assignments or revision, particularly from the college library. With the exception of Snape's work in further education (1993), this area of concern has not featured in any studies looking specifically at sources of stress for non specific students in higher education (Mechanic 1962; Musgrove 1969; Beard, 1982; Zitzow 1984; Spiegel et al. 1986b; Dunkel-Schetter and Lobel 1990; Abouserie, 1994ab). One could suggest that this finding may either result from the methods used to formulate the pilot questionnaire or from the possibility that this problem may only be encountered at the institution where the current study took place, with the libraries of other institutions being able to satisfy their student needs. The latter explanation may be questionable in the light of the results of a study on cheating behaviour by Newstead et al. (1994) which found that 32% of students reported that they had ensured the availability of books or journal articles by deliberately mis-shelving them in the library or actually cutting out the relevant material leaving other students unable to find or obtain them. The findings of the current study showed clearly that a perceived lack of resources was not only seen as the source of considerable stress but was seen as contributing to significant negative effects on learning, over which students appear to have very little control.

The impact of this issue on students' learning is substantiated by Johnes and Taylor (1987) who found that a major factor predicting degree quality in different universities in the UK was library spending as a proportion of total spending. In this study the interview data revealed how learning was reportedly affected as a result of difficulties locating, finding or borrowing the books/articles needed. These perceived effects on learning reported by students during the interviews included, wasting valuable time looking for books which should be there but could not be found, being over reliant on core texts or lecture notes, not having enough material to present a balanced argument in an assignment, not being able to develop individual ideas because of only having a narrow perspective on a topic area and having a poor or superficial understanding. If students were unable to locate material relevant for an essay or an assignment there was a tendency for some to leave assignments until the last minute, and to experience panic, distress, anger and/or annoyance, particularly if the book/text had been recommended by a lecturer, or the student was unable to buy the book or borrow it from another source.

Losing confidence in the library was a worrying consequence of failures early in the year to find the necessary information. It is possible that not bothering or giving up looking for books in the library would result in compounding those effects on learning already described.

According to Ruth (1994) students do not perceive the college library as a system of information, but primarily as a source of books and/or journal articles. This perception, found to be reinforced by lecturers, that only these sources contain the required facts to pass the course, leads to reinforcing a dependency on staff and to the library being seen as a 'book warehouse'. This may explain why, as in this study, any difficulty obtaining particularly books is seen as so stressful. In addition, and, in line with Ruth, the findings of the present qualitative study revealed that the use of the library seemed to be related to the pressure of assignments and tests.

Mellon (1988) investigated the attitudes and feelings of students using the library for the purpose of research, and the majority (75-80%) described feeling fearful, anxious and 'lost' because they were unsure where things were, what to do or how to begin. He goes on to suggest that anxiety may be the result of the erroneous belief that all other students are competent while they are not, that this lack of ability is something to be ashamed of and that if they ask any questions this will confirm their incompetence to other students. These findings were supported by the sentiments expressed by students during the interviews in this study, with his suggestions as to the reasons for anxiety being equally relevant to many of the comments students made regarding their attitudes to their academic ability within the classroom situation.

Therefore, in order for students to make effective use of the library, the first step is for teaching and library staff to work together to address the problems of an over reliance on prescribed texts and the quantity of work demanded by the curriculum that students are expected to "get through" rather than "understand, process or integrate etc." (Ruth, 1994, pg. 32). A lack of time for reflection to develop critical thinking may ultimately lead to a surface approach to learning geared to the reproduction of facts rather than a deeper level of understanding (Ruth, 1994). Those students who try to adopt a deep approach to learning may find that they either collect many facts but do not have time to develop an overview or they come to a conclusion based on insufficient evidence (Entwistle, 1987). One could argue that guiding students towards a narrow range of material which might not be available and expecting them to work within a limited amount of time will undoubtedly result in stress being perceived if those books have already been borrowed by other students and additional sources of information cannot be found. In addition, if the student perceives, even erroneously, that these were vital in order to fully understand the topic area, they are also likely to feel that their learning has been negatively affected as a result, thus increasing their fears of failure in their end of year

examination. It is clear that in order to encourage and sustain long term use of the college library students should have an accurate understanding of what they need, the skills to locate material in stock and a broad knowledge of what the library can offer. In turn and in addition to having and organising a satisfactory level of stock, the library staff need to be aware of the anxieties, misconceptions and difficulties students have and their lack of knowledge on making the best use of available resources, and how easily they can become disillusioned following a series of failures to find what they need.

The attitude and behaviour of lecturers

From a broad range of potential stressors included in the pilot questionnaire, the largest single theme to emerge from the top 100 stressors included in the main questionnaire, was related to the attitudes and behaviour of lecturers. Furthermore, items relating to this issue were subsequently found to be a major source of stress for students and as having the considerable effect on learning. These results can be compared with the findings of Mechanic (1962), Musgrove (1969), Zitzow (1984), Dunkel-Schetter and Lobel (1990) and Tyrrell (1992) who all identified academic concerns/issues to be of paramount importance to students. However, although the focus of Spiegel et al.'s (1986b) study was on the interpersonal stress which results from conflicts between medical students and those involved in their clinical training, none of the above studies specifically identified lecturing staff as a major source of perceived stress. It is possible that the methods used to formulate the questionnaires, designed to measure perceived stress among students, led to the omission of items related to this issue*. These methods, already discussed, may restrict the items on a stress questionnaire to sources of stress already identified or to those that the student is happy to disclose to a member of staff. Evidence supporting such a suggestion comes from Snape (1993), who identified lecturers as being an important source of annoyance for students in further education. Although the items for his questionnaire were, in part, based on his own experiences within further education they were also drawn from discussions with students from institutions other than his own.

The factor analysis confirmed that an important source of perceived stress for students is related to a lack of understanding and empathy primarily from academic staff. Many of the items within Stress Factor I reflect the way some lecturers deal with their students, unaware perhaps of the negative impressions they transmit to those for whom they have a responsibility. For example, 'Lecturers who get angry when you genuinely don't understand what they are saying' and 'A lecturer cuts you off when you try and ask a question'. It was interesting to note that almost half the items were also significantly loaded, to a lesser degree, onto stress Factor II which related to the difficulties managing

* The method used by Tyrrell (1992) to design her questionnaire was not made explicit in the article.

workload. One could suggest that these items are inter-related, linking how students cope with their work and the response from staff to the difficulties they may be experiencing.

The sixth factor to emerge from the analysis of ratings for the perceived effect on learning included items associated with a lecturer's attitudes and behaviour. Many of the items in this factor were similar to items which the students had identified sources of perceived stress in Factor I. However, those behaviours clustering as a source of stress specifically affecting learning appeared to concentrate on the lecturer degrading the student either in front of others or via negative feedback such as 'Lecturers who make you look stupid in front of your class', 'Being told by a lecturer you are stupid when you make a mistake' and 'You receive an unfair/inaccurate mark for an assignment'. One could suggest that this group of behaviours is seen to affect learning by undermining a student's confidence in their abilities.

As already discussed in the literature review, Fransson (1977) demonstrated that students attempting to learn in a situation perceived as threatening would adopt a surface approach to learning rather than a deep approach. In effect, the students would be less inclined to seek understanding, examine the logic of the argument and relate the material being taught to previous knowledge, everyday experience and conclusions drawn. Furthermore, in departments considered to have 'good teaching', students tend to have higher scores on deep approach to learning and intrinsic motivation (learning out of interest). It was apparent from the qualitative data that a good relationship between student and staff is also seen as important in order to anticipate potential difficulties and provide sympathetic and prompt feedback on assignments and help with problems, in line with Ramsden (1981). However, what a student perceives as 'good teaching' does seem to depend on whether they wish to understand or just reproduce information without any major intellectual challenge.

The qualitative data revealed a broad range of cognitive, affective and behavioural responses which students believed directly or indirectly affected the learning process. Within the classroom they included a student's inability, for a number of reasons, to commit to paper what the lecturer was saying, leading to gaps in notes and subsequent understanding. With regard to note-taking from verbalised or written material presented on an overhead projector, research has shown that it is a vital part of learning, and information recorded in notes during lectures is much more likely to be remembered later than content not noted (Einstein et al., 1985). Di Vesta and Gray (1972) claimed that note-taking aided the encoding of information during a lecture and facilitated a later review by providing a record of lecture content. Furthermore, not only does a review of lecture notes enhance performance in tests based on the content of lectures (Kiewra, 1989) but taking notes may help stimulate the connection between the lecture and past knowledge. The difficulties students reported in this study echoed those found by Van

Meter et al., (1994) in her study of the dynamics of note-taking. When lecturers spoke too fast students missed material or wrote down everything because they had no time to think selectively. In this study difficulties were also reported when trying to listen to and write down verbalised material whilst trying to take down written information from an overheads. Lectures which were perceived as poorly organised were also seen as producing notes which were later difficult to comprehend, with students reporting that taking useful notes was only possible when the lecturer presented well organised material at a pace and a pitch which reflected the difficulty of the material.

As well as improving understanding and preparing a guide for subsequent use for assignments and examinations, note-taking seemed to increase attention during lectures with attention waning when note taking was difficult. In line with Van Meter and her colleagues, when notes were incomplete, depending on background knowledge, students had to rely on additional sources of information, such as text books or classmates, to fill in missed information and clarify the connections between concepts. Lecturers often regard students who take verbatim notes as only having a superficial understanding of the lecture content (Van Meter et al., 1994). However, some students in the current study expressed well thought out concerns that in fact paraphrasing could distort the meaning of material being presented and cause confusion at a later date. It is clear from the literature, and from the qualitative data of this study, that the way a lecturer is perceived to present material has a bearing on the quality of what is written down by students, either confusing the student or facilitating understanding. It also seems that students' concerns regarding the negative effect on learning as a result of these difficulties are well founded.

Students described other ways they believed their learning had actually been affected following stressful experiences within the classroom. These included avoiding asking questions, not bothering to try to understand the material, pretending to understand when asked a question so as not to appear stupid, disengaging from the lecture, feeling worried, "panicky" or becoming annoyed and irritated and losing concentration, interest and confidence, and wanting to get out of the classroom as quickly as possible. When there was a lack of understanding resulting from a variety of stressful situations, students reported remaining confused, developing a negative attitude towards the subject and the lecturer, delaying the start of assignments, wasting valuable time on doing tasks incorrectly, becoming disheartened, giving up and not wanting to learn. Not going to lectures was a response that several students reported as one way of avoiding the anticipated difficulties within the classroom.

Feedback

Poor grades, according to the students interviewed, can lead to feelings of depression, confusion, of "being bruised", doubting one's ability and/or experiencing lowered motivation to the point of wanting to give up or drop the subject. If feedback was not given before the deadline for a similar assignment or a related exam, students reported losing confidence, wasting time repeating actual or imagined mistakes and feeling annoyed, angry and hostile not knowing whether work they had submitted, or any future work they might produce, would be of an acceptable standard. However, feedback which was considered constructive, informative, specific rather than vague, prompt, accessible and clearly written was not only more likely to be read, understood and welcome, but able to turn the potentially negative effects of a poor mark into a positive learning experience for the student. The overwhelming message seemed to be that good marks seem to increase effort, enjoyment and confidence and 'good' feedback was vitally important to minimise any negative effects or 'soften the blow' of poor marks. Helpful feedback which is either lacking or delayed was identified as a frequent problem in this study, and one which was identified more than twenty years ago by Wankowski and Cox (1973) who found 70% of a random sample of students at Birmingham University dissatisfied with the assessment of their work in their first year of study. With the number of students increasing on many courses, feedback on assignments is often the only 'real' one-to-one contact which students have with many of their teachers. This may be the only way they can regularly gauge how well or badly they are performing before the end of year examinations and it is therefore perhaps not surprising that to some lecturers students appear "mark obsessed". (student 151)

Other students

The importance of other students, as well as friends and family as sources of support, help, advice, information and resources such as money/books/food etc., was strongly evident from the qualitative data. However, as well as the many ways understanding was cemented, confusion/mistakes sorted out and learning enriched through comparing notes and sharing ideas, experiences and resources, students also recognised the negative effects on their learning as a result of disruptive, immature or poorly motivated colleagues. These effects included, long term deficiencies in understanding because of difficulties in hearing what a lecturer had to say whilst taking notes in a noisy class. In addition, there were reports of disruptions slowing down the pace of a lecture so that students were unable to cover the necessary material in the time allocated, and breaking the concentration of more conscientious students within the class or while studying in the library or at 'home'. Outside lectures, students were often 'pulled in two directions', either by their wish not to be thought of as 'swots' or 'anti social' or by their need to get

down to study or revision. Being with other students seems to influence this decision and if the student is feeling lonely or the work is particularly difficult or uninteresting this seemed to add to the appeal of socialising with others.

Working in a group where the other students are highly competitive was one situation which has been identified by the quantitative data as being the most likely to have a positive outcome on learning. The qualitative data supported this finding and revealed that within this type of group the motivation, enthusiasm and co-operation between members may be increased either because individual students do not want to be left behind or be considered a burden, or because they find that sort of environment stimulating and exciting. The effects of group work on academic progress is less likely to be seen as positive if there is a clash of personalities within the group or one or more members of the group are poorly motivated. Learning was seen to be affected as a result of taking time to sort out disputes, enthruse or cajole others instead of getting on with the task in hand, feeling demotivated, worrying about getting work done, having to take responsibility for an unduly large share of task at the expense of other course work, or receiving poorer marks as a result of the failure of some of the group to pull their weight.

The student diaries in the present study provided validation that the sources of stress included in the questionnaire, relating to poor organisation, resources, lecturers / tutors, academic work, personal concerns, car parking and other students, were actually occurring on a day-to-day basis. In addition, the entries contained in the longitudinal diaries also referred to these areas of concern, whilst providing an insight into when, over the course of a year, these issues were most often experienced.

The impact of biographical/personality variables

Gender

In line with Linn and Zeppa (1984), Clark and Peri-Ricker (1986), Dunkel-Schetter and Lobel (1990), Soares et al. (1992) and Abouserie (1994b) this study found female students to be significantly more likely to perceive items on the questionnaire as more stressful than male students. This may reflect a trend for females to score higher on self-report measures of this kind. However, it could suggest, following the findings of Estes (1973), that male students may be more reluctant to disclose their feelings. Estes reported that male students were more reluctant to seek help for anxiety and depression and as a result were at greater risk of allowing chronic problems to reach crisis proportions than female students. A recent analysis of student performance by Page, et al. (1994) also lends support to this explanation. Despite the relationship between high levels of undesirable stress and academic performance (Westman and Eden, 1992), female students consistently

received better (or similar for mathematics, IT and computing) degrees than males on the same courses. Finally, this study also showed that female students considered that their learning would be, or was, significantly more affected as a result of a stressful experience than their male counterparts. However they were more likely to report a positive, rather than a negative effect. It could be suggested that female students may be more able/motivated to turn a potentially negative effect into a positive one. However, given the greater proportion of female students being first year respondents, it is possible that this result, warranting further investigation, may reflect a tendency for first years to regard the learning outcome as positive, rather than it being a feature of gender.

Year of Study

First year students have often been singled out as especially vulnerable, given the new academic demands of higher education, the financial responsibilities and, for many, being away from family for the first time (Fisher and Hood, 1987). It was therefore surprising, although in line with the findings of Tyrrell (1992) and Cushway (1992), that the more 'experienced' second and third year students perceived many day-to-day experiences as having a greater negative effect on learning. It is possible that as students progress through college they are more able to anticipate the negative consequences of stressful incidents and, rather than seeing them as aiding their progress, they recognise, with the benefit of hindsight, that they are more likely to lead to difficulties or delays. A second explanation might be that students in higher years do not expect to go through some of the incidents contained in the questionnaire, however their responses would still indicate the degree to which an issue was important to them, whether or not it was one that they continued to experience. The former explanation is consistent with Cushway (1992) who found that, irrespective of length or type of course, trainee clinical psychologists reported more stress in their second and third year of training. She hypothesised that this may be as a result of "the cumulative effects of stressors occurring throughout training", lending support to a negative anticipation of stressors. This increase in apparent realism/pessimism is supported by the finding in this study that the tendency to report being positively motivated by stressors (worrying about work or being told by a lecturer/tutor that you are producing work below an acceptable standard etc.) declines with the passage through college. To turn this around, these feelings/comments may become more de-motivating for students, perhaps because the more often they occur the more they become associated with the profile of a failing student rather than of a successful one.

It is interesting to note that the ratings for perceived effect on learning were significantly higher for second year students than for the other year groups, with items relating to accommodation showing the largest mean increases. It seems that for many students, having spent their first year in the college halls of residence, the experience of moving

into accommodation with other students and sharing domestic and financial responsibilities, may not always live up to expectations. Although some students reported that learning was enhanced by an exchange of different ideas and a sharing of resources, experiences that were rated higher by second years included house mates who disturbed study with loud music, failed to clear up after themselves or were unwilling to pay the bills, all of which were seen as seriously disrupting effective study.

It could be argued that after a year students unable to adapt and/or cope with the demands of higher education may have 'fallen by the wayside', having withdrawn from college, or failed their first year final exams. This study provides further evidence that first year students may not necessarily be the only students suffering loneliness and homesickness. Not only did second year students regard loneliness as more stressful, but, according to findings from the pilot study, a surprisingly greater proportion were experiencing it 'often'. First year students may attribute their lack of close friends or 'grieving' for their home and family, to being new to college and is, to some extent, expected or 'normal', whereas if these feelings persist into their second year this interpretation is more difficult to sustain.

Age

Students aged between 22-30 perceived all items on the questionnaire as significantly more stressful and as having a greater effect on learning than younger or older students. This runs counter to research considering this variable which has found no significant relationship between age and the severity or prevalence of stress related problems (Wechsler et al., 1981; Cushway, 1992). Younger students were more likely to indicate a positive effect on learning as a result of experiences such as, working with other students who are highly competitive, being told by a lecturer/tutor you are producing work below an acceptable academic standard, getting a bad mark or a lower mark than expected on a piece of work, giving a presentation and having the feeling you should be working harder. However, as there were over three times the number of positive effect responses made by first year students (312) to the top nine items compared to students in the younger age group (86), this tendency would appear to be a function of year of study rather than age.

Although not the subject of statistical analysis, identifying those items which had the greatest differences in mean ratings between the three age groups of male and female students revealed some interesting findings. The responses of younger appeared to reflect a lack confidence both within the lecture situation, (asking questions and giving presentations) and with other students, (working in groups and making new friends). Male students in the middle age band (22-30 years) seemed to have greater concerns with their domestic responsibilities and to make the most of lectures and do well academically. They also appeared to be more sensitive to the negative attitudes of lecturers compared to

older male students and appeared less confident and/or assertive in these and other situations. Male students in this middle age band were also more likely to report feeling that they had little in common with those around them, and to experience higher levels of perceived stress as a result. It is possible that male students in this age group may find it more difficult to meet other 'like minded' students, being more sensitive to the immature behaviour of other students in the classroom and in the library, perhaps having grown out of many 'traditional' student social activities. These findings indicate that this is clearly a fruitful area for further study and analysis.

Self Esteem

For individuals with low self esteem the results confirmed that almost all aspects of student life were perceived as far more stressful for them than for other students scoring high on this measure. In addition, they considered the effect on learning to be significantly greater as a result. These perceptions are supported by the findings of Linn and Zeppa (1984), Aspinwall and Taylor (1992) and Abouserie (1994a) who suggest that higher levels of 'unfavourable' stress were related to low self esteem and associated with poorer performance. It is possible that the low opinion these students have of themselves may reflect a lack of confidence in their ability to deal successfully in the long term with the sources of stress, therefore making them seem potentially more threatening. It is possible that such individuals believe that forces outside their control are responsible for negative events and as a result of their perceived lack of influence, the consequences may be viewed as more serious and somewhat inevitable. However, one would have expected, given these findings, that students with low self esteem would be less likely to report positive effects as a result of a stressful event, yet there was no difference in this respect. However, further analysis is needed to clarify whether this tendency to view potentially stressful experiences as having a beneficial effect on learning is more a function of year of study than the age, gender or personality characteristics of the student.

It is perhaps not surprising that, 'Lecturers who fail to return work after you have worked hard on it' was the only item out of a total of 139 where the mean perceived stress rating for students with low self esteem was less than for students with high self esteem. This may reflect the student's dissatisfaction and/or lack of confidence in the work and the subsequent worry about the expected mark. This is clearly illustrated in the qualitative data where a student reported ' ... I didn't want them back (the essays) ... I didn't want to know what I'd got for them ... I was quite happy for them to stay there forever. I was trying to put it out of my mind really.' (41.4)

Analysis of perceived stress ratings revealed that the item which most differentiated students with low and high self esteem was, 'You feel lonely'. One could argue that feeling lonely challenges a healthy, or confirms a low, self esteem and the longer it persists, the

greater students' tendency to blame themselves or make dispositional attributions regarding the cause. This feeling will not only be perceived as stressful but it can leave the student lacking in emotional, esteem, practical and informational support and vulnerable to depression, which should be a cause of concern for college lecturers, tutors, counsellors and managers.

Other items which differentiated those students with high and low scores of self esteem in terms of perceived stress clearly showed that students with low self esteem appeared to be less confident in their abilities to make close friends, maintain a romantic relationship and present themselves well in front of their colleagues. Perhaps compounding their sense of isolation. This lack of confidence appeared to extend to their academic abilities where they appeared to be in greater need of help, support and guidance from their tutors and lecturers. Many of the items showing the greatest differences in perceptions regarding the degree to which learning was, or would be, affected were those where students often are able to minimise any disruptions in their learning by using assertive feedback to the teaching staff, requiring a confidence that is perhaps lacking in students with low self esteem. These would include situations where the student is unable to hear the lecturer, is given incomplete or vague instructions by a lecturer regarding a task or whilst copying overheads that are either too difficult to read or taken away too quickly. The suggestion that these particular students may be less assertive than their colleagues with high levels of self esteem is supported by the conclusions of Taylor and Brown (1988). They propose that high self esteem and a sense of psychological control may lead individuals to adopt more effective coping strategies which in turn contribute to a feeling of confidence necessary to face up to and attempt to solve problems directly rather than to avoid them.

It was clear from the results of this study that students with low self esteem regarded many aspects of college life as more stressful than their colleagues with high self esteem, and as a consequence of these stressors, considered their learning to be more at risk. It is suggested that this may be due, in part, to the coping strategies adopted to deal with potentially problematic incidents and the degree to which the student feels personally in control of their learning experience. This again is a fruitful area for further detailed research.

Anxiety

The results confirmed that for individuals with high anxiety, *all* aspects of student life were perceived as far more stressful than for students scoring low on this measure. Furthermore, this group tended to perceived their learning to be, or have been, more affected, although perhaps surprisingly they were more likely to report the effects as positive. It is possible that to acknowledge an experience may negatively affect their

learning would increase their anxiety still further and focusing on any benefits, however small, may serve to reduce their discomfort. However, again, this is a finding which warrants further investigation into the particular characteristics and cognitions of highly anxious students and their experiences.

The definition proposed by Eysenck and Wilson, (1975) states that individuals who score high on anxiety are inclined to become "easily upset by things that go wrong and worry unnecessarily about things that may or may not happen" compared with "placid, serene" low scorers. Worrying about marks, giving presentations and comparing their academic ability with others on the course were indeed seen as more problematic for these students, in addition to difficulties in sleeping and problems with tiredness. They were more concerned about not knowing who to talk to about personal or academic problems, which may be compounded by a reluctance to seek guidance and support of a lecturer whom they considered unapproachable, appearing generally more sensitive to the attitudes of lecturers than students with low levels of anxiety. Furthermore, they did not believe their learning would be adversely affected as a result of stress, although, according to the research investigating links between anxiety and performance (Levi, 1972; Wine, 1980; Fisher, 1989; Marangoni and Hurford, 1990), they may, in fact, be more vulnerable to failure in the long term.

From the results of the current study it is clear that students with high levels of anxiety find all aspects of college life to be more stressful than other students with low anxiety and as a consequence, believe their learning is considerably more affected. The nature and cause of the anxiety may be different for every student. However these results and those of other researchers highlight how vulnerable these students are and how their potential achievements and their perceptions and enjoyment of college life may be marred by feelings of apprehension.

2. LONG TERM EFFECTS?

Are these reported effects likely to be detrimental to a student's long term performance? The available literature provides convincing evidence that perceived stress can affect performance via negative effects on emotions, cognition and behaviour. Dunkel-Schetter and Lobel (1990) suggest that it may be harder to learn under circumstances of high stress, with extremely high levels of perceived stress impairing concentration and problem solving, as well as disrupting emotional stability, (Gatchel, Baum and Krantz, 1989). Many of the effects on learning reported by students during the interviews are ones which have been identified as contributing to poor 'actual' performance. For example, the mechanisms used to cope with the difficulties which result from an overload of information (Miller, 1964) are very similar to the reported effects on learning within the lecturing situation, for example, missing out information, errors in processing, delaying responses during busy times and catching up when things have quietened down, filtering out information, giving a vague response or withdrawing from the situation either by physically leaving the situation or mentally switching off. Nevertheless, it appears we are selective about what we perceive and to what we attend, for example, as the academic year progresses students pay increasingly more attention when the word 'exam' is mentioned. Difficulties in concentrating and maintaining attention were also seen to occur as a result of poor delivery, resulting in a persistent lack of understanding of the material and disruptions within the classroom. It has been suggested that variables specific to the learning environment are most useful when attempting to predict performance (Spiegel et al., 1986a) and it is therefore those aspects of the student experience which may need most careful monitoring when attempts are made to improve performance.

Although students have a preferred learning style, they will adapt this to what they perceive is required of them (Entwistle, 1981). One could argue that as a consequence, if the student a) lacks motivation, particularly determination / enterprise (Hinton and Rotheiler, 1990), b) has limited information as a result of poor lecture notes, c) has poor quality social support, d) has poor access to resources and/or e) poor attendance at lectures, it is possible that students will concentrate their efforts on learning the minimum amount of material needed to 'scrape through' the end of year examinations. As well as making it difficult to manage time effectively and meet course work deadlines, perceived stress resulting from an overburdened timetable may lead, even in well motivated students, to a tendency to gear their study to test performance rather than to achieving a deeper level of understanding. Most students admitted during the interviews in this study how, during revision, they would strategically avoid subjects/topics that, despite their efforts, had not been fully understood or where there were still gaps in their knowledge/understanding. This would restrict the choice of questions they were

potentially able to answer on the exam paper, increasing the risk of failure and heightening their anxiety leading up to the examinations.

Entwistle (1987) argues that a student's own unique perception of the learning task is influenced not only by their motivation, cognitive style, ability, knowledge/conceptions, work habits/study methods and personality, but by characteristics of the teaching and departmental procedures that they are exposed to. This study found many examples to support these interactions, with the availability/lack of academic and financial resources and social/home support as extra components within his holistic model affecting the learning outcome. It is important to emphasise that how the student perceives the demands placed upon them can be based on poor communication between the student, the staff and the department/organisation, poor explanation, misinterpretation and unmet expectations. These can unnecessarily tax their finite resources and can lead to unnecessarily high levels of perceived stress and distress. The findings of this study confirm that if students are unable to successfully manage the real and imagined constraints and/or barriers they perceive they face within and outside the academic environment, it is the component of motivation which seems to be most seriously at risk. This is in line with research by Taylor (1983), who found the degree, the direction and the quality of personal motivation to study was the key component influencing a student's approach to learning within Entwistle's model.

Motivation is characterised by persisting and remaining interested, enthusiastic, involved and curious when tasks get difficult, and actively coping with challenges and set backs. Learning seems almost effortless if we are really interested in the subject and if we really want to learn something we will despite the difficulties. The importance of motivation was underlined by Albaili in a recent study of high, average and low achieving students at the United Arab Emirates University (Albaili, 1997). He found that "motivation was the most powerful discriminating factor that separated low-achieving students from their high-achieving peers" (p. 176). Losing motivation, giving up or not bothering to sort out difficulties were reported as consequences of a range of stressors experienced by many students and if this were to continue, a downward spiral of under or non achievement could be set in motion. Thus a loss of effort may result in poor grades with non constructive feedback/tutor intervention leading to even greater demotivation.

The present study provides substantial evidence of why students experience a loss or a lack of motivation, for example, after receiving poor marks with little constructive feedback, working with other students who lack interest in the group task and following a series of failures to find resources in the library. Motivation can be particularly difficult to stimulate during times of high demand, i.e. revision. This is in accordance with Fransson (1977) who found that a lack of interest in a text combined with efforts to adapt to expected test demands, i.e. adapting one's learning approach to a belief of what is

required, and high test anxiety increased the tendency towards surface-processing and ineffective reproductive attempts at recall. However, teaching staff can play an important positive role in maintaining and increasing motivation. Skinner and Belmont (1993) found levels of motivation could be predicted by the quality of the interpersonal involvement between students and their teachers and concluded that "children who experience their teachers as providing clear expectations, contingent responses and strategic help are more likely to be more effortful and persistent" (p.578). During the qualitative stage of this study students gave accounts of how effective teaching, where the needs of the student appeared to be appreciated by well motivated and committed lecturers, increased their interest, understanding and motivation. It would be reasonable to suggest that the motivation of all students would benefit from high quality interaction with teaching staff.

Although this study tended to focus on first year students, it is important to establish whether a lack or loss of motivation would have negative consequences on long term performance? The evidence seems to suggest that this would be the case. In a study by Cattell et al. (1972), motivation along with personality and ability variables were each found to contribute independently and significantly to the prediction of school achievement. Furthermore, the importance of motivation for final degree achievement has been clearly demonstrated by Wankowski and Cox (1973) who compared the failure rates of 'very clearly' and 'very poorly' motivated students (short and long term goal orientation), and found the ratios of 1:41 and 1:6 respectively, this rate reaching 1:2 for poorly motivated male students. These findings emphasise the need to take seriously, however seemingly unfounded, anything that students generally, or individually, believe leads to a loss of motivation or a reduction of effort, either in a particular subject or towards learning in general.

The importance of money, or lack of it, as an external resource cannot be underestimated. Towards the end of the academic year, several students were extremely anxious about their financial situations. Finding part time work to supplement a grant, particularly over the summer months, was for one mature student essential in order to buy the books and equipment needed for her second year. Despite the majority of students monitoring expenditure, a number of students interviewed had been unable to afford vital books and/or materials which had been recommended for their course and as a result were unable to use more expensive fabrics/materials for assessed art work, to prepare for seminars/lectures and follow up specific references after a lecture in order to fully understand the course material. This difficulty may be widespread, with a survey of student book purchases over ten years showing a decrease in the average number of books bought by students in the UK from 8.5 in 1983 to 7.4 in 1992 (The Guardian, 15.8.92). It is relevant that 61% of students in the pilot survey had gone without food because of a lack of money (with 5% 'often' having done so) with obvious implications for health and general well-being. There seemed to be the belief on the part of some students that they

could and should be able to manage solely on their grant and when difficulties were experienced, they felt, in addition to worry, upset and frustration, a sense of failure.

The overall conclusion drawn from the discussions with students on this topic was one where access to sufficient financial resources provided an additional safety net, moderating many of the perceived negative effects on learning as a result of poor college resources in the widest sense. For one student living at home, having sufficient funds brought the benefits of having his own computer and printer as well as all the books he needed for his course and enough savings to consider buying a car. Incidentally, evidence that academic progress may benefit from students living at home was provided by Johnes and Taylor (1987) who found that a major factor predicting degree quality in different universities in the UK was the percentage of students living with their families during term time. This situation meant that this student, along with students who were fully funded/helped by their parents/partners or had savings, was spared many of the frustrations that other students described as having a negative impact on their learning, without having to spend valuable study time in part-time employment. The negative consequences of paid employment on learning are clear. Not only is failure on a module three times more likely for those working during that module, but working students also get significantly lower marks (Paton and Lindsay, 1993). An interesting account, illustrating how difficulties can develop, came from a student (151:1) who, on receiving her grant early in her second term, sent £250 home to her unemployed parents to pay a domestic bill. This resulted in any remaining money being spent primarily on rent and food with little left for other less basic necessities such as, books, photocopying of articles needed for seminars/essays or transport to other libraries.

3. SUGGESTIONS FOR ADDRESSING THE EFFECTS ON LEARNING

There seems to be an assumption both outside and within academia that students will somehow get used to the 'stresses and strains' of college life and that many of the new experiences they have to face provide them with an opportunity and a challenge that in some way will assist their maturation process. Denying students the chance to succeed by 'mollycoddling' them when their existing resources are stretched, is often seen as stifling the development of self confidence and self esteem. The findings from the pilot study showed that for the majority of potentially stressful experiences, the more often they occurred the more stressful they were perceived to be, which fails to support the view that individuals get used to dealing with the same stressful event, and that they somehow become immune to or inoculated against its effects. It appears that students experience greater perceived stress when they are faced with the same situation which, it seems, they have not become more adept at coping with. Rather than adapting and successfully coping, it is possible to conclude that whilst indeed there are some stressful events which have been identified, particularly in the first year of college, which are welcomed by some students as being motivating and result in greater motivation, the vast majority are perceived to varying degrees, as wholly and increasingly undesirable and as constraints or barriers to effective learning.

As has already been suggested, a student's perceptions of what is stressful can be influenced by many factors which may or may not reflect the 'facts' of the situation as seen by another party, for example a member/s of the teaching staff. These perceptions can form as a result of poor communication and explanation and unrealistic/unmet expectations of both the member of staff and/or the student. The student's view is valid, that is how they feel and their emotions/beliefs determined their emotional response/actions which can affect the learning process. If any institution offering higher education wishes to assess how the provision of service is being perceived by its customers and to find ways of improving this, the least they can do is ask, "How do they feel?" and "Why do they feel the way they do?" For example, it is not enough to assume that students understand when they do not ask questions or are not interested because they do not contribute.

As a result of using instrumentation which was specifically designed to be used with a particular population of students, its generalisability is limited to the population of full-time students at one college of higher education. The purpose, however, of the study was to identify, explain and understand and not necessarily to predict, to aim for a high level of validity within the population, at the expense of generalisability outside of it. Nevertheless, many of the experiences described would be familiar to, or potentially problematic for, many students and staff in other similar institutions. Indeed other

researchers have identified similar problem areas, in further education in the North East of England (Snape, 1993), at Trinity College, Dublin, in the Republic of Ireland (Tyrrell, 1992), at the University of Wales College of Cardiff (Abouserie, 1994a) and in universities and colleges in the USA (Beard et al., 1982; Zitzow, 1984; Dunkel-Schetter and Lobel, 1990). Furthermore, the complimentary methods of data collection and questionnaire formulation used in this study could be utilised by other researchers who wish to gain a valid understanding of how students perceive their learning experience. Generalisation requires abstraction which leaves out the context. The qualitative study aimed to take the context into account and although all the experiences reported in the interviews are unique to that individual, there may be elements of that experiences which have the *potential* to cause stress to other students. If that element is one which could be modified, its potential to cause stress to all students may be reduced. Therefore, while the findings of the qualitative data may be viewed as subjective in nature, they may also be regarded as valid in the wider context.

Action is needed in order to alleviate many of the difficulties which students believe have a negative effect on learning. Institutions have a responsibility to understand, support and guide students rather than allocating blame on their deficient coping strategies. Much of the previous research appears to pathologise students, only focusing attention on developing their coping skills. This is not to say that students would not benefit from being exposed to techniques which may enhance their coping abilities, however, as we have seen, optimum learning comes as a result of a three way interaction between the students, the teaching staff and the departmental organisation. Briner and Reynolds (1993) have argued that organisational interventions have mixed effects, indeed from the findings of the pilot survey there was no relationship between perceived stress and frequency for a small proportion of experiences and therefore any blanket action is not likely to be met with universal approval amongst all students. It is therefore necessary for an institution to acknowledge the perceived effects of its teaching and departmental/ institutional policy on students with wide variety of different characteristics and target action, a) where it is possible for them to do so and b) where the overall effects will positively enhance the quality of life for students.

Improving the quality of lecturing/tuition?

Concentrating efforts to improve teaching standards would seem a productive endeavour. Maintaining a high quality of provision is a core requirement of any institution of higher education and the findings from the qualitative data have revealed that the quality of lecturing/tutoring varies considerably. The results of this study, in contrast to other comparable studies, have shown that the attitudes and behaviour of lecturers both in and out of the teaching situation can be the source of considerable perceived stress for students and be seen by them to have a negative impact on learning. When students were

given the opportunity and the guarantee of anonymity to address this issue along with many others in a questionnaire the clear message was that all students place a high value on the contribution made to their academic development by lecturing and tutorial staff.

In an article by MacFarlane (The Independent, H. Ed., 25.2.93) support can be found for this message. He cites a two year survey of the attitudes of 3,500 lecturers and students to undergraduate learning by the London Institute of Education which claims that "bad lecturing is one of the biggest barriers to quality in higher education". The most frequently mentioned obstacle was the reluctance to encourage persistently poor teachers to resign. His insightful descriptions of his own experiences of particular types of staff provide examples of the differing levels of quality to be found in higher education and mirror many of the experiences which students relayed during their interviews.

Good teaching can have measurable effects on a student's attitude to learning. In departments reported as providing 'good teaching' in terms of "a lecturer's ability to pitch material at the right level, maintain an appropriate pace and provide clear structure", students tended to have higher scores on deep approach to learning and intrinsic motivation (Ramsden, 1981). He found good relationships between students and staff were also important in order to anticipate potential difficulties and to provide sympathetic and prompt feedback on assignments and help with problems.

There were many reported instances of 'good teaching' in this study which had surpassed the students' expectations. Examples included subject areas where the lecturer had built up the knowledge "layer upon layer" (36:2) creating an understanding of the final picture and, later, of lecture notes. When lecturers were confident enough to take onboard constructive negative feedback from their first year students, the results benefited the students in terms of quality of teaching and the lecturer in terms of an increase of respect from the students. Other characteristics seen to contribute to effective teaching and understanding included making the lecture interesting, not by sitting and reading the material, but by interacting or at least making eye contact with the students and making sure the students understood and were kept on their toes. Having a sense of humour, being enthusiastic and enjoying the subject area, being able to 'break the ice' early in the students first term at college and create a friendly atmosphere where the students felt confident enough to ask a question if they needed to, or risk making a mistake if they answer a question posed by the lecturer, were all considered important. Being organised was also seen as crucial, entailing pitching and pacing the material at the right pace for understanding, interest and note taking, re-emphasising points which provide keys to understanding, using personal experiences to put the material into context and whenever possible using every day language. One student reported asking a tutor a question in the staff car park, an encounter which ended with the tutor on her knees reading the draft of a psychology practical, this response being seen as 'brilliant' by the student (104:4).

Another seminar tutor who provided timely help and advice to the same student was the subject of this quote, " she's an angel, she wants a crown on her head, she's fantastic" (104:1). Another student cited the example of one of his lecturers who makes it known at the beginning of the first term that he expects 100% pass rate, even if the students drop his topic at the end of the year. Having high expectations of students, combined with 'good' teaching, were reportedly being rewarded with unusually high attendance at lectures. Being reprimanded by a lecturer, if warranted, can also have positive results, for example, when tutorials have been missed. Overall students seemed to regard this as a sign that their absences have been noticed and that someone, other than themselves, considered their academic progress to be important. Good lecturers seemed to instil an initial motivation to do well 'for the lecturer as well as themselves', their students appearing to reciprocate the effort which has been evident in the teaching. This increased effort to reward seems to be the reverse of the 'why should I bother for him/her' attitude which also was reported during the interviews. It appears that 'good' teachers seem primarily to have a genuine concern for their students as individuals as well as an enthusiasm for what they are teaching.

From the findings of Snape (1992), as discussed more fully in the literature review, it is clear that many of the undesirable attitudes and behaviours which are regarded as sources of perceived stress for students may be as a result of the difficulties lecturers themselves have to face. It is, therefore, necessary to take these into account when looking at ways of improving the dynamics within the classroom. He recommends that management should place "greater emphasis on work planning, training, recognition, remuneration and work time schedules" whilst recognising that lecturers "require/need considerable support from both colleagues and 'the management' ... in the form of money or practical help ... advice and encouragement" (pp. 30-31). Furthermore, Raaheim (1991) blames the lecturers' working conditions, characterised by, "a lack of time, a shortage of resources, competition and numerous committee assignments" for the discrepancy between what teachers see as sensible teaching behaviour and their actual daily teaching practice "... all factors that often ruin both the pleasure of one's work and the best of plans for proper teaching" (p. 28). It may prove difficult to change what are regarded by students as the patronising / intimidating / degrading attitudes of some lecturers to a mutually more productive relationship based on mutual respect, confidence and co-operation. It may be of benefit to take steps to improve methods of monitoring the attitudes of students in order to understand what perceptions exist. This can take the form of regular meetings between nominated student representatives and course leaders/departmental staff where general and specific difficulties can be discussed, and if possible, resolved in the early stages before any long term effects on learning have occurred. Furthermore, there are increasing moves to include students in the official course assessment procedure (Education Reform Act, 1988) and it is possible that these lecturers will be forced to alter

their attitudes and behaviour, and organisations obliged to monitor provision more closely as a result of the negative feedback from students.

There is a vast literature on techniques and theories of education and training. Most notable in recent years is the literature (and workshops) on teaching and learning methods in higher education produced by Professor Graham Gibbs and his colleagues at the Oxford Centre for Staff Development based at Oxford Brooks University. Along with other highly respected educationalists, they offer high quality, detailed and wide ranging advice which goes beyond the scope of the present discussion. In the following pages, using the findings from the current research, particular problems / problem areas within the classroom will be identified and some tentative suggestions will be proposed as to how some of the perceived negative effects on learning might be addressed.

In order for the information presented during a large lecture to be understood the students need to be attending to what the lecturer is saying, a task made more difficult in larger classes (McConnell and Sosin, 1984). This level of attention is determined by the readiness of the students' brains to accept new information (level of arousal) and by the students' willingness to mentally engage in the task (level of motivation). For learning to take place, not only does this level of arousal need to be increased and maintained, but the lecture needs to be organised into a logical structure to include 'good signposts' to indicate key points and principles which are understood by the class. Furthermore, lecturers should have adequate notice of the lecture to ensure that it will be linked appropriately with other course material and that they are able to thoroughly prepare. Improving and maintaining attention within large classes can reportedly be assisted by the task/topic being interesting, relevant and intellectually challenging but not incomprehensible, students being allowed to take notes if they wish, a variation in the manner and style of presentation, active participation (as far as is possible) of the audience, taking short breaks, problem solving in pairs and using audio-visual aids and handouts. In a meta analysis of research on variables related to learning, the "importance of maintaining an orderly classroom environment and providing clear, well-organised instruction appropriate to the needs of individual learners" (Wang et al., 1990, p. 35) were highlighted. The most critical items of classroom management were found to be, "group alerting", where the teacher uses strategies that maintain the active participation of all students and "learner accountability", where the teacher ensures that the students are aware of the learning goals and expectations.

From the interviews some of the students reported taking a strategic approach in their efforts to pass their final years exams, with a varying degree of success. At the beginning of the second term there were many complaints that being unable to clear or cope with the workload was the source of considerable perceived stress and that the depth of understanding that seemed to be required was seen as impossible to achieve. Rather than

struggling to do everything, there were reports of students only attending lectures or doing work a) that 'counted', b) was assessed/marked, c) was relevant to the exams/tests or to their long term career plans and/or d) where there was an attendance record taken. This commonly adopted coping strategy of neglecting those areas of the course which are considered non-essential or dispensable, is in line with Entwistle and Ramsden's Lancaster study (1983) and needs to be acknowledged by teaching staff in order for them to give the necessary clear guidance to students to prevent a major misdirection of their finite effort. Prior to examinations these concerns seemed to be of paramount importance to students and a high level of attention seems to be paid to any actual or imagined attempt by lecturers/tutors to direct students towards what they considered essential revision.

Expecting students to make notes, listen to and understand what the lecturer is saying, and absorb visual information on an overhead, resulted in the students feeling overburdened and reporting a lack of understanding, particularly if the material was complex and/or new and unfamiliar. According to the findings of this study, the consequences included feelings of annoyance, confusion, switching off, disengaging from the lecture and not bothering to turn up for further lectures, all of which represent a waste of lecturers' time and effort as well as being an inefficient use of the colleges' resources. Pacing delivery seems to assist understanding, help prevent negative emotions and superficial learning and improve memory. When Raaheim (1991) rose to the challenge of making his lectures more 'meaningful' for his students by empathising with his audience, and presenting the material in a way that would be clearly understood, he was rewarded with 100% attendance. Such teaching strategies, which result in a high level of understanding, stimulate a deep approach to learning (Marton and Saljo, 1976) rather than a surface approach which leads in examinations to the reproduction of memorised material in order to fulfil the requirements of the course.

The layout of a lecture theatre, the acoustics and the audibility of a lecturer's voice all have an impact on whether the students are able to actually hear what is being presented. If they are unable to hear, the quality of the material is perceived as irrelevant and again the efforts of the lecturer and of the students are seen as being wasted. The design of new classrooms should take into account whether the students have a good view of the lecturer and the black/white board and whether they will be able to hear what is being said. Supplying head microphones to staff who have difficulties in making themselves heard in large lecture theatres containing a large number of students and checking usage would go some way to alleviate this particular problem.

Providing optional training for newly appointed or existing lecturers in higher education is problematic as it seems to attract those for whom the day-to-day problems of education are of interest or those who already possess some formal training (Raaheim, 1991). Although it should be acknowledged that there are important differences in the way

lecturers prefer to teach, universities and colleges are being put under increasing external pressure by the government to show, via staff appraisal, that there is at least a satisfactory level of provision and this may provide the impetus for an improvement of teaching standards and the quality of student learning within institutions. It is important for administrators/managers to be aware of the financial implications of inaction and not maintaining 'a finger on the pulse'. Courses rated below average on satisfaction have been found to have the highest rating for impact on a student's decision to withdraw from college altogether (Adams, 1994).

Students expect their course material to be "relevant and intellectually challenging, presented in an organised and co-ordinated way by accessible teachers. They expect to be guided towards what is important to know and to receive timely and constructive feedback on their academic performance" (Strayhorn, 1988). For many of the students in this study the reality in some subjects was perceived to fall short of a satisfactory level of provision. However, it is possible that rather than coming with expectations that were too high, they arrived with preconceptions which were grossly inaccurate or they were under prepared for, or unsuited to, the subjects they had chosen. It is possible that they also were unfamiliar with the ethos of higher education and staff, who place a greater emphasis on independent learning and intrinsic self motivation than their teachers/lecturers at school or within further education. Whatever the explanation, it was clear from the interview data that new students had to adjust to a very different learning situation to what they had expected, and to cope with the accompanying disappointment and/or disorientation.

Many of the problems students reported could be addressed in advance or in the first few weeks of the students' time in higher education (Simons et al., 1988). To ensure that students make an informed course choice, the prospectus needs to be easy to read and to address the specific academic needs of prospective students, with a brief outline of course structure, future job prospects and the ways the qualification can be applied in a work setting. Individual departments could produce, and distribute when confirming a place, their own course leaflets which would include a more detailed account of course content, along with a book list of key texts which does not include expensive books which end up not being used on the course. Simons and her colleagues recommend that many of the 'traditional' events of induction week could be scaled down with more emphasis being placed on fostering a sense of belonging and increasing knowledge of the department and its procedures via small scale, informal gatherings of staff and second and third year students. These 'welcoming strategies' often help to reduce the levels of disorientation and isolation which can inhibit and disrupt the learning process as well as providing an initial contact with the student's personal tutor.

In order to break down any preconceived ideas or misconceptions of the course, staff from the BSc Construction, Economics and Management course at the institution where this

study took place carried out a 'student expectations exercise based on the ideas of the Durham University Business School's " Expectations Approach" (Moore and Stewart-David, 1992). The exercise encourages students to express the sorts of expectations they have of the course and what the staff should expect from them. In addition, the staff also produce a list of what they expect from the students and also what they think the students perceive is expected from them. This process assisted in identifying unreciprocated expectations, helped both groups become more motivated and comfortable with each other and in the longer term was reported to have encouraged a more open, informed and productive relationship. At a very early stage both students and staff were made aware of clear ground rules and were able to avoid many of the misunderstandings which had often occurred later in the course.

During the first term it may be helpful for there to be independent expert advice and guidance available for students who are having second thoughts about the course/module they are taking. This and the other difficulties students may have to face should not be underestimated. Simons et al., (1988) quote 'drop out' figures in the first few weeks at one university as high as 14%, which is likely to include some students the institution would not wish to lose. Giving advice has traditionally been the responsibility of the personal tutor. However, it was striking how many students in this study did not know who their tutor was, even in the second term. As the early weeks and months are considered a vulnerable time for new students it is essential for those individuals who are having personal, social and academic difficulties to be identified. The results clearly indicated that there were many students who were having, or had had, problems in these areas, some feeling unable to tell anyone and some feeling unsure to whom they could turn to for help. Those students with low self esteem and high anxiety being especially vulnerable. Approachable and caring personal tutors are vital to provide students with the clarification, support and help needed to enable them to successfully meet, manage and learn from their problems, as well as acting as 'gate keepers' to more specialised help from the counselling service and/or, as in the college where the present study was undertaken, the Student Support Initiative (SSI). They have direct and greater access to the students and are more aware of their academic progress and as a result they may be the first to identify and iron out any emerging problems before they become more serious and difficult to deal with. Indeed, Earwaker (1992) argues that "rather than do amateurishly what counsellors do properly ... there is good reason to claim that within an educational institution it is the tutor who, when all is going as it should, does the whole job, the role of support staff being ancillary, concentrating on specific parts of it" (p.130). However, once the students in the present study had identified their personal tutor the reports of availability were mixed. The situation appeared to be more satisfactory when there were designated office hours or where there were other tutors available and willing to help. Furthermore, many students interviewed had a poor knowledge of the counselling and the SSI services and were unsure of what they actually

did or where they were located. Imeson and Wyatt (1994) are convinced that the "effective provision of guidance and learner support can help ameliorate some of the worst aspects of the student experience" and can be cost saving in terms of improving an institution's retention rates. It seems that tutors are not there to provide a safety net, but to enhance the quality of the students' learning experience, and as such the institution needs to encourage a shared coherent educational philosophy, where teaching, learning and helping are bound together (Earwaker, 1992).

4. FINAL CONCLUSIONS AND RECOMMENDATIONS

It is clear from the results of this study that there are certain aspects of higher education which students see as essential to support their academic progress. An effective and high quality service in terms of resources, teaching and organisation is seen as fundamental for success and psychological well-being. A efficient and effective communication network between the staff and students within and between departments and fostered in the students' first term, could also help to avoid many misunderstandings and misconceptions which can occur and promote a more open, informed and productive relationship.

The library represents an important source of information for students, supplementing lecture notes and providing a broader range of material to enhance the quality of essays, assignments and revision. Difficulties in getting access to what they feel they need to know results in disappointment, frustration, procrastination and lowered confidence in what the library has to offer, which appears to affect the frequency of future use. If degree quality is important, then the level of library spending as a proportion of total spending has to remain or become comparable with other successful institutions. On a more practical note, some of the reported problems could be avoided by organising the library in such a way as to ensure the best use of the books and journals that are in stock. Using the Dewey system of book classification, the numbers on the spines of the books should always match the information given on the protruding sign at the end of each stack of shelves. When books are returned to the library every effort should be made to get these books back on the shelves as quickly as possible, increasing the accuracy of computer information regarding the availability of books. In addition, students would welcome efforts by library staff to make sure that the books, journals and other resources etc. are stored in the correct order and that any books 'hidden' for the exclusive use of one or two students are returned to their proper place as quickly as possible.

The behaviour and attitudes of lecturers/tutors are clearly important to students. Their self esteem, anxiety, levels of confidence, motivation, how well they feel they are coping with the workload and the perceived quality of learning, seems to influence, and be influenced by, their relationships with staff. Students with low levels of self esteem and/or high anxiety seem to be particularly vulnerable if these relationships are unsatisfactory. Staff are also in need of the support and help of managers and colleagues to enable them to deal with the demands placed upon them as effectively as possible.

The content of a lecture and the way it is presented and viewed by students in the class situation can assist or impede understanding. The negative effects on learning that students perceive occur can be moderated by asking questions in class, talking to the lecturer after the class or at a later date, obtaining relevant material from a library or the

student's own books or talking to friends/colleagues. If, for whatever reason, these sources of clarification are not available, serious deficits in understanding are reported by students.

The data from the qualitative study highlight the importance of savings and the financial and practical support given by friends, families and partners. There was evidence that this had a direct influence on the quality of assessed work. It is likely that with the rising cost of academic books, art materials, rent, food and entertainment and a reduction in both the amount and number of local authority grants, the gap between those who are able and those who are unable to moderate the negative effects on their learning by using their own financial resources will widen. Even when students take on part-time work to supplement their grant and potentially improve their financial situation, academic success seems to be the price they have to pay. The college needs to take action to provide and maintain at least a satisfactory level of provision to ensure that a good quality education is available to all students whatever their circumstances.

It is possible that in the future the problems faced by students may involve isolation and a lack of face to face interaction with teaching staff and other students. With the increasing number of students of all ages wishing to take up higher education and a constant pressure from Government on institutions to provide a cost effective and efficient system of provision, there may be move towards a greater degree of direct learning. In the same way as the Open University distributes high quality written and video course material, the Internet may be able to provide a link between students in any part of the world wishing to take up a course of study and any institution of higher education which is providing the best material, either visual, auditory, written or interactive in that area. However, students seem to enjoy and benefit from the social interaction that comes from physically attending a college. When students were asked the question, " What are the best things about being at college" the most frequent responses included, "greater independence, meeting new people, friends and being away from home", pleasures which may be threatened if contact between students were only of an electronic kind.

Previous research which has identified sources of stress for students in higher education has tended to use methods which do not fully reflect the wide variety of institutionally related stressors encountered by the target population. It has not acknowledged how students might react to these stressors in the short or long term particularly in relation to their learning experience. Our understanding of this process has been limited by a lack of qualitative data which would reflect the reality of a 'stressful experience' for the student. It is therefore heartening to observe that using a combination of quantitative and qualitative methodologies is not only becoming more acceptable within psychology, it is being seen by many as a welcome development. The future direction of research in this area will take account of this methodological evolution in addition to using longitudinal

research designs to monitor any changes in students' perceptions of stress and any cumulative effect on learning over time. This study has highlighted several fruitful areas of further study, for example, attempting to gain a deeper understanding of the perceptions of students with low self esteem and high levels of anxiety and how these personality variables may be related over time to the perception of stress and the student's perceived ability to manage that stress. The age and gender of students also have been shown to have an impact on perceived stress and the impact this is seen to have on learning. It is indeed an exciting and dynamic time.

Without action many of the negative effects on learning reported or endorsed by students will be exacerbated by the increase in ratio between student and staff and an even greater demand being placed upon the resources available to each student. Figures from the Department of Education and Employment show an increase of 43% in the numbers of enrolments at English higher education institutions between 1990/91 and 1994/95. Many of the teaching staff find it logistically impossible to nurture and support these numbers of students as they feel they should, since there are often just not enough hours in a day. As a result of the funding allocations for 1996/97, many institutions are facing financial cuts of between 2 and 4.5 per cent. With penalties now in operation for the over-recruitment of students, it is possible that one option to cut costs will be a freeze on vacated lecturing posts, again resulting in an increase in the staff/student ratio. There is also an accompanying pressure on other college resources which aggravates the students' feelings of frustration. Not only it is more difficult to get access to and communicate with a lecturer/tutor, but it is more difficult for students to find out what they need to know from other sources.

In terms of assessing the actual and potential monetary and productivity losses to a college and to students, research to identify what students perceive as the sources of their distress and to assess the impact these might have on the learning process is extremely important. Research has demonstrated that environmental modification can reduce sources of perceived stress for students (Gill, 1976 and Lamb and Rapin, 1977), whereas blaming, patronising or pathologising students is at best negligent and an evasion of the responsibility institutions have for the well-being of their students. The majority of students are motivated to come to college principally with a wish/need to improve their chances of obtaining financially rewarding and interesting employment in a very competitive job market ("Qualitative," 1980). It is possible that students who believe that this goal is more likely to be achieved on another course, or worst still in terms of funding at another institution, may cut their losses and move, either during or at the end of their first year. The loss in terms of human effort, inclinations to study in the future and goodwill towards the college is immeasurable and this may have consequences for the long term reputation of the college, and thus the number of future applicants.

The methodology used in this study has been useful in that it has identified specific problems in one institution. However, many of these could be considered potentially problematic for all students in higher education. Improving communication within an institution in order to understand the basis of students' concerns would be a first step to reducing levels of perceived stress. The next would be to reduce the incidence of many of the experiences identified within this study, thus alleviating some of the unnecessary pressure that seems to inhibit or interfere with the learning of many students.

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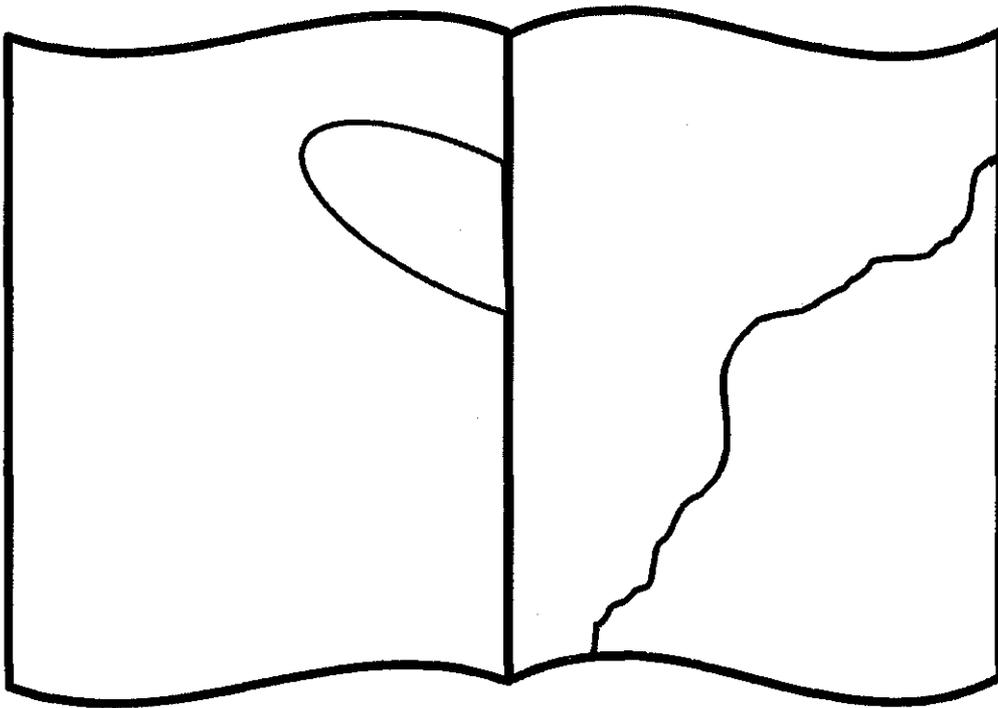
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SPECIAL NOTICE



DAMAGED TEXT - INCOMPLETE IMAGE

Letter of Introduction to Heads of Schools

Dear

"STRESS FACTORS AND STUDENT LEARNING"

I would like to take this opportunity to introduce myself and to inform you of the aims of an internally funded research project which I will be undertaking over the next three years at Nene College.

The aims of the first phase of the project will be:

- 1) to identify stress factors in our student population, and following analysis,
- 2) to establish which stress factors are common to all/the majority of students, and which, if any, are specific to certain groups of students.

The aims of the second phase of the project will be:

- 1) to explore possible mediating factors which may reduce or increase the vulnerability to stress in students, e.g., expectations, personality variables, social support, etc. and
- 2) to establish that the effects of excessive perceived stress in students can have an adverse effect on their actual and perceived learning (i.e. motivation, concentration, absorption of material, study skills used, effort expended in gathering and learning of material, planning and prioritising work and, ultimately, their actual performance).

The project will obviously entail a good deal of contact with students, both formally and informally, and in the interests of mutual co-operation, I intend to keep you as informed as possible of the various methods of data collection I wish to use, particularly with regards to questionnaires and interviews. During the next few weeks I will be contacting course leaders to draw up a list of lecturers who take full time students for tutorials. It is my intention to interview a small random sample of these student groups in order to gather background material for a draft questionnaire.

As you are responsible for the students in your school and as many of them may be directly involved during data collection, it is important for you to be aware of the aims of this project and to be kept informed of its progress. If at any time you would like to discuss some aspect of the work or have any concerns at all, please do not hesitate to contact me or leave a message on the above telephone number or via my pigeon hole in the School of Health and Life Sciences (contact Debbie, ext. 2011).

Yours sincerely,

Research Student
School of Health and Life Science

Memo to Course Leaders

To: All Course Leaders

From: Jackie Dabney, Research Student.

I would like to take this opportunity to introduce myself as the full time post graduate research student based at the School of Health and Life Sciences and to inform you of the aims of an internally funded research project entitled "stress factors and student learning" which I will be undertaking over the next three years at Nene College.

The aims of the first phase of the project will be 1) to identify stress factors in our student population, and following analysis, 2) to establish which stress factors are common to all/the majority of students, and which, if any, are specific to certain groups of students.

The aims of the second phase of the project will be 1) to explore possible mediating factors which may reduce or increase the vulnerability to stress in students, e.g.. expectations, personality variables, social support, etc. and 2) to establish that the effects of excessive perceived stress in students can have an adverse effect on their actual and perceived learning (i.e. motivation, concentration, absorption of material, study skills used, effort expended in gathering and learning of material, planning and prioritising work and, ultimately, their actual performance).

Over the next few weeks I would like to contact a small random sample of lecturers who are personal tutors to full-time students in order gain their permission to spend between 10 -15 minutes with their students following their group tutorial. It is hoped to use this time to gather useful background information on the sorts of things that generally upset students in order to formulate a draft questionnaire for a larger sample.

I would be very grateful if you could examine the attached list of academic staff in your faculty and tick the names of those lecturers teaching on your course who have full time tutees (this may include your own name), indicating whether the tutees are in their 1st, 2nd, 3rd or 4th year of studies and adding, if necessary, the names of relevant new members of staff. I enclose a self addressed envelope for you to use to return the sheet to me at the School of Health and Life Sciences via the internal post.

Many thanks for your help and co-operation,

Dear

I would like to take this opportunity to introduce myself as the full time post graduate research student based at the School of Health and Life Sciences. I am at present in the initial stages of an internally funded research project entitled "Stress factors and student learning".

I am currently visiting groups of personal tutees to gather background information as to what incidences they experience as students that generally upset them. I am aware that B.Ed students do not meet their personal tutors in a group and as I wanted to ensure that your views were represented I have randomly sampled a small group of 1st, 2nd, and 3rd students from the total B.Ed population.

- Your name came up!

I would be very grateful if you could spend a few minutes thinking about the sorts of incidents you experience as a student, (within and outside of the college, alone, with members of your family, partners or friends with lecturers or other college staff) that generally upset, frustrate or annoy you. Then, if you could jot down as many as come to mind and return them to me in the enclosed addressed envelope via the post room next to the reception.

Furthermore, if at any time you experience an incident that you think fits the above criteria you can contact me via the post room or Debbie in the Brampton Building on campus.

(If you would be prepared to fill in a very simple/short log over a 5 day period would you indicate this on your response).

Many thanks,

The attached questionnaire forms part of an internally funded research project entitled "Stress factors and student learning" and has been formulated from the comments of a random cross section of full time Nene students.

As this project is being funded by the college, the greater the response, the greater the reliability and as a result the greater the influence on policy makers within the college who consider this as an important area of research. Every returned questionnaire will count so PLEASE, PLEASE return it.

If you are unable to complete the questionnaire at some time during this lecture, I would be grateful if you could fill it in by MONDAY, 9TH MARCH at the latest in order for your experiences and opinions to be acknowledged. Late questionnaires can be given in to the staff at Park or Avenue receptions.

I realise that this is a busy time for you but I hope you appreciate how important it is for "powers that be" in the college not only to understand the sorts of incidents that you perceive as stressful, but to know how often you experience them. They may be common to all/the majority of students or specific to certain groups, however it is hoped that understanding in this case will be the first step to action!

All replies, which will be treated as STRICTLY CONFIDENTIAL and USED FOR RESEARCH PURPOSES ONLY.

Many thanks for your help and co-operation.

The following questionnaire consists of incidents that have been experienced by students at Nene College.

Please read the following instructions carefully BEFORE filling it in.

- 1) Perceived Stress Rating Using the 4 point scale below, please circle the appropriate number to indicate the degree of stress you would or did experience had the incident actually happened.

- 4 indicates " I considered the incident *very* stressful
- 3 indicates " I considered the incident *moderately* stressful."
- 2 indicates " I considered the incident *just a little* stressful
- 1 indicates " I *did not* consider the incident stressful at all"

- 2) Frequency Using the statements below as a guide, please circle the appropriate letter to indicate how often the incident has happened to you.

- O indicates "This is an incident I have *often* experienced"
- S indicates "This is an incident I have *sometimes* experienced"
- R indicates "This is an incident I have *rarely* experienced"
- N indicates "This is an incident I have *never* experienced"

Here is an example:

	PERCEIVED STRESS RATING	FREQUENCY
A lecturer/tutor is unavailable when you urgently need to see them.	(1)(2)(3)(4)	(O) (S) (R) (N)

This would indicate that it is rare that you urgently need to see a lecturer/tutor who is unavailable and you perceive/d the incident to be very stressful.

	PERCEIVED STRESS RATING	FREQUENCY
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Arriving late for a lecture.	1.	(1)(2)(3)(4) (O) (S) (R) (N)
Being given insufficient time to complete assignments.	2.	(1)(2)(3)(4) (O) (S) (R) (N)
Being unable to hear a lecturer.	3.	(1)(2)(3)(4) (O) (S) (R) (N)
Feeling excluded from College social life because of lack of money.	4.	(1)(2)(3)(4) (O) (S) (R) (N)
Finding out that other students have had access to test papers before exams/ tests.	5.	(1)(2)(3)(4) (O) (S) (R) (N)
Having a lecture in a room/theatre that is too noisy.	6.	(1)(2)(3)(4) (O) (S) (R) (N)
Lecturers getting irritated or defensive if they are challenged.	7.	(1)(2)(3)(4) (O) (S) (R) (N)
Lecturers who fail to return work after you have worked hard on it.	8.	(1)(2)(3)(4) (O) (S) (R) (N)
Lectures who consistently singles out one or two fellow students for critical attention.	9.	(1)(2)(3)(4) (O) (S) (R) (N)
Losing in the competition for equipment/facilities and as a result not getting assigned work completed in the time allowed.	10.	(1)(2)(3)(4) (O) (S) (R) (N)
Missing a lecture because of ill health.	11.	(1)(2)(3)(4) (O) (S) (R) (N)
Missing a lecture because of the ill health of a family member.	12.	(1)(2)(3)(4) (O) (S) (R) (N)
Not being able to sleep.	13.	(1)(2)(3)(4) (O) (S) (R) (N)
Not knowing what to say in a social situation.	14.	(1)(2)(3)(4) (O) (S) (R) (N)
Other students boasting about their projects when you think you haven't done very well.	15.	(1)(2)(3)(4) (O) (S) (R) (N)
Queuing in the library during your short lunch break.	16.	(1)(2)(3)(4) (O) (S) (R) (N)
Remaining impartial when those around you are quarrelling.	17.	(1)(2)(3)(4) (O) (S) (R) (N)
Sitting near another student with body odour.	18.	(1)(2)(3)(4) (O) (S) (R) (N)
Someone you share a house with steals your food.	19.	(1)(2)(3)(4) (O) (S) (R) (N)
The lecturer arrives late for your class.	20.	(1)(2)(3)(4) (O) (S) (R) (N)
The lecturer asks you a question during a lecture.	21.	(1)(2)(3)(4) (O) (S) (R) (N)
There is a tense atmosphere where you are living.	22.	(1)(2)(3)(4) (O) (S) (R) (N)
Walking to and/or from college in the dark.	23.	(1)(2)(3)(4) (O) (S) (R) (N)
You are given an essay to write.	24.	(1)(2)(3)(4) (O) (S) (R) (N)
You are unable to find any books on a particular topic in the library.	25.	(1)(2)(3)(4) (O) (S) (R) (N)

	PERCEIVED STRESS RATING	FREQUENCY
You are unable to find anywhere to study in the library.	26. (1)(2)(3)(4)	(O) (S) (R) (N)
You have a lecturer/tutor who never give praise or encouragement.	27. (1)(2)(3)(4)	(O) (S) (R) (N)
You have difficulties increasing your overdraft.	28. (1)(2)(3)(4)	(O) (S) (R) (N)
You have more than one exam in a day.	29. (1)(2)(3)(4)	(O) (S) (R) (N)
You move out of your accommodation because of personal difficulties with one or more of your house mates.	30. (1)(2)(3)(4)	(O) (S) (R) (N)
You revise a subject you found really boring.	31. (1)(2)(3)(4)	(O) (S) (R) (N)
You work particularly hard and get no encouragement or praise for your efforts.	32. (1)(2)(3)(4)	(O) (S) (R) (N)
A lecturer who appears to have 'favourites' in the class.	33. (1)(2)(3)(4)	(O) (S) (R) (N)
A lecturer/tutor being unavailable when you urgently need to see them.	34. (1)(2)(3)(4)	(O) (S) (R) (N)
Being expected to pay an unfair proportion of a house bill.	35. (1)(2)(3)(4)	(O) (S) (R) (N)
Being forced to buy a book rather than borrow it from the library.	36. (1)(2)(3)(4)	(O) (S) (R) (N)
Being told that available seats in a crowded refectory are saved for friends still in the queue.	37. (1)(2)(3)(4)	(O) (S) (R) (N)
Being unable to find an available music practice room.	38. (1)(2)(3)(4)	(O) (S) (R) (N)
Comparing yourself to other students.	39. (1)(2)(3)(4)	(O) (S) (R) (N)
During a lecture you hear a colleague being answered in an unsatisfactory way.	40. (1)(2)(3)(4)	(O) (S) (R) (N)
Evening lectures.	41. (1)(2)(3)(4)	(O) (S) (R) (N)
Finding that you cannot remember what you think was important material.	42. (1)(2)(3)(4)	(O) (S) (R) (N)
Going to bed to keep warm.	43. (1)(2)(3)(4)	(O) (S) (R) (N)
Having a lecture in a room/theatre that is too cold.	44. (1)(2)(3)(4)	(O) (S) (R) (N)
Having bought your dinner in the refectory you can't find anywhere to sit down.	45. (1)(2)(3)(4)	(O) (S) (R) (N)
Having to walk in the mud and not on the paths because of the numbers of students.	46. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecture/s on a Wednesday afternoon.	47. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who appear disorganised.	48. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who are always late but become annoyed if you are late.	49. (1)(2)(3)(4)	(O) (S) (R) (N)

	PERCEIVED STRESS RATING	FREQUENCY
Lecturers who assume that theirs is the only, and the most important, subject you do.	50. (1)(2)(3)(4)	(O) (S) (R) (N)
Lectures who appear to be preoccupied with their own problems and have little time to listen to yours.	51. (1)(2)(3)(4)	(O) (S) (R) (N)
Lectures who do not discipline disruptive behaviour.	52. (1)(2)(3)(4)	(O) (S) (R) (N)
Loud background noise in the library.	53. (1)(2)(3)(4)	(O) (S) (R) (N)
Making complex child care arrangements when you have a lecture at 9 am.	54. (1)(2)(3)(4)	(O) (S) (R) (N)
Not being able to find a book or text a lecturer has recommended.	55. (1)(2)(3)(4)	(O) (S) (R) (N)
Other students talking during a lecture.	56. (1)(2)(3)(4)	(O) (S) (R) (N)
Other students who behave very immaturely. (N)	57. (1)(2)(3)(4)	(O) (S) (R)
Studying when children are around.	58. (1)(2)(3)(4)	(O) (S) (R) (N)
The phone is cut off.	59. (1)(2)(3)(4)	(O) (S) (R) (N)
Using public transport in the rush hour in order to get to college on time.	60. (1)(2)(3)(4)	(O) (S) (R) (N)
You are caught between one lecturer saying one thing and another saying something else.	61. (1)(2)(3)(4)	(O) (S) (R) (N)
You are given a seminar to prepare when you are trying to revise.	62. (1)(2)(3)(4)	(O) (S) (R) (N)
You are not sure how hard you have to work to attain an acceptable academic standard.	63. (1)(2)(3)(4)	(O) (S) (R) (N)
You are unable to clear your workload.	64. (1)(2)(3)(4)	(O) (S) (R) (N)
You are unable to find a shop that offers student discount.	65. (1)(2)(3)(4)	(O) (S) (R) (N)
You do not understand something in a lecture that other students seemed to understand.	66. (1)(2)(3)(4)	(O) (S) (R) (N)
You feel that you now have little in common with old friends.	67. (1)(2)(3)(4)	(O) (S) (R) (N)
You feel too nervous to ask a question in a lecture.	68. (1)(2)(3)(4)	(O) (S) (R) (N)
You have a lecture in an overcrowded classrooms/lecture theatre.	69. (1)(2)(3)(4)	(O) (S) (R) (N)
You have a seminar that is more like a lecture.	70. (1)(2)(3)(4)	(O) (S) (R) (N)
Being ill prepared for lectures.	71. (1)(2)(3)(4)	(O) (S) (R) (N)
Being late for a lecture because of difficulties in finding a car parking space.	72. (1)(2)(3)(4)	(O) (S) (R) (N)
Buying lunch in the refectory and considering it poor value for		

	PERCEIVED STRESS RATING	FREQUENCY
money.	73. (1)(2)(3)(4)	(O) (S) (R) (N)
Choosing food that is cheap but filling rather than more expensive nutritious food.	74. (1)(2)(3)(4)	(O) (S) (R) (N)
Feeling lonely.	75. (1)(2)(3)(4)	(O) (S) (R) (N)
Feeling too tired to study when you get home.	76. (1)(2)(3)(4)	(O) (S) (R) (N)
Finding that you are well over your overdraft limit.	77. (1)(2)(3)(4)	(O) (S) (R) (N)
Getting a lower mark than expected on a piece of work.	78. (1)(2)(3)(4)	(O) (S) (R) (N)
Having a lecture in a room/theatre that is too hot.	79. (1)(2)(3)(4)	(O) (S) (R) (N)
Having large gaps between lectures	80. (1)(2)(3)(4)	(O) (S) (R) (N)
Having your belongings stolen.	81. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who give blanket reprimands to all the class, instead of directing them at the student/s responsible.	82. (1)(2)(3)(4)	(O) (S) (R) (N)
Mislaying or losing work.	83. (1)(2)(3)(4)	(O) (S) (R) (N)
Not going to a lecture because you consider it to be a waste of time.	84. (1)(2)(3)(4)	(O) (S) (R) (N)
Other students talking loudly next to you even though its obvious you are working.	85. (1)(2)(3)(4)	(O) (S) (R) (N)
Other students who arrive very late for lectures.	86. (1)(2)(3)(4)	(O) (S) (R) (N)
Reading about poor job prospects for graduates.	87. (1)(2)(3)(4)	(O) (S) (R) (N)
Someone you share a house with smokes indoors.	88. (1)(2)(3)(4)	(O) (S) (R) (N)
Waiting over one month for your work to be marked and returned.	89. (1)(2)(3)(4)	(O) (S) (R) (N)
You are not able to afford a vital book or piece of equipment recommended for your course.	90. (1)(2)(3)(4)	(O) (S) (R) (N)
You are physically attacked.	91. (1)(2)(3)(4)	(O) (S) (R) (N)
You meet someone who assumes that students lives are stress-free and that they have taken an easy option.	92. (1)(2)(3)(4)	(O) (S) (R) (N)
You need a book from the library, which should be there, but cannot be found.	93. (1)(2)(3)(4)	(O) (S) (R) (N)
You talk to a very anxious student on your course.	94. (1)(2)(3)(4)	(O) (S) (R) (N)
You try to find suitable people to fill your house.	95. (1)(2)(3)(4)	(O) (S) (R) (N)
Your partner expresses that you are growing apart.	96. (1)(2)(3)(4)	(O) (S) (R) (N)
A lecturer who says you should behave like an adult and then treats you like a child.	97. (1)(2)(3)(4)	(O) (S) (R) (N)

	PERCEIVED STRESS RATING	FREQUENCY
Academic departments which are disorganised.	98. (1)(2)(3)(4)	(O) (S) (R) (N)
Being unable to get to college because you have no money for transport costs.	99. (1)(2)(3)(4)	(O) (S) (R) (N)
Experiencing difficulties in a romantic relationship due to the geographical distance between you.	100. (1)(2)(3)(4)	(O) (S) (R) (N)
Feeling excluded from College social life because of domestic responsibilities.	101. (1)(2)(3)(4)	(O) (S) (R) (N)
Feeling excluded from College social life because of where you live.	102. (1)(2)(3)(4)	(O) (S) (R) (N)
Feeling homesick.	103. (1)(2)(3)(4)	(O) (S) (R) (N)
Finding there is nowhere to park your bike at college.	104. (1)(2)(3)(4)	(O) (S) (R) (N)
Finding yourself worrying about your marks.	105. (1)(2)(3)(4)	(O) (S) (R) (N)
Getting a low mark on an assignment/essay despite only positive comments from the marker.	106. (1)(2)(3)(4)	(O) (S) (R) (N)
Having a new lecturer half way through the term.	107. (1)(2)(3)(4)	(O) (S) (R) (N)
Having the feeling you should be working harder.	108. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers that get angry when you genuinely don't understand what they are saying.	109. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who expect you to 'go away and get on with it' without any guidance or support.	110. (1)(2)(3)(4)	(O) (S) (R) (N)
Making new friends.	111. (1)(2)(3)(4)	(O) (S) (R) (N)
Missing a lecture because of illness.	112. (1)(2)(3)(4)	(O) (S) (R) (N)
Only having one chance to pass re-sits in September, having missed the exams in May/June due to ill health.	113. (1)(2)(3)(4)	(O) (S) (R) (N)
Other students taking it for granted that they can borrow your lecture notes.	114. (1)(2)(3)(4)	(O) (S) (R) (N)
Receiving a letter from the Bank regarding the lack of money in your account.	115. (1)(2)(3)(4)	(O) (S) (R) (N)
Revising at the end of May when your children are on their half term holiday.	116. (1)(2)(3)(4)	(O) (S) (R) (N)
Someone you share a house with has the TV on loud while you are trying to sleep or work.	117. (1)(2)(3)(4)	(O) (S) (R) (N)
Someone you share a house with plays loud music late at night.	118. (1)(2)(3)(4)	(O) (S) (R) (N)
Studying when your partner wants you to be with them.	119. (1)(2)(3)(4)	(O) (S) (R) (N)
Tutors/lecturers who always seem to be busy and in a hurry.	120. (1)(2)(3)(4)	(O) (S) (R) (N)

	PERCEIVED STRESS RATING	FREQUENCY
You are given incomplete or vague instructions by a lecturer regarding a task he/she want you to do.	121. (1)(2)(3)(4)	(O) (S) (R) (N)
You are unable to find suitable child care.	122. (1)(2)(3)(4)	(O) (S) (R) (N)
You feel unable to cope with the workload.	123. (1)(2)(3)(4)	(O) (S) (R) (N)
You have a lecturer who is intimidating.	124. (1)(2)(3)(4)	(O) (S) (R) (N)
You have a personal problem that you feel unable to talk to anyone about.	125. (1)(2)(3)(4)	(O) (S) (R) (N)
Your landlord/landlady behaves in a way that leaves you unable to trust them.	126. (1)(2)(3)(4)	(O) (S) (R) (N)
Your landlord/landlady is unfriendly or hostile to you.	127. (1)(2)(3)(4)	(O) (S) (R) (N)
Your usual bus fails to turn up and you are late for your lecture.	128. (1)(2)(3)(4)	(O) (S) (R) (N)
Another student makes you feel stupid/inferior.	129. (1)(2)(3)(4)	(O) (S) (R) (N)
Asking your partner or parent/s for money.	130. (1)(2)(3)(4)	(O) (S) (R) (N)
Attending a seminar/lecture that lacks structure	131. (1)(2)(3)(4)	(O) (S) (R) (N)
Being given very little notice of organised trips relevant to your course.	132. (1)(2)(3)(4)	(O) (S) (R) (N)
Being in a lecture you consider boring.	133. (1)(2)(3)(4)	(O) (S) (R) (N)
Being reprimanded for something you haven't done.	134. (1)(2)(3)(4)	(O) (S) (R) (N)
Being told by a lecturer you are stupid when you make a mistake.	135. (1)(2)(3)(4)	(O) (S) (R) (N)
Experiencing difficulty in finding accommodation.	136. (1)(2)(3)(4)	(O) (S) (R) (N)
Feeling as though you are skimming over topics because of lack of time.	137. (1)(2)(3)(4)	(O) (S) (R) (N)
Having difficulties prioritising tasks.	138. (1)(2)(3)(4)	(O) (S) (R) (N)
Having unexpected expenses which have not been budgeted for.	139. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who do not give you enough time to write down even important points from an overhead.	140. (1)(2)(3)(4)	(O) (S) (R) (N)
Not having a break in lectures for lunch.	141. (1)(2)(3)(4)	(O) (S) (R) (N)
Other students assuming that you won't mind them copying your work.	142. (1)(2)(3)(4)	(O) (S) (R) (N)
Talking in the library when you are trying to study.	143. (1)(2)(3)(4)	(O) (S) (R) (N)
The alarm goes off as you go out of the library because the books you are holding have not been de-magnetised properly by library staff.	144. (1)(2)(3)(4)	(O) (S) (R) (N)
You are late handing work in because a genuine reason and receive		

	PERCEIVED STRESS RATING	FREQUENCY
very little understanding or support.	145. (1)(2)(3)(4)	(O) (S) (R) (N)
You are unable to get change for the photocopy card machine.	146. (1)(2)(3)(4)	(O) (S) (R) (N)
You are unable to understand a book/article you are reading.	147. (1)(2)(3)(4)	(O) (S) (R) (N)
You ask a friend/ neighbour to look after your children.	148. (1)(2)(3)(4)	(O) (S) (R) (N)
You ask your child/ren to do more for him/her/themselves.	149. (1)(2)(3)(4)	(O) (S) (R) (N)
You feel that a topic/subject/option you chose is a great deal less interesting than you had thought it was going to be.	150. (1)(2)(3)(4)	(O) (S) (R) (N)
You have a lecture cancelled at short notice.	151. (1)(2)(3)(4)	(O) (S) (R) (N)
You have an argument with someone on your course.	152. (1)(2)(3)(4)	(O) (S) (R) (N)
You leave course work/assignments until the last minute because you don't know/understand what to do.	153. (1)(2)(3)(4)	(O) (S) (R) (N)
You obtain a book/article shortly before an assignment is to be handed in.	154. (1)(2)(3)(4)	(O) (S) (R) (N)
You talk to another student who seems better prepared to take an examination.	155. (1)(2)(3)(4)	(O) (S) (R) (N)
A discussion in a seminar or lecture is dominated by one or two students. (N)	156. (1)(2)(3)(4)	(O) (S) (R)
Another student on your course mentioning a book, a name or a study that is important that you are unfamiliar with.	157. (1)(2)(3)(4)	(O) (S) (R) (N)
Attending at least 5 hours of continuous lectures.	158. (1)(2)(3)(4)	(O) (S) (R) (N)
Being given an assignment.	159. (1)(2)(3)(4)	(O) (S) (R) (N)
Being unable to find a part time job that would supplement your grant.	160. (1)(2)(3)(4)	(O) (S) (R) (N)
Borrowing money.	161. (1)(2)(3)(4)	(O) (S) (R) (N)
Experiencing difficulties in a romantic relationship due to volume of work.	162. (1)(2)(3)(4)	(O) (S) (R) (N)
Finding that the NCSU function is too expensive for you to attend.	163. (1)(2)(3)(4)	(O) (S) (R) (N)
Getting wet walking to and from lectures in different parts of the college.	164. (1)(2)(3)(4)	(O) (S) (R) (N)
Going through the library for material when the lecturer could have given handouts.	165. (1)(2)(3)(4)	(O) (S) (R) (N)
Having the feeling that you've 'bitten off more than you can chew'.	166. (1)(2)(3)(4)	(O) (S) (R) (N)
Moving in the middle of term.	167. (1)(2)(3)(4)	(O) (S) (R) (N)

	PERCEIVED STRESS RATING	FREQUENCY
The bank refused to give you a cheque book.	168. (1)(2)(3)(4)	(O) (S) (R) (N)
Tutors/lecturers who give you the impression they think your problems are insignificant.	169. (1)(2)(3)(4)	(O) (S) (R) (N)
You are not able to afford adequate food.	170. (1)(2)(3)(4)	(O) (S) (R) (N)
You are unfairly picked on by classmates.	171. (1)(2)(3)(4)	(O) (S) (R) (N)
You don't have any free days between exams.	172. (1)(2)(3)(4)	(O) (S) (R) (N)
You overhear comments by staff that you are in a poor academic group compared to others they have taught.	173. (1)(2)(3)(4)	(O) (S) (R) (N)
You receive a long book list for one topic area.	174. (1)(2)(3)(4)	(O) (S) (R) (N)
Your Parent/s or partner do not seem to appreciate the level of stress you are under.	175. (1)(2)(3)(4)	(O) (S) (R) (N)
A lecture who seems to lack interest in what they are teaching. (N)	176. (1)(2)(3)(4)	(O) (S) (R)
A lecturer cuts you off when you try to ask a question in class.	177. (1)(2)(3)(4)	(O) (S) (R) (N)
A tutor/lecturer mislays your work.	178. (1)(2)(3)(4)	(O) (S) (R) (N)
Another student borrowing your equipment/belongings without asking.	179. (1)(2)(3)(4)	(O) (S) (R) (N)
Being unable to find any relevant books for an assignment in the library.	180. (1)(2)(3)(4)	(O) (S) (R) (N)
Being unable to get any feedback on your progress.	181. (1)(2)(3)(4)	(O) (S) (R) (N)
Eating lunch in an overcrowded refectory.	182. (1)(2)(3)(4)	(O) (S) (R) (N)
Giving a presentation in front of other students or staff.	183. (1)(2)(3)(4)	(O) (S) (R) (N)
Having a problem and being dealt with in an unhelpful and unfriendly manner by administration staff.	184. (1)(2)(3)(4)	(O) (S) (R) (N)
Having to stand out in the rain to smoke a cigarette.	185. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturer fails to answer your question satisfactorily.	186. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who assume a higher/lower level of understanding from your class.	187. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who dictate from notes or a book for most of the lecture.	188. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who set you work, then disappear.	189. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who speak too quickly.	190. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who treat you in a patronising way.	191. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who try to make you look stupid in front of your class.	192. (1)(2)(3)(4)	(O) (S) (R) (N)

	PERCEIVED STRESS RATING	FREQUENCY
Making a presentation or perform something in front of other students with very little prior notice.	193. (1)(2)(3)(4)	(O) (S) (R) (N)
Other students wasting time in a lecture.	194. (1)(2)(3)(4)	(O) (S) (R) (N)
You are just getting down to work and something unexpected crops up.	195. (1)(2)(3)(4)	(O) (S) (R) (N)
You have another student dependant on you for emotional support.	196. (1)(2)(3)(4)	(O) (S) (R) (N)
You pay more in the Student Union bar for drinks than you would pay in some local pubs.	197. (1)(2)(3)(4)	(O) (S) (R) (N)
You realise that you have not understood the work as well as you had thought.	198. (1)(2)(3)(4)	(O) (S) (R) (N)
You talk to a student on your course who seems very knowledgeable.	199. (1)(2)(3)(4)	(O) (S) (R) (N)
A 'useful' overhead is difficult to read. (N)	200. (1)(2)(3)(4)	(O) (S) (R)
A lecturer criticising the work given by another lecturer.	201. (1)(2)(3)(4)	(O) (S) (R) (N)
A lecturer/tutor tells you that you are producing work that is below an acceptable standard.	202. (1)(2)(3)(4)	(O) (S) (R) (N)
Allowing plenty of time to park at college but being unable to do so.	203. (1)(2)(3)(4)	(O) (S) (R) (N)
Another student flirting or chatting up the lecturer.	204. (1)(2)(3)(4)	(O) (S) (R) (N)
Attending lectures during your children's school holiday.	205. (1)(2)(3)(4)	(O) (S) (R) (N)
Being unable to find a parking space in the car park.	206. (1)(2)(3)(4)	(O) (S) (R) (N)
Being unable to find a quiet place for a group discussion.	207. (1)(2)(3)(4)	(O) (S) (R) (N)
Getting a bad mark on a piece of work.	208. (1)(2)(3)(4)	(O) (S) (R) (N)
Getting in for a 9 o'clock lecture.	209. (1)(2)(3)(4)	(O) (S) (R) (N)
Giving a peer assessed presentation.	210. (1)(2)(3)(4)	(O) (S) (R) (N)
Going without food.	211. (1)(2)(3)(4)	(O) (S) (R) (N)
Having a one hour lecture in a day.	212. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who eat during a lecture.	213. (1)(2)(3)(4)	(O) (S) (R) (N)
Lectures taking place in rooms that are so big it is difficult to see and/or hear the lecturer.	214. (1)(2)(3)(4)	(O) (S) (R) (N)
Paying poll tax.	215. (1)(2)(3)(4)	(O) (S) (R) (N)
Someone you share a house with doesn't clean up after themselves.	216. (1)(2)(3)(4)	(O) (S) (R) (N)
Sponging off friends when you go out.	217. (1)(2)(3)(4)	(O) (S) (R) (N)

	PERCEIVED STRESS RATING	FREQUENCY
The electricity is cut off.	218. (1)(2)(3)(4)	(O) (S) (R) (N)
Using a computer.	219. (1)(2)(3)(4)	(O) (S) (R) (N)
You are not able afford to go on trips organised as part of your course.	220. (1)(2)(3)(4)	(O) (S) (R) (N)
You are trying to listen to useful material at the same time as write down what is on an overhead.	221. (1)(2)(3)(4)	(O) (S) (R) (N)
You arrive for a 9 am lecture and it is cancelled.	222. (1)(2)(3)(4)	(O) (S) (R) (N)
You begin to have strong doubts that you are on the right career path.	223. (1)(2)(3)(4)	(O) (S) (R) (N)
You experience a delay in getting your student loan.	224. (1)(2)(3)(4)	(O) (S) (R) (N)
You feel that a topic/subject/option you chose beyond your abilities.	225. (1)(2)(3)(4)	(O) (S) (R) (N)
You need an important book for an assignment and the one copy is not only out, but it has many reservations on it.	226. (1)(2)(3)(4)	(O) (S) (R) (N)
You rely on other people for transport to or from college.	227. (1)(2)(3)(4)	(O) (S) (R) (N)
Your car fails to start.	228. (1)(2)(3)(4)	(O) (S) (R) (N)
A lecturer belittles a fellow student during a lecture.	229. (1)(2)(3)(4)	(O) (S) (R) (N)
A well established domestic routine breaks down.	230. (1)(2)(3)(4)	(O) (S) (R) (N)
Being in a seminar where other students are unwilling to volunteer ideas.	231. (1)(2)(3)(4)	(O) (S) (R) (N)
Being reprimanded for being late.	232. (1)(2)(3)(4)	(O) (S) (R) (N)
Being singled out for doing something wrong when the behaviour of others goes unnoticed.	233. (1)(2)(3)(4)	(O) (S) (R) (N)
Forgetting to do an important piece of work until it is too late.	234. (1)(2)(3)(4)	(O) (S) (R) (N)
Getting wet when cycling or walking in.	235. (1)(2)(3)(4)	(O) (S) (R) (N)
Not getting a break in a 2 hour lecture.	236. (1)(2)(3)(4)	(O) (S) (R) (N)
Someone you share a house with is unwilling to pay their share towards house bills.	237. (1)(2)(3)(4)	(O) (S) (R) (N)
You are unable to find up-to-date material for an assignment in the library.	238. (1)(2)(3)(4)	(O) (S) (R) (N)
You are with others who try to appear more intelligent that they are.	239. (1)(2)(3)(4)	(O) (S) (R) (N)
You are working in a group where the other students are poorly motivated.	240. (1)(2)(3)(4)	(O) (S) (R) (N)
You are working in a group where there is a clash of personalities.	241. (1)(2)(3)(4)	(O) (S) (R) (N)

	PERCEIVED STRESS RATING	FREQUENCY
You arrive for a lecture and the lecturer does not turn up.	242 (1)(2)(3)(4)	(O) (S) (R) (N)
You find you are having difficulty concentrating on your work.	243. (1)(2)(3)(4)	(O) (S) (R) (N)
You have problems with your work but you do not feel that the lecturer teaching that area is approachable.	244. (1)(2)(3)(4)	(O) (S) (R) (N)
You receive what you consider to be poor service from the bank.	245. (1)(2)(3)(4)	O) (S) (R) (N)
You talk to a student on your course who you feel is more industrious than you.	246. (1)(2)(3)(4)	(O) (S) (R) (N)
A lecturer belittles you during a lecture. (N)	247. (1)(2)(3)(4)	(O) (S) (R)
Eating poor quality food.	248. (1)(2)(3)(4)	(O) (S) (R) (N)
Experiencing difficulties getting hold of your tutor to discuss a problem or answer a question.	249. (1)(2)(3)(4)	(O) (S) (R) (N)
Feeling as though you have little in common with those around you.	250. (1)(2)(3)(4)	(O) (S) (R) (N)
Finding that pages have been removed from a journal.	251. (1)(2)(3)(4)	(O) (S) (R) (N)
Getting up before 7 in order to get to a 9 o'clock lecture.	252. (1)(2)(3)(4)	(O) (S) (R) (N)
Getting work back from a lecturer/tutor.	253. (1)(2)(3)(4)	(O) (S) (R) (N)
Having the deadlines for several assignments set all in the same week.	254. (1)(2)(3)(4)	(O) (S) (R) (N)
Having to finish promptly at the end of a lecture in order to secure transport home.	255. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who appear very stressed.	256. (1)(2)(3)(4)	(O) (S) (R) (N)
Lecturers who have no time for discussion either during or after a lecture.	257. (1)(2)(3)(4)	(O) (S) (R) (N)
New people move into your house.	258. (1)(2)(3)(4)	(O) (S) (R) (N)
Not being given relevant work experience during the course.	259. (1)(2)(3)(4)	(O) (S) (R) (N)
Other students who get good grades without appearing to do any work.	260. (1)(2)(3)(4)	(O) (S) (R) (N)
Refectory staff who are unfriendly.	261. (1)(2)(3)(4)	(O) (S) (R) (N)
The photocopier doesn't work.	262. (1)(2)(3)(4)	(O) (S) (R) (N)
Walking home alone.	263. (1)(2)(3)(4)	(O) (S) (R) (N)
Working late into the night.	264. (1)(2)(3)(4)	(O) (S) (R) (N)
You are cold in your accommodation/home.	265. (1)(2)(3)(4)	(O) (S) (R) (N)
You are finding work difficult and you do not know who to turn		

	PERCEIVED STRESS RATING	FREQUENCY
to for help.	266. (1)(2)(3)(4)	(O) (S) (R) (N)
You are in a group where the students are highly competitive with one another.	267. (1)(2)(3)(4)	(O) (S) (R) (N)
You are unable to answer a lecturers' question during a lecture.	268. (1)(2)(3)(4)	(O) (S) (R) (N)
You are unable to find somewhere comfortable to smoke a cigarette.	269. (1)(2)(3)(4)	(O) (S) (R) (N)
You are unable to read the lecturers' writing on the board.	270. (1)(2)(3)(4)	(O) (S) (R) (N)
You arrange a meeting with a lecturer/tutor who fails to turn up.	271. (1)(2)(3)(4)	(O) (S) (R) (N)
You find it difficult to study.	272. (1)(2)(3)(4)	(O) (S) (R) (N)
You find that the college book shop is more expensive than in other book shops in the area.	273. (1)(2)(3)(4)	(O) (S) (R) (N)
You have a lecturer/tutor who assume that on your days off you do anything but work.	274. (1)(2)(3)(4)	(O) (S) (R) (N)
You pay rent when you are not in your accommodation.	275. (1)(2)(3)(4)	(O) (S) (R) (N)
You talk to a very confident student on your course.	276. (1)(2)(3)(4)	(O) (S) (R) (N)
Your child care arrangements break down.	277. (1)(2)(3)(4)	(O) (S) (R) (N)
Your grant cheque is over a month late.	278. (1)(2)(3)(4)	(O) (S) (R) (N)
Your parents make disapproving comments about your girl / boyfriend.	279. (1)(2)(3)(4)	(O) (S) (R) (N)
Your photocopy card running out before you have finished.	280. (1)(2)(3)(4)	(O) (S) (R) (N)
Being near a lecturer with body odour.	281. (1)(2)(3)(4)	(O) (S) (R) (N)
Experiencing difficulties in a romantic relationship due to a lack of trust.	282. (1)(2)(3)(4)	(O) (S) (R) (N)
You are refused money at the cash point.	283. (1)(2)(3)(4)	(O) (S) (R) (N)
You find it difficult to adapt academically to Higher Education.	284. (1)(2)(3)(4)	(O) (S) (R) (N)
You hear a rumour concerning your course, assignment, exams etc.	285. (1)(2)(3)(4)	(O) (S) (R) (N)
You are unable to read a lecturers' comments in your work.	286. (1)(2)(3)(4)	(O) (S) (R) (N)
Your lecturer/tutor appears to have given up on you.	287. (1)(2)(3)(4)	(O) (S) (R) (N)
Your lecturer arrives late.	288. (1)(2)(3)(4)	(O) (S) (R) (N)
Someone you share a house with steals your food.	289. (1)(2)(3)(4)	(O) (S) (R) (N)
You receive what you consider to be an inaccurate/unfair mark for an assignment.	290. (1)(2)(3)(4)	(O) (S) (R) (N)
You have difficulties finding a placement and feel 'you are		

	PERCEIVED STRESS RATING	FREQUENCY
on your own".	291 (1)(2)(3)(4)	(O) (S) (R) (N)
You return to your car to find it has been damaged.	292 (1)(2)(3)(4)	(O) (S) (R) (N)
You have difficult getting access to equipment vital for the completion of an assignment.	293 (1)(2)(3)(4)	(O) (S) (R) (N)
It is difficult to maintain your motivation.	294 (1)(2)(3)(4)	(O) (S) (R) (N)
Lectures who do not discipline disruptive behaviour.	295 (1)(2)(3)(4)	(O) (S) (R) (N)
You experience delays in getting a time table.	296 (1)(2)(3)(4)	(O) (S) (R) (N)
Other students talking loudly next to you even though its obvious you are working.	297 (1)(2)(3)(4)	(O) (S) (R) (N)
You pass a well stocked flower bed in the college and think of the lack of books in the library.	298 (1)(2)(3)(4)	(O) (S) (R) (N)
You are reprimanded by the security staff in the college car park.	299. (1)(2)(3)(4)	(O) (S) (R) (N)
You feel there is an insufficient amount of time spent in formal lectures.	300. (1)(2)(3)(4)	(O) (S) (R) (N)
You find your time table has been changed.	301. (1)(2)(3)(4)	(O) (S) (R) (N)
You have to fill in a questionnaire.	302. (1)(2)(3)(4)	(O) (S) (R) (N)
You fill in a questionnaire and get no feedback on your contribution.	303. (1)(2)(3)(4)	(O) (S) (R) (N)
Moving into accommodation with other students you don't know.	304. (1)(2)(3)(4)	(O) (S) (R) (N)
You have an assignment deadline very close to exams.	305. (1)(2)(3)(4)	(O) (S) (R) (N)
You have difficult finding a place to have a group discussion.	306. (1)(2)(3)(4)	(O) (S) (R) (N)
You are given very little explanation on an assignment with regards to your mark.	307. (1)(2)(3)(4)	(O) (S) (R) (N)
You waste time between lectures that are dispersed throughout the day.	308 (1)(2)(3)(4)	(O) (S) (R) (N)
You talk to a very confident student on your course.	309. (1)(2)(3)(4)	(O) (S) (R) (N)

STUDENT LOG

I would like you to record each day over the next 5 days (excluding the weekend), the most stressful single incident or series of related incidents to occur in that day.

Would you also record

a) if the incident, in your opinion, affected your learning in the short term

b) if it did, what action, if any, you took to minimise this affect and

c) whether you envisage any possible long term affects on your learning as a result of the incident.

Here is an example:

DAY 1: FRIDAY

Most stressful single incident:	<i>Found the pages I needed removed from a journal</i>
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OR

Most stressful series of incidences:	
--------------------------------------	--

AS A RESULT

Did the incident(s) affect your learning in the short term?	<i>Yes, I was unable to use the information contained in the article for an assignment I was hoping to complete. It was also a waste of time when I could have been doing something else.</i>
---	---

Any action taken to minimise the affect on learning?:	<i>I tried to order it through inter library loan, but I don't think I will get it in time. Tried to find someone who had a copy.</i>
---	---

Do you envisage any long term affects on your learning as a result of the incident(s).	<i>If the article doesn't come or I can't find anybody who has it my assignment will be of a poorer quality in that the information contained in the article was really up to date.</i>
--	---

Example of page from student log for Day 1, 2, 3 and 4
DAY :

Most stressful single incident:	
---------------------------------	--

OR

Most stressful series of incidences:	
--------------------------------------	--

AS A RESULT

Did the incident(s) affect your learning in the short term?	
---	--

Any action taken to minimise the affect on learning?:	
---	--

Do you envisage any long term affects on your learning as a result of the incident(s)?	
--	--

DAY 5:

Most stressful single incident:	
---------------------------------	--

OR

Most stressful series of incidences:	
--------------------------------------	--

AS A RESULT

Did the incident(s) affect your learning in the short term?	
---	--

Any action taken to minimise the affect on learning?:	
---	--

Do you envisage any long term affects on your learning as a result of the incident(s)?	
--	--

Below are some questions about yourself. Please answer by FILLING IN THE APPROPRIATE SPACES or by CIRCLING the appropriate answer.

Gender? Male/Female.

What age were you when you began your course at Nene 17-21 22-30 31+

What is your course title?

Are you in your 1st, 2nd, 3rd or 4th year of studies at Nene?

Family responsibilities? None Children Other Dependants

IF YOU WISH THIS LOG TO BE ENTERED INTO A PRIZE DRAW PLEASE PUT YOUR NENE COLLEGE I.D. NUMBER BELOW, THIS PORTION WILL BE REMOVED FROM THE MAIN BODY OF THE LOG WHEN I RECIEVE IT.

I.D. NUMBER THE PRIZE IS 25 POUNDS WORTH OF BOOK TOKENS.

March, 1993

The attached questionnaire forms part of an internally funded research project entitled "Stress factors and student learning" and was originally formulated from the comments of a random sample of full time Nene students and the responses of an earlier pilot study within the college.

As this project is being funded by the college, the greater the response, the greater the reliability and as a result the greater the influence on policy makers within the college who consider this as an important area of research. Every returned questionnaire will count so PLEASE, PLEASE return it.

If you are unable to complete the questionnaire at some time during this lecture, I would be grateful if you could fill it in by THURSDAY, 25th MARCH at the latest in order for your responses to be included in the analysis. Late questionnaires can be given in to the staff at Park or Avenue receptions.

I realise that this is a busy time for you but I hope you appreciate how important it is for "powers that be" in the college not only to understand the sorts of incidents that you perceive as stressful, but to know in what ways you perceive them as having affected your learning, either negatively or positively. It is hoped that this understanding will be the first step to action! Feedback will be sent to your course representatives as soon as the data has been analysed.

All replies, will be treated as STRICTLY CONFIDENTIAL and USED FOR RESEARCH PURPOSES ONLY.

Many thanks for your help and co-operation.

JACKIE DABNEY
School of Health and Life Sciences

I N S T R U C T I O N S : APPENDIX VII

Please read the following instructions carefully BEFORE filling in the questionnaire.

1) Perceived Stress Rating

Using the 4 point scale below, PLEASE CIRCLE the appropriate number to indicate the degree of stress you would, or did, experience had the incident actually happened.

- 4 indicates " I considered the incident *very* stressful"
- 3 indicates " I considered the incident *moderately* stressful"
- 2 indicates " I considered the incident *just a little* stressful"
- 1 indicates " I *did not* consider the incident stressful at all"

2) Affect on Learning

Using the statements below as a guide, PLEASE CIRCLE the appropriate number to indicate to what degree the incident would, or did, affect your learning.

- 4 indicates "My learning would be *significantly* affected"
- 3 indicates "My learning would be *moderately* affected"
- 2 indicates "My learning would be *a little/somewhat* affected"
- 1 indicates "My learning would *not* be affected at all"

3) Is it a Positive Affect on your learning?

IF you consider the incident to have a POSITIVE AFFECT on your learning put a + sign at the side of the second column.

HERE IS AN EXAMPLE:

	PERCEIVED STRESS RATING	AFFECT ON LEARNING	+
Comparing yourself academically to other students	(1)(2)(3)(4)	(1) (2) (3) (4)	+
This would indicate that when you compare yourself academically with other students you perceive/d the incident to be very stressful and that you consider that this incident would have a significant POSITIVE affect on your learning.			

APPENDIX VIII

		PERCEIVED STRESS RATING	PERCEIVED AFFECT ON LEARNING +
Being given insufficient time to complete assignments.	1.	(1)(2)(3)(4)	(1)(2)(3)(4)
Being unable to hear a lecturer.	2.	(1)(2)(3)(4)	(1)(2)(3)(4)
Lecturers who fail to return work after you have worked hard on it.	3.	(1)(2)(3)(4)	(1)(2)(3)(4)
Not being able to sleep.	4.	(1)(2)(3)(4)	(1)(2)(3)(4)
Other students boasting about their projects/assignments when you think you haven't done very well.	5.	(1)(2)(3)(4)	(1)(2)(3)(4)
You are unable to find any books on a particular topic in the library.	6.	(1)(2)(3)(4)	(1)(2)(3)(4)
You revise a subject you found really boring.	7.	(1)(2)(3)(4)	(1)(2)(3)(4)
You work particularly hard and get no encouragement or praise for your efforts.	8.	(1)(2)(3)(4)	(1)(2)(3)(4)
Finding that you cannot remember what you think was important material.	9.	(1)(2)(3)(4)	(1)(2)(3)(4)
Having a lecture in a room/theatre that is too cold.	10.	(1)(2)(3)(4)	(1)(2)(3)(4)
Lecturers who assume that theirs is the only, and the most important, subject you do.	11.	(1)(2)(3)(4)	(1)(2)(3)(4)
There is loud background noise in the library.	12.	(1)(2)(3)(4)	(1)(2)(3)(4)
Not being able to find a book or text a lecturer has recommended.	13.	(1)(2)(3)(4)	(1)(2)(3)(4)
Other students who behave very immaturely.	14.	(1)(2)(3)(4)	(1)(2)(3)(4)
You are caught between one lecturer saying one thing and another saying something else.	15.	(1)(2)(3)(4)	(1)(2)(3)(4)
You are not sure how hard you have to work to attain an acceptable academic standard.	16.	(1)(2)(3)(4)	(1)(2)(3)(4)
You are unable to clear your workload.	17.	(1)(2)(3)(4)	(1)(2)(3)(4)
You do not understand something in a lecture that other students seemed to understand.	18.	(1)(2)(3)(4)	(1)(2)(3)(4)
Feeling too tired to study when you get home.	19.	(1)(2)(3)(4)	(1)(2)(3)(4)
Getting a lower mark than expected on a piece of work.	20.	(1)(2)(3)(4)	(1)(2)(3)(4)
Mislaying or losing your work.	21.	(1)(2)(3)(4)	(1)(2)(3)(4)
Reading about poor job prospects for graduates.	22.	(1)(2)(3)(4)	(1)(2)(3)(4)
Waiting over one month for your work to be marked and returned.	23.	(1)(2)(3)(4)	(1)(2)(3)(4)
You are not able to afford a vital book or piece of equipment recommended for your course.	24.	(1)(2)(3)(4)	(1)(2)(3)(4)
You meet someone who assumes that students lives are stress-free and that they have taken an easy option.	25.	(1)(2)(3)(4)	(1)(2)(3)(4)

		PERCEIVED STRESS RATING	PERCEIVED AFFECT ON LEARNING +
Being unable to find a part time job that would supplement your grant.	20.	(1)(2)(3)(4)	(1)(2)(3)(4)
The bank refuses to give you a cheque book.	21.	(1)(2)(3)(4)	(1)(2)(3)(4)
The electricity is cut off.	22.	(1)(2)(3)(4)	(1)(2)(3)(4)
You receive what you consider poor service from the bank.	23	(1)(2)(3)(4)	(1)(2)(3)(4)
<u>PARTNERS</u>			
Your partner expresses that you are growing apart.	24.	(1)(2)(3)(4)	(1)(2)(3)(4)
Experiencing difficulties in a romantic relationship due to the geographical distance between you.	25.	(1)(2)(3)(4)	(1)(2)(3)(4)
Experiencing difficulties in a romantic relationship due to volume of work.	26.	(1)(2)(3)(4)	(1)(2)(3)(4)
Experiencing difficulties in a romantic relationship due to a lack of trust.	27.	(1)(2)(3)(4)	(1)(2)(3)(4)
Studying when your partner wants you to be with them.	28.	(1)(2)(3)(4)	(1)(2)(3)(4)
<u>RENTED ACCOMMODATION</u>			
Someone you share a house with doesn't clean up after themselves.	29.	(1)(2)(3)(4)	(1)(2)(3)(4)
Someone you share a house with is unwilling to pay their share towards house bills.	30.	(1)(2)(3)(4)	(1)(2)(3)(4)
You pay rent when you are not in your accommodation.	31.	(1)(2)(3)(4)	(1)(2)(3)(4)
Someone you share a house with has the TV on loud while you are trying to sleep or work.	32.	(1)(2)(3)(4)	(1)(2)(3)(4)
Someone you share a house with plays loud music late at night.	33.	(1)(2)(3)(4)	(1)(2)(3)(4)
Moving in the middle of term.	34.	(1)(2)(3)(4)	(1)(2)(3)(4)
Moving into accommodation with other students you don't know.	35.	(1)(2)(3)(4)	(1)(2)(3)(4)
Experiencing difficulty in finding accommodation.	36.	(1)(2)(3)(4)	(1)(2)(3)(4)
<u>CHILD CARE</u>			
Your child care arrangements break down.	37.	(1)(2)(3)(4)	(1)(2)(3)(4)
Making complex child care arrangements when you have a lecture at 9 am.	38.	(1)(2)(3)(4)	(1)(2)(3)(4)
<u>PLACEMENTS</u>			
You receive a rejection letter for a placement vital to your course.	39.	(1)(2)(3)(4)	(1)(2)(3)(4)

	PERCEIVED STRESS RATING	PERCEIVED AFFECT ON LEARNING +
You need a book from the library, which should be there, but cannot be found.	26. (1)(2)(3)(4)	(1)(2)(3)(4)
Academic departments which are disorganised.	27. (1)(2)(3)(4)	(1)(2)(3)(4)
You find yourself worrying about your marks.	28. (1)(2)(3)(4)	(1)(2)(3)(4)
Getting a low mark on an assignment/essay despite only positive comments from the marker.	29. (1)(2)(3)(4)	(1)(2)(3)(4)
Having the feeling you should be working harder.	30. (1)(2)(3)(4)	(1)(2)(3)(4)
Lecturers that get angry when you genuinely don't understand what they are saying.	31. (1)(2)(3)(4)	(1)(2)(3)(4)
Lecturers who expect you to 'go away and get on with it' without any guidance or support.	32. (1)(2)(3)(4)	(1)(2)(3)(4)
Tutors/Lecturers who always seem to be busy and in a hurry.	33. (1)(2)(3)(4)	(1)(2)(3)(4)
You are given incomplete or vague instructions by a lecturer regarding a task he/she want you to do.	34. (1)(2)(3)(4)	(1)(2)(3)(4)
You feel unable to cope with the workload.	35. (1)(2)(3)(4)	(1)(2)(3)(4)
You have a lecturer who is intimidating.	36. (1)(2)(3)(4)	(1)(2)(3)(4)
You have a personal problem that you feel unable to talk to anyone about.	37. (1)(2)(3)(4)	(1)(2)(3)(4)
Being told by a lecturer you are stupid when you make a mistake.	38. ((1)(2)(3)(4)	(1)(2)(3)(4)
Feeling as though you are skimming over topics because of lack of time.	39. (1)(2)(3)(4)	(1)(2)(3)(4)
You have difficulties prioritising tasks.	40. (1)(2)(3)(4)	(1)(2)(3)(4)
You have unexpected expenses which have not been budgeted for.	41. (1)(2)(3)(4)	(1)(2)(3)(4)
Lecturers who do not give you enough time to write down even important points from an overhead.	42. (1)(2)(3)(4)	(1)(2)(3)(4)
You are late handing work in because of a genuine reason and receive very little understanding or support.	43. (1)(2)(3)(4)	(1)(2)(3)(4)
You are unable to understand a book/article you are reading.	44. (1)(2)(3)(4)	(1)(2)(3)(4)
You feel that a topic/subject/option you chose is a great deal less interesting than you thought it was going to be.	45. (1)(2)(3)(4)	(1)(2)(3)(4)
You leave course work/assignments until the last minute because you don't know/understand what to do.	46. (1)(2)(3)(4)	(1)(2)(3)(4)
You obtain a book/article shortly before an assignment is to be handed in.	47. (1)(2)(3)(4)	(1)(2)(3)(4)
You have the feeling that you've 'bitten off more than you can chew'.	48. (1)(2)(3)(4)	(1)(2)(3)(4)
Tutors/lecturers who give you the impression they think your		

	PERCEIVED STRESS RATING	PERCEIVED AFFECT ON LEARNING +
problems are insignificant.	49. (1)(2)(3)(4)	(1)(2)(3)(4)
You overhear comments by staff that you are in a poor academic group compared to others they have taught.	50. (1)(2)(3)(4)	(1)(2)(3)(4)
Your Parent/s or partner do not seem to appreciate the level of stress you are under.	51. (1)(2)(3)(4)	(1)(2)(3)(4)
A tutor/lecturer mislays your work.	52. (1)(2)(3)(4)	(1)(2)(3)(4)
Another student borrows your equipment/belongings without asking.	53. (1)(2)(3)(4)	(1)(2)(3)(4)
Being unable to find any relevant books for an assignment in the library.	54. (1)(2)(3)(4)	(1)(2)(3)(4)
Being unable to get any feedback on your progress.	55. (1)(2)(3)(4)	(1)(2)(3)(4)
Having a problem and being dealt with in an unhelpful and unfriendly manner by administration staff.	56. (1)(2)(3)(4)	(1)(2)(3)(4)
Lecturers who assume a higher/lower level of understanding from your class.	57. (1)(2)(3)(4)	(1)(2)(3)(4)
Lecturers who speak too quickly.	58. (1)(2)(3)(4)	(1)(2)(3)(4)
Lecturers who try to make you look stupid in front of your class.	59. (1)(2)(3)(4)	(1)(2)(3)(4)
Making a presentation or perform something in front of other students with very little prior notice.	60. (1)(2)(3)(4)	(1)(2)(3)(4)
You are just getting down to work and something unexpected crops up.	61. (1)(2)(3)(4)	(1)(2)(3)(4)
Lecturers who treat you in a patronising way.	62. (1)(2)(3)(4)	(1)(2)(3)(4)
You realise that you have not understood the work as well as you had thought.	63. (1)(2)(3)(4)	(1)(2)(3)(4)
A 'useful' overhead is difficult to read.	64. (1)(2)(3)(4)	(1)(2)(3)(4)
A lecturer/tutor tells you that you are producing work that is below an acceptable standard.	65. (1)(2)(3)(4)	(1)(2)(3)(4)
Getting a bad mark on a piece of work.	66. (1)(2)(3)(4)	(1)(2)(3)(4)
Giving a peer assessed presentation.	67. (1)(2)(3)(4)	(1)(2)(3)(4)
Going without food.	68. (1)(2)(3)(4)	(1)(2)(3)(4)
Paying poll tax.	69. (1)(2)(3)(4)	(1)(2)(3)(4)
You are trying to listen to useful material at the same time as write down what is on an overhead.	70. (1)(2)(3)(4)	(1)(2)(3)(4)
You begin to have strong doubts that you are on the right career path.	71. (1)(2)(3)(4)	(1)(2)(3)(4)
You feel that a topic/subject/option you chose beyond your abilities.	72. (1)(2)(3)(4)	(1)(2)(3)(4)

	PERCEIVED STRESS RATING	PERCEIVED AFFECT ON LEARNING +
You need an important book for an assignment and the one copy is not only out, but it has many reservations on it.	73. (1)(2)(3)(4)	(1)(2)(3)(4)
Being singled out for doing something wrong when the behaviour of others goes unnoticed.	74. (1)(2)(3)(4)	(1)(2)(3)(4)
Forgetting to do an important piece of work until it is too late.	75. (1)(2)(3)(4)	(1)(2)(3)(4)
You are unable to find up-to-date material for an assignment in the library.	76. (1)(2)(3)(4)	(1)(2)(3)(4)
You are working in a group where the other students are poorly motivated.	77. (1)(2)(3)(4)	(1)(2)(3)(4)
You find you are having difficulty concentrating on your work.	78. (1)(2)(3)(4)	(1)(2)(3)(4)
You have problems with your work but you do not feel that the lecturer teaching that area is approachable.	79. (1)(2)(3)(4)	(1)(2)(3)(4)
You experience difficulties getting hold of your tutor to discuss a problem or answer a question.	80. (1)(2)(3)(4)	(1)(2)(3)(4)
You have the deadlines for several assignments set all in the same week.	81. (1)(2)(3)(4)	(1)(2)(3)(4)
Other students who get good grades without appearing to do any work.	82. (1)(2)(3)(4)	(1)(2)(3)(4)
You are finding work difficult and you do not know who to turn to for help.	83. (1)(2)(3)(4)	(1)(2)(3)(4)
You find it difficult to study.	84. (1)(2)(3)(4)	(1)(2)(3)(4)
Your lecturer/tutor appears to have given up on you.	85. (1)(2)(3)(4)	(1)(2)(3)(4)
You receive what you consider to be an inaccurate/unfair mark for an assignment.	86. (1)(2)(3)(4)	(1)(2)(3)(4)
Other students talking loudly next to you even though its obvious you are working.	87. (1)(2)(3)(4)	(1)(2)(3)(4)
You have difficulty getting access to equipment vital for the completion of an assignment	88. (1)(2)(3)(4)	(1)(2)(3)(4)
You have difficulties maintaining your motivation.	89. (1)(2)(3)(4)	(1)(2)(3)(4)
You are given very little explanation on an assignment with regards to your mark.	90. (1)(2)(3)(4)	(1)(2)(3)(4)
You have an assignment deadline very close to exams.	91. (1)(2)(3)(4)	(1)(2)(3)(4)
You are working in a group where there is a clash of personalities.	92. (1)(2)(3)(4)	(1)(2)(3)(4)
The photocopier doesn't work.	93. (1)(2)(3)(4)	(1)(2)(3)(4)
You are unable to answer a lecturers' question during a lesson.	94. (1)(2)(3)(4)	(1)(2)(3)(4)
Having a lecture in a room/theatre that is too noisy.	95. (1)(2)(3)(4)	(1)(2)(3)(4)

		PERCEIVED STRESS RATING	PERCEIVED AFFECT ON LEARNING +
Lecturers who are always late but become annoyed if you are late.	96.	(1)(2)(3)(4)	(1)(2)(3)(4)
Other students talking during a lecture.	97.	(1)(2)(3)(4)	(1)(2)(3)(4)
You feel lonely.	98.	(1)(2)(3)(4)	(1)(2)(3)(4)
A lecturer cuts you off when you try to ask a question in class.	99.	(1)(2)(3)(4)	(1)(2)(3)(4)
You are in a group where the students are highly competitive with one another.	100.	(1)(2)(3)(4)	(1)(2)(3)(4)

ONLY ANSWER THE FOLLOWING QUESTIONS IF YOU FEEL THEY ARE RELEVANT TO YOU

Attending at least 5 hours of continuous lectures.	1.	(1)(2)(3)(4)	(1)(2)(3)(4)
You hear of the sudden death of a fellow student.	2.	(1)(2)(3)(4)	(1)(2)(3)(4)

EXAMS

You have more than one exam in a day.	3.	(1)(2)(3)(4)	(1)(2)(3)(4)
Failing your final exams.	4.	(1)(2)(3)(4)	(1)(2)(3)(4)
Only having one chance to pass re-sits in September, having missed the exams in May/June due to ill health.	5.	(1)(2)(3)(4)	(1)(2)(3)(4)
You talk to another student who seems better prepared to take an examination.	6.	(1)(2)(3)(4)	(1)(2)(3)(4)
You don't have any free days between exams.	7.	(1)(2)(3)(4)	(1)(2)(3)(4)
You are given a seminar or a presentation to prepare when you are trying to revise.	8.	(1)(2)(3)(4)	(1)(2)(3)(4)

TRANSPORT

Being late for a lecture because of difficulties in finding a car parking space.	9.	(1)(2)(3)(4)	(1)(2)(3)(4)
Allowing plenty of time to park at college but being unable to do so.	10.	(1)(2)(3)(4)	(1)(2)(3)(4)
Your car fails to start.	12.	(1)(2)(3)(4)	(1)(2)(3)(4)
You return to your car to find it has been damaged.	13.	(1)(2)(3)(4)	(1)(2)(3)(4)

FINANCES

Finding that you are well over your overdraft limit.	14.	(1)(2)(3)(4)	(1)(2)(3)(4)
Receiving a letter from the Bank regarding the lack of money in your account.	15.	(1)(2)(3)(4)	(1)(2)(3)(4)
Borrowing money.	16.	(1)(2)(3)(4)	(1)(2)(3)(4)
You are not able to afford adequate food.	17.	(1)(2)(3)(4)	(1)(2)(3)(4)
Your grant cheque is over a month late.	18.	(1)(2)(3)(4)	(1)(2)(3)(4)
You are refused money at the cash point.	19.	(1)(2)(3)(4)	(1)(2)(3)(4)

PERCEIVED STRESS RATING PERCEIVED AFFECT ON LEARNING +

- Being unable to find a part time job that would supplement your grant. 20. (1)(2)(3)(4) (1)(2)(3)(4)
- The bank refuses to give you a cheque book. 21. (1)(2)(3)(4) (1)(2)(3)(4)
- The electricity is cut off. 22. (1)(2)(3)(4) (1)(2)(3)(4)
- You receive what you consider poor service from the bank. 23. (1)(2)(3)(4) (1)(2)(3)(4)

PARTNERS

- Your partner expresses that you are growing apart. 24. (1)(2)(3)(4) (1)(2)(3)(4)
- Experiencing difficulties in a romantic relationship due to the geographical distance between you. 25. (1)(2)(3)(4) (1)(2)(3)(4)
- Experiencing difficulties in a romantic relationship due to volume of work. 26. (1)(2)(3)(4) (1)(2)(3)(4)
- Experiencing difficulties in a romantic relationship due to a lack of trust. 27. (1)(2)(3)(4) (1)(2)(3)(4)
- Studying when your partner wants you to be with them. 28. (1)(2)(3)(4) (1)(2)(3)(4)

RENTED ACCOMMODATION

- Someone you share a house with doesn't clean up after themselves. 29. (1)(2)(3)(4) (1)(2)(3)(4)
- Someone you share a house with is unwilling to pay their share towards house bills. 30. (1)(2)(3)(4) (1)(2)(3)(4)
- You pay rent when you are not in your accommodation. 31. (1)(2)(3)(4) (1)(2)(3)(4)
- Someone you share a house with has the TV on loud while you are trying to sleep or work. 32. (1)(2)(3)(4) (1)(2)(3)(4)
- Someone you share a house with plays loud music late at night. 33. (1)(2)(3)(4) (1)(2)(3)(4)
- Moving in the middle of term. 34. (1)(2)(3)(4) (1)(2)(3)(4)
- Moving into accommodation with other students you don't know. 35. (1)(2)(3)(4) (1)(2)(3)(4)
- Experiencing difficulty in finding accommodation. 36. (1)(2)(3)(4) (1)(2)(3)(4)

CHILD CARE

- Your child care arrangements break down. 37. (1)(2)(3)(4) (1)(2)(3)(4)
- Making complex child care arrangements when you have a lecture at 9 am. 38. (1)(2)(3)(4) (1)(2)(3)(4)

PLACEMENTS

- You receive a rejection letter for a placement vital to your course. 39. (1)(2)(3)(4) (1)(2)(3)(4)

Eysenck's Emotional/Instability - Adjustment Scale

Appendix IX

When filling in this part of the questionnaire, please try to CIRCLE the 'Yes' or 'No' if you possibly can and only resort to the '?' if you find it really impossible to decide. Don't worry unduly about the exact shade of meaning of each individual item; your first reaction is often the best one.

- | | | |
|---|-----|----------|
| Do you think you are able to do things as well as most other people? | 1. | Yes ? No |
| Do you seem to have more than your share of bad luck? | 2. | Yes ? No |
| Do you blush more often than most people? | 3. | Yes ? No |
| Do you sometimes have ideas run through your head repeatedly that you would like to stop but can't? | 4. | Yes ? No |
| Is there some habit such as smoking that you would like to break but cannot? | 5. | Yes ? No |
| Do you usually feel well and strong? | 6. | Yes ? No |
| Are you often troubled by feelings of guilt? | 7. | Yes ? No |
| Do you feel that you have little to be proud of? | 8. | Yes ? No |
| Do you often feel depressed when you wake up in the mornings? | 9. | Yes ? No |
| Would you say that you seldom ever lose sleep over your worries? | 10. | Yes ? No |
| Are you often acutely aware of the ticking of clocks? | 11. | Yes ? No |
| If you see a game that you would like to be good at are you usually able to acquire the necessary skill to enjoy it? | 12. | Yes ? No |
| Do you often suffer from poor appetite? | 13. | Yes ? No |
| Do you often catch yourself apologising when you are not really at fault? | 14. | Yes ? No |
| Do you often think of yourself as a failure? | 15. | Yes ? No |
| In general would you say you are satisfied with your life? | 16. | Yes ? No |
| Are you usually calm and not easily upset? | 17. | Yes ? No |
| If you are reading something that contains errors of spelling and punctuation do you find it difficult to concentrate on what is being said? | 18. | Yes ? No |
| Do you take steps to control your figure by exercise or diet? | 19. | Yes ? No |
| Is your skin very sensitive and tender? | 20. | Yes ? No |
| Do you sometimes think you have let down your parents by the life you have led? | 21. | Yes ? No |
| Do you suffer from inferiority feelings? | 22. | Yes ? No |
| Do you find a good deal of happiness in life? | 23. | Yes ? No |
| Do you sometimes feel that you have so many difficulties that you cannot possibly overcome them? | 24. | Yes ? No |
| Are you sometimes compelled to wash your hands even though you know them to be perfectly clean? | 25. | Yes ? No |
| Do you believe that your personality was laid down firmly by the things that happened to you when you were a child, so that there isn't much you can do to change it? | 26. | Yes ? No |

- Do you frequently feel faint? 27. Yes ? No
- Do you believe that you have committed unpardonable sins? 28. Yes ? No
- In general are you pretty sure of yourself? 29. Yes ? No
- Do you sometimes feel that you don't care what happens to you? 30. Yes ? No
- Is life often a strain for you? 31. Yes ? No
- Are you sometimes bothered by an unimportant thought that runs through your mind for days? 32. Yes ? No
- Do you make your own decisions regardless of what other people say? 33. Yes ? No
- Do you have more headaches than most people? 34. Yes ? No
- Do you often feel a strong need to confess something that you have done? 35. Yes ? No
- Do you often wish that you were someone else? 36. Yes ? No
- Do you generally feel in good spirits? 37. Yes ? No
- As a child were you afraid of the dark? 38. Yes ? No
- Do you indulge in superstitious little rituals like avoiding the cracks in the pavement when you are walking along the footpath? 39. Yes ? No
- Do you find it difficult to control your weight? 40. Yes ? No
- Do you sometimes feel a twitching of the face, head or shoulders? 41. Yes ? No
- Do you often feel that people disapprove of you? 42. Yes ? No
- Would you be troubled by feelings of inadequacy if you had to make a speech 43. Yes ? No
- Do you ever feel 'just miserable' for no good reason? 44. Yes ? No
- Do you often feel restless as though you want something but do not really know what? 45. Yes ? No
- Are you obsessional about locking up drawers, windows, suitcases and things? 46. Yes ? No
- Do you place your trust in supernatural powers such as God or fate to see you through safely? 47. Yes ? No
- Do you worry a lot about catching disease? 48. Yes ? No
- Do you believe that the pleasure you have in the here and now will have to be paid for eventually? 49. Yes ? No
- Are there a lot of things about yourself that you would change if you could? 50. Yes ? No
- Do you see your future as looking quite bright? 51. Yes ? No
- Are you inclined to tremble and perspire if you are faced with a difficult task ahead? 52. Yes ? No
- Do you routinely check that all the lights, appliances and taps are off before you go to bed? 53. Yes ? No
- If something goes wrong, do you usually attribute it to bad luck rather than bad management? 54. Yes ? No

- Do you make a point of visiting your doctor even if you think you only have a cold? 55. Yes ? No
- Does it concern you a great deal that you are living better than the majority of people in the world? 56. Yes ? No
- Do you think that you are quite popular with people in general? 57. Yes ? No
- Have you ever wished you were dead? 58. Yes ? No
- Are you often afraid of things and people that you know would not really hurt you? 59. Yes ? No
- Are you careful to keep a supply of tinned or dried food in your house in case of an emergency food shortage? 60. Yes ? No
- Have you ever felt as though you were possessed by evil spirits? 61. Yes ? No
- Do you suffer a great deal from nervous exhaustion? 62. Yes ? No
- Is there something you have done that you will regret all your life? 63. Yes ? No
- Do you have a great deal of confidence in your decisions? 64. Yes ? No
- Do you often feel down in the dumps? 65. Yes ? No
- Are you less prone to anxiety than most of your friends? 66. Yes ? No
- Does dirt frighten and disgust you to an exceptional degree? 67. Yes ? No
- Do you often feel that you are a victim of outside forces that you cannot control? 68. Yes ? No
- Are you considered a sickly person? 69. Yes ? No
- Do you often get blamed or punished when you don't deserve it? 70. Yes ? No
- Would you say that you have a high opinion of yourself? 71. Yes ? No
- Do things often seem hopeless to you? 72. Yes ? No
- Do you often worry unreasonably over things that do not really matter? 73. Yes ? No
- If you are staying somewhere other than your own house do you make a point of planning how you would escape in the event of a fire? 74. Yes ? No
- Do you set out to get what you want with a clear course of action rather than trusting to luck? 75. Yes ? No
- Do you keep a medicine cabinet in your home that contains a great variety of left-overs from your previous prescriptions. 76. Yes ? No
- Do you readily take it to heart if somebody scolds you? 77. Yes ? No
- Do you often feel ashamed of things that you have done? 78. Yes ? No
- Do you smile and laugh as much as most people? 79. Yes ? No
- Are you anxious about something or somebody most of the time? 80. Yes ? No
- Are you easily irritated by things that are out of place? 81. Yes ? No
- Do you ever make decisions by tossing a coin or some such procedure that

- leaves it entirely to chance? 82. Yes ? No
- Do you worry a great deal about your health/ 83. Yes ? No
- If you have an accident do you assume that you must have deserved it because of something you had done? 84. Yes ? No
- Do you feel embarrassed when looking at photographs of yourself and complain that they seldom do you justice? 85. Yes ? No
- Have you often felt listless and tired for no good reason? 86. Yes ? No
- If you have made an awkward social error can you forget it quite easily? 87. Yes ? No
- Do you keep very careful accounts of all the money you spend? 88. Yes ? No
- Do you often act contrary to custom or to the wishes of your parents? 89. Yes ? No
- Do severe pains and aches make it impossible for you to concentrate on your work? 90. Yes ? No
- Are you regretful about your early sexual experiences? 91. Yes ? No
- Are there some members of your family who make you feel you are not good enough? 92. Yes ? No
- Are you often bothered by noise? 93. Yes ? No
- Can you relax quite easily when sitting or lying down? 94. Yes ? No
- Do you worry a great deal about catching germs from people in public? 95. Yes ? No
- If you were feeling lonely would you make an effort to be friendly towards people? 96. Yes ? No
- Are you often bothered by severe itching? 97. Yes ? No
- Do you have some bad habits that are really inexcusable? 98. Yes ? No
- Do you get very upset if someone criticises you? 99. Yes ? No
- Do you feel that you often get a raw deal out of life? 100. Yes ? No
- Are you easily startled by someone appearing unexpectedly? 101. Yes ? No
- Are you always careful to pay back even the most trivial debt? 102. Yes ? No
- Do you often feel that you have little influence over the things that happen to you? 103. Yes ? No
- Are you normally in good health? 104. Yes ? No
- Are you often bothered by pangs of conscience? 105. Yes ? No
- Do people regard you as useful to have around? 106. Yes ? No
- Do you think that people really don't care what happens to you? 107. Yes ? No
- Do you find it difficult to sit still without fidgeting? 108. Yes ? No
- Do you often do jobs yourself rather than trust somebody else to do it properly? 109. Yes ? No
- Are you easily persuaded by the arguments of other people? 110. Yes ? No

- Does stomach trouble run in your family? 111. Yes ? No
- Do you regard your youth as mis-spent? 112. Yes ? No
- Are you often inclined to question your worth as a person? 113. Yes ? No
- Do you often suffer from loneliness? 114. Yes ? No
- Do you worry a great deal over money matters? 115. Yes ? No
- Would you walk under a ladder on the street rather than go out of your way to detour around it? 116. Yes ? No
- Do you often find life difficult to cope with? 117. Yes ? No
- Are other people unsympathetic when you are feeling unwell? 118. Yes ? No
- Do you think you are undeserving of other peoples trust and affection? 119. Yes ? No
- When people say nice things about you, do you find it difficult to believe they are really sincere? 120. Yes ? No
- Do you think you are contributing to the world and leading a useful life? 121. Yes ? No
- Can you drop off to sleep quite easily at night? 122. Yes ? No
- Can you easily disregard little mistakes and inaccuracies? 123. Yes ? No
- Are most of the things you do geared to pleasing other people? 124. Yes ? No
- Do you constantly suffer from constipation? 125. Yes ? No
- Do you spend a great deal of time going over things that have happened in the past and wishing that you had behaved more responsibly? 126. Yes ? No
- Do you sometimes withhold your opinions for fear that people will laugh and criticise you? 127. Yes ? No
- Is there at least one person in the world who really loves you? 128. Yes ? No
- Are you easily embarrassed in a social situation? 129. Yes ? No
- Do you collect all kinds of scrap materials in case they might come in handy one day? 130. Yes ? No
- Do you believe that your future is really in your own hands? 131. Yes ? No
- Did you ever have a nervous breakdown? 132. Yes ? No
- Are you harbouring a guilty secret that you are afraid must come out one day? 133. Yes ? No
- Are you shy and self-conscious in social situations? 134. Yes ? No
- Would you agree that it is hardly fair to bring a child into the world the way things look now? 135. Yes ? No
- Are you easily 'rattled' if things don't go according to plan? 136. Yes ? No
- Do you feel very uncomfortable if your home gets untidy? 137. Yes ? No
- Have you as much will power as the next person? 138. Yes ? No

- Are you often bothered by palpitations of the heart? 139. Yes ? No
- Do you believe that bad behaviour will always be punished in the long run? 140. Yes ? No
- Do you have a tendency to feel below the people you meet even though, objectively speaking, you are not outranked? 141. Yes ? No
- Generally speaking have you been successful in achieving your aims and goals in life? 142. Yes ? No
- Do you often wake up sweating after having a bad dream? 143. Yes ? No
- Are you repelled if somebody's pet dog licks you on the face? 144. Yes ? No
- Do you find it a waste of time planning ahead because something always turns up that causes you to change your plans? 145. Yes ? No
- Do you worry a lot about other members of your family getting ill? 146. Yes ? No
- If you have done something morally reprehensible can you quickly forget it and direct your thoughts to the future? 147. Yes ? No
- Do you usually feel that you can accomplish the things you want to? 148. Yes ? No
- Are you often overcome by sadness? 149. Yes ? No
- Does your voice get shaky if you are talking to someone you particularly want to impress? 150. Yes ? No
- Would you rather go without something than feel obliged to another person? 151. Yes ? No
- Would you prefer a job in which somebody else made the decisions and told you what to do? 152. Yes ? No
- Are you troubled by cold hands and feet even in warm weather? 153. Yes ? No
- Do you often pray for forgiveness? 154. Yes ? No
- Are you satisfied with your appearance? 155. Yes ? No
- Does it seem to you that it is always other people who get the breaks? 156. Yes ? No
- Would you stay calm and collected in the face of an emergency? 157. Yes ? No
- Do you make a point of writing down all your appointments in a note book, even things you have to do later in the same day? 158. Yes ? No
- Do you often get the feeling that it's no use trying to get anywhere in life? 159. Yes ? No
- Do you often have difficulty in breathing? 160. Yes ? No
- Are you embarrassed by dirty stories? 161. Yes ? No
- Are you often reticent with other people because you think they will not like you? 162. Yes ? No
- Is it a long time since you last felt on top of the world? 163. Yes ? No
- Do you sometimes get into a state of tension and turmoil when thinking over your difficulties? 164. Yes ? No
- Do you usually adjust your hair and clothing before you open the door to a visitor? 165. Yes ? No

- Do you often feel that you don't have enough control over the direction that your life is taking? 166. Yes ? No
- Do you think it is a waste of time going to the doctor with most mild complaints such as coughs, colds and influenza? 167. Yes ? No
- Do you often feel as though you have done something wrong and wicked even though this feeling is not really justified? 168. Yes ? No
- Do you find it difficult to do things in a way that wins the attention and approval of others? 169. Yes ? No
- Do you feel cheated when you look back on what has happened to you? 170. Yes ? No
- Do you worry too long over humiliating experiences? 171. Yes ? No
- Are you often tempted to correct people's grammar when you are talking to them (although politeness may prevent you from doing so)? 172. Yes ? No
- Do you find that things are changing so fast today that it is difficult to know what rules to follow? 173. Yes ? No
- Do you always go straight to bed if you have caught a cold? 174. Yes ? No
- Do you think that you must have disappointed your teachers at school by not working hard enough? 175. Yes ? No
- Do you often catch yourself pretending to be a better person than you really are? 176. Yes ? No
- Are you about as happy as the next person? 177. Yes ? No
- Would you describe yourself as self-conscious? 178. Yes ? No
- Would you describe yourself as a perfectionist? 179. Yes ? No
- Do you usually have clear-cut goals and a sense of purpose in life? 180. Yes ? No
- Do you look at the colour of your tongue most mornings? 181. Yes ? No
- Do you often think back on how badly you have treated people in the past? 182. Yes ? No
- Do you sometimes feel that you can never do anything right? 183. Yes ? No
- Do you often get the feeling that you are just not a part of things? 184. Yes ? No
- Do you worry unnecessarily over things that might happen? 185. Yes ? No
- Do you go through a set routine on retiring to bed that if broken would cause you great difficulty in getting to sleep? 186. Yes ? No
- Do you often have the feeling that other people are using you? 187. Yes ? No
- Do you weigh yourself every day? 188. Yes ? No
- Do you expect God will punish you for your sins in the after-life? 189. Yes ? No
- Do you often have doubts about your sexual prowess? 190. Yes ? No
- Is your sleep usually fitful and disturbed. 191. Yes ? No
- Are you inclined to get yourself all worked up over nothing? 192. Yes ? No

- Is it very important to you that everything should always be neat and tidy? 193. Yes ? No
- Are you sometimes influenced by advertisements to buy something you didn't really want? 194. Yes ? No
- Are you often troubled by noises in your ears? 195. Yes ? No
- Do you usually blame yourself if something goes wrong with your personal relationships? 196. Yes ? No
- Have you at least a normal amount of self respect? 197. Yes ? No
- Do you often feel lonely even when you are with other people? 198. Yes ? No
- Have you ever felt you needed to take tranquillisers? 199. Yes ? No
- Are you very upset if your daily habits are disturbed by unforeseen events? 200. Yes ? No
- Do you read horoscopes with the hope of obtaining some guidance in your life? 201. Yes ? No
- Do you often feel a choking lump in your throat? 202. Yes ? No
- Are you sometimes disgusted by your own sexual desires and fantasies? 203. Yes ? No
- Do you think your personality is attractive to the opposite sex? 204. Yes ? No
- Do you feel a sense of inner calm and contentment most of the time? 205. Yes ? No
- Are you a nervous person? 206. Yes ? No
- Do you spend a great deal of time filing and arranging your papers so you will be certain to know where everything is if you should want it? 207. Yes ? No
- Do other people usually decide what play or film you are going to see? 208. Yes ? No
- Do you have hot or cold spells? 209. Yes ? No
- Is it easy for you to forget the things that you have done wrong? 210. Yes ? No

THE SPACE BELOW HAS BEEN PROVIDED TO GIVE YOU AN OPPORTUNITY TO DESCRIBE AN INCIDENT THAT YOU HAVE EXPERIENCED AS A STUDENT THAT YOU HAVE FOUND STRESSFUL (rating 2-4) AND TO STATE HOW YOU CONSIDERED IT TO HAVE AFFECTED YOUR LEARNING.

INCIDENT:

AFFECT ON LEARNING:

COMBINED STUDIES

<u>PILOT:</u>	2nd Year 3rd Year	HUMAN BIOLOGICAL STUDIES HISTORY
<u>LOGS:</u>	1st Year 2nd Year 3rd Year	HUMAN BIOLOGICAL STUDIES PSYCHOLOGY GEOGRAPHY
<u>MAIN:</u>	1st Year	ENVIRONMENTAL BIOLOGY SOCIOLOGY PSYCHOLOGY BUSINESS ADMINISTRATION
	2nd Year	AMERICAN STUDIES ECONOMICS ENGLISH EARTH SCIENCES
	3rd Year	PSYCHOLOGY LAW ART AND DESIGN HUMAN BIOLOGICAL STUDIES

FACULTY OF EDUCATION, HEALTH AND SCIENCE

<u>PILOT:</u>	1st Year 3rd Year	BSc LEATHER TECHNOLOGY ENVIRONMENTAL BIOLOGY
<u>LOGS:</u>	2nd Year	PROJECT 2000 (Permission denied sub. F/T Dip. Comm. Nursing 1st yrs.)
<u>MAIN:</u>	1st Year	PODIATRY B.Ed HUMANITIES PROJECT 2000
	2nd Year	PODIATRY HND LEATHER TECHNOLOGY B.ED SCIENCE AND TECHNOLOGY
	3rd Year	PODIATRY B.ED MATHEMATICS

FACULTY OF DESIGN AND INDUSTRY

<u>PILOT:</u>	1st Year 2nd Year	HND BUILDING STUDIES HND COMPUTER SYSTEMS HND GRAPHIC DESIGN
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LOGS: 1st Year HND DESIGN PRINT MANAGEMENT

MAIN: 1st Year BSc BUILDING CONSTRUCTION
HND FASHION

2nd Year HND BUILDING STUDIES - CM
HND ENGINEERING
HND GRAPHIC DESIGN

FACULTY OF MANAGEMENT AND BUSINESS

PILOT: 1st Year ACCOUNTANCY FOUNDATION
2nd Year LLB

MAIN: 1st Year HND COMPUTING
EUROPEAN BUSINESS
MA INTERNATIONAL BUSINESS

2nd Year HND COMPUTING
BA BUSINESS STUDIES

FACULTY OF HISTORICAL AND SOCIAL SCIENCE

MAIN: 1st Year DIP. HE AND DIP. SOCIAL WORK
2nd year DIP. HE AND DIP. SOCIAL WORK

APPENDIX XII

I N S T R U C T I O N S F O R A D M I N I S T E R I N G
S T U D E N T Q U E S T I O N N A I R E

As a result of the number of students being targeted to receive this questionnaire, it has been necessary for me to enlist the help of academic staff for the job of distribution and collection. **MANY THANKS TO YOU FOR THAT HELP.** To make life easier, the following instructions can be read out to students when they have received their questionnaire.

"This questionnaire forms part of a 3 year research project being carried out by Jackie Dabney through the School of Health and Life Sciences. This college funded research aims to identify stress factors in the student population at Nene and investigate the perceived and actual affects of these stress factors on student learning".

"The questionnaire itself was originally formulated from the comments of a random sample of full time Nene students and from the analysis of a pilot study which was carried out within the college at the beginning of March".

"There are instructions on the second page, but if you turn to the third page you will see you are being asked to rate a series of items using a 4 point scale duplicated into two columns. For the first column labelled:

Perceived Stress Rating

You need to **CIRCLE** the appropriate number to indicate the degree of stress you would, or did, experience had the incident actually happened.

- 4 indicates " I consider/ed the incident *very* stressful"
- 3 indicates " I consider/ed the incident *moderately* stressful"
- 2 indicates " I consider/ed the incident *just a little* stressful"
- 1 indicates " I *do / did not* consider the incident stressful at all"

For the second column labelled:

Perceived Affect on Learning

Again you need to **CIRCLE** the appropriate number to indicate to what degree the incident would, or did, affect your learning.

- 4 indicates "My learning was/would be *significantly* affected"
- 3 indicates "My learning was/would be *moderately* affected"
- 2 indicates "My learning was/would be a *little/somewhat* affected"
- 1 indicates "My learning was/would *not* be affected at all"

There is also a third column where you may indicate with a + sign, that as a result of the incident your learning was/would be positively affected".

"You will see that the second part of the questionnaire is self explanatory".

"At the very end of the questionnaire you will note that 25 pounds worth of book tokens are the prize in a second draw (there was also one for students who took part in the pilot study). Any form of identification can be used as long as this can be used to identify the prize winner".

To: All Heads of School

Ext. Debbie Price, 2011

From: Jackie Dabney, Research Student

Re: Student Stress Questionnaire

I would like to thank you and members of your staff for your help and assistance with the distribution of questionnaires at the end of March. I realise that it was (and still is) a very busy time for you and your support was much appreciated.

I enclose a list of courses, targeted for the main questionnaire, along with the number of questionnaires returned. It is not too late for students to return their questionnaires to the "Jackie Dabney" boxes at both Avenue and Park campus receptions and a gentle reminder to them may help increase this response rate.

I would be very grateful if you could ask the staff who were involved in the distribution to return any blank questionnaires that may be lying around, either by leaving me a message to collect them via the above extension or by returning them to my box at reception. As well as 'recycling' them, they are important when calculating the response rate.

Finally, I would like to add how kind and helpful many members of staff were to me throughout all stages of data collection particularly as the questionnaire was fairly long, being interested, not only in this project and it's findings, but in other research currently taking place in the college.

Many thanks,

APPENDIX XIV

School of Health and Life Science,
Nene College,
Park Campus,
Broughton Green Road,
NORTHAMPTON. NN2 7AL

(0604) 735500 ext.: 2011

Dear

I am a post graduate student here at Nene College undertaking an internally funded research project to investigate stress factors and student learning.

During the academic year '92-'93, approximately 700 students completed either a questionnaire or a one week diary. This data has enabled me to complete the first stage of the study, that of identifying potential sources of stress for students at Nene and to establish that many of these 'stressors' are seen as affecting students' learning. However, this information provides only half of the picture. The second stage of the research involves investigating exactly how and why learning is affected .

In order for me to assess the impact that higher education has on students, it is essential, for the purposes of comparison, to collect some base-line information or 'measure' from students before they start. The attached questionnaire (which is being sent to a small group of *randomly selected* students) is intended to give you an opportunity to express what you expect college life to be like. Any extra information that you think may be relevant will be gratefully received. It is envisaged that towards the end of your first year you will receive a second questionnaire which will aim to assess whether the 'reality' does, or does not, live up to your expectations.

All replies (here and throughout the study) will be treated as STRICTLY CONFIDENTIAL and USED FOR RESEARCH PURPOSES ONLY. They will be opened by myself and stored outside the college and at no time will it be possible for your replies to be identified by anyone, other than myself, as they will bear only a number and *not* your name.

Finally, (if you're still keen!) at the bottom of the questionnaire there is an invitation for you to take part in this study on 3 further occasions during your first year, either by filling in a very straight forward questionnaire (3/4 hr. to complete), completing a simple 5 day diary (5 minutes each evening) or being interviewed, by me, with tea/coffee and biscuits provided (approximately 1 hour). Unfortunately my research budget is not large enough for me to be able to pay you for your time, however, I have been able to negotiate £25 worth of book tokens for a prize draw open to volunteers.

If you have any problems or concerns regarding any aspect of this research, please leave a message for me to contact you via the secretary on the above telephone number and I shall be happy to call you back.

THANK YOU FOR YOUR ANTICIPATED HELP AND CO-OPERATION.



JACKIE DABNEY
Research Student
School of Health and Life Sciences

PLEASE RATE THE FOLLOWING STATEMENTS USING THIS RATING SCALE: APPENDIX XVI

- 1 = Never
- 2 = Rarely
- 3 = Sometimes
- 4 = Often

I EXPECT MY LECTURERS TO ...

1. () Always seem to be busy and in a hurry
2. () Be authoritarian
3. () Be consistent and fair with their marking
4. () Be impatient
5. () Be interesting and entertaining
6. () Be patronising
7. () Be supportive
8. () Be unapproachable
9. () Give me feedback on my progress
10. () Be understanding and supportive
11. () Be available
12. () Be democratic
13. () Be interested in my work
14. () Be intimidating
15. () Be punctual
16. () Be sympathetic
17. () Dictate a lecture
18. () Mislays my work
19. () Give up on me
20. () Have a sense of humour
21. () Make me look stupid in front of the class
22. () Return my work promptly
23. () Set assignment deadlines very close to exams
24. () Provide overheads that are difficult to read
25. () Provide constructive criticism
26. () Treat me like an adult
27. () Reprimand badly behaved students
28. () Tell me I'm stupid when I make a mistake
29. () Speak quickly when giving a lecture
30. () Speak loud enough in lectures to be heard
31. () Be understanding when I have a genuine reason for handing work in late
32. () Present work in a manner that makes it memorable
33. () Get angry when I genuinely don't understand what they are saying
34. () Give inaccurate/unfair marks for an assignment
35. () Give complete and clear instructions regarding a task he/she wants me to do
36. () Give me enough time to write down at least the important points from an overhead
37. () Give praise and encouragement when I have worked particularly hard
38. () Give the impression that they think my problems are insignificant
39. () Make sure that there is adequate time given to complete assignments/essays etc.
40. () Make sure there are books/materials/equipment available when they are required

1 - Never 2 - Rarely 3 - Sometimes 4 - Often

- 41. () Pitch a lecture at the actual level of knowledge of the class rather than an assumed one
- 42. () Set deadlines for several assignments all in the same week
- 43. () Tell me that I am producing work below an acceptable standard
- 44. () Keep me waiting over one month for my work to be marked and returned.
- 45. () Expect me to write down what is on an overhead and listen to useful material at the same time

WITH REGARDS TO OTHER ASPECTS OF COLLEGE LIFE, I EXPECT ...

- 46. () To be able to sleep.
- 47. () To feel lonely.
- 48. () To pay poll tax.
- 49. () To have to revise a subject I find really boring.
- 50. () To remember what I think is important material.
- 51. () To have a lecture in a room/theatre that is too cold.
- 52. () To experience loud background noise in the library.
- 53. () To be unable to find any books on a particular topic in the library
- 54. () Other students to behave very immaturely.
- 55. () To be unable to clear my workload.
- 56. () The photocopier to work.
- 57. () To feel too tired to study when I get home.
- 58. () Get a lower mark than expected on a piece of work.
- 59. () To mislay or lose my work.
- 61. () Read about poor job prospects for graduates.
- 62. () Other students to talk during a lecture.
- 63. () To be able to understand books/articles I read.
- 64. () I will give a peer assessed presentation.
- 65. () Academic departments to be organised.
- 66. () To find myself worrying about my marks.
- 67. () To have the feeling that I should be working harder.
- 68. () To feel able to cope with the workload.
- 69. () To be able to find a book or text a lecturer has recommended.
- 70. () Feel as though I am skimming over topics because of lack of time.
- 71. () To be able to prioritise tasks.
- 72. () To have unexpected expenses which have not been budgeted for.
- 73. () To need a book from the library, which should be there, but cannot be found.
- 74. () To have no difficulty maintaining my motivation.
- 75. () To have a personal problem that I feel unable to talk to anyone about.
- 76. () To obtain a book/article shortly before an assignment is due to be handed in.
- 77. () To have the feeling that I've 'bitten off more than I can chew'.
- 78. () My Parent/s or partner to appreciate the level of stress I am under.
- 79. () Another student to borrow my equipment/belongings without asking.
- 80. () To be able to find relevant books for an assignment in the library.

1 - Never

2 - Rarely

3 - Sometimes

4 - Often

81. () To attend at least 5 hours of continuous lectures in a day.
82. () To make a presentation or perform something in front of other students with very little prior notice.
83. () That when I am just getting down to work, something unexpected will crop up.
84. () To realise that I have not understood the work as well as I had thought.
85. () I will get a bad mark on a piece of work.
86. () I will find it easy to study.
87. () To have a lecture in a room/theatre that is quiet.
88. () I shall begin to have strong doubts that I am on the right career path.
89. () I will feel that a topic/subject/option I have chosen is beyond my abilities.
90. () To work in a group where there is a clash of personalities.
91. () I shall forget to do an important piece of work until it is too late.
92. () I shall be able to find relevant material for an assignment in the library.
93. () I shall work in a group where the other students are poorly motivated.
94. () I will find that I am having difficulty concentrating on my work.
95. () I will come into contact with other students who get good grades without appearing to do any work.
96. () When I find work difficult there will be someone to turn to for help.
97. () Other students to talk loudly next to me when it's obvious I am working.
98. () To be in a group where the students are highly competitive with one another.
99. () To have no difficulty getting access to equipment vital for the completion of an assignment.
100. () Not to understand something in a lecture that other students seemed to understand.
101. () To feel that a topic/subject/option I have chosen is as interesting as I thought it was going to be.
102. () Other students to boast about their projects/assignments when I think I haven't done very well.
103. () To be able to afford a vital book or piece of equipment recommended for my course.
104. () To meet someone who assumes that students lives are stress-free and that I have taken an easy option.
105. () To leave course work/assignments until the last minute because I don't know/understand what to do
106. () That if I have a problem it will be dealt with in a helpful and friendly manner by administration staff
107. () When I need an important book for an assignment there will be sufficient copies in the library for me to have no difficulties borrowing one

WELL DONE YOU'VE FINISHED, MANY MANY THANKS FOR YOUR HELP.

If you think you would like to be involved in ongoing research, are a masochist, and/or have a kind disposition and would like to be involved in this study at Nene, please tick this box []

Your assistance will be essential to the success of this project. I can't do it without you!

All communications to you will be posted on your course notice board.

Home telephone no. (has an answer phone): (0462) 711528
Extension of secretary in Brampton where a message can be left: Ex 2011

Dear

Many thanks again for filling in and returning your questionnaire sent in September and special thanks for offering your assistance with my research project.

As you may remember, I needed volunteers to either fill in a questionnaire, complete a 5 day diary or be interviewed by me, well your name was picked out (totally randomly) to be interviewed. I hope to carry out your 3 interviews at some time during November, February and May - but the exact time should fit in with you.

As you may realise the mail system at Nene is really primitive so I have put my home phone number above and I will call you straight back. This would probably be the easiest way of arranging a time to meet, but if you do not have access to a phone you can either leave a message with the secretary just in the entrance to the Brampton building or use the envelope enclosed to give me a contact telephone number/address and the best time to contact you. DROP THIS INTO THE POST ROOM JUST THROUGH 2 SETS OF DOUBLE DOORS BEHIND RECEPTION AT PARK CAMPUS

I'm sorry this sounds a bit complicated, but being able to contact you direct is just so much more reliable than going through the student pigeon hole system, where most of the mail ends up on the floor.

Many thanks again, looking forward to meeting you,

Interview Schedule - NOVEMBER

GENERAL

- a) How are you finding Northampton, the college / the general environment?
- b) Why Nene? Why subject areas were chosen? Previous educational experience (type of teaching received).
- c) College life in general, workload, teaching, facilities, social life/support, money and personal relationships.

PERSONAL INCIDENT

I'd like you to think back over the time you've been at Nene and tell me of any incident that has happened that you feel was stressful in some way and that you feel affected your learning, either positively, spurring you on, or negatively, making you lose your motivation, concentration, etc.

QUESTIONNAIRE

I'd like you to look over the top 100 incidents rated as most stressful by students taking part in a previous pilot study. As you go through them I would like you say why you are rating them as you are.

Try and describe how the incident made you feel, (*anxious, angry, irritated*) what you thought at the time and what you did and have done subsequently.

Describe how your learning was affected and what you could/should or would have learnt had the incident not happened?

Interview schedule - FEBRUARY

GENERAL

1. How is it going?
2. What are the best things about being at college?
3. What are the worst things?
4. Do you attend all your lectures?
5. a) What lessons do you attend regularly and why? b) What lectures do you not attend regularly and why?
6. How have you been doing on your assignments? What sort of marks have you have been getting? (satisfied?)

PERSONAL INCIDENT

I'd like you to think back over the time you've been at Nene and tell me of any incident that has happened that you feel has significantly affected your learning, either negatively or positively, in other words, either de motivating you or spurring you on.

QUESTIONNAIRE: USING THE HEADING FROM THE QUESTIONNAIRE AS PROMPTS

I'd like you to look over the top 100 incidents which have now been categorised under headings to speed up the process a little. As you go through them say why you are rating them as you are.

If learning was affected:-

- a) Try and describe how the incident made you feel, (*anxious, angry, irritated, etc.*). What were your thoughts at the time and what did you do and have done subsequently?
- b) Describe how your learning was affected? (What could/should or would have been learnt had the incident not happened).

If learning was not affected :-

- c) Why do you think your learning wasn't affected?

If learning was positively affected:-

- d) How do you think your learning was affected positively. Why do you think this was so?

ANY OTHER PERSONAL EXPERIENCE?

Interview Schedule- MAY

PERSONAL INCIDENT

I'd like you to think back over the last couple of months and tell me of any incident that has happened that you felt was stressful at the time that has subsequently significantly affected your learning, either negatively or positively, in other words, either de motivating you or spurring you on.

QUESTIONNAIRE

Invite student to look over the top 100 incidents. As they go through them ask them why they are rating them as they are.

If learning was affected:-

- a) Try and describe
 - i) how the incident made you feel (specifically)
 - ii) what you thought at the time and
 - iii) what you did and have done subsequently.

- b) Describe
 - i) how your learning was affected and
 - ii) what you think you could/should or would have learnt had the incident not happened?

If learning was not affected :-

- c) Why do you think your learning wasn't affected?

If learning was positively affected:-

- d) In what way do you think your learning was affected positively?

ANY OTHER PERSONAL EXPERIENCE?

Having done these items, have they reminded you of any other incidents you have experienced?

Checklist

If I could just run through a few questions with you just to recap over a few areas we may have discussed at length on our previous meetings. Brief answers, i.e. one or two sentences will be fine.

1. Had you visited the college before coming? y/n
2. How accurate had you found the information in the prospectus? not at all = 1 / very accurate = 9
3. Would you have found any other information useful to prepare you for Nene?
(on the course, finances or costs of the course, where to get advice on study skills or personal problems, non-course activities, anything else).
4. How have you found the availability of either your personal tutor or a staff member with whom you can discuss a problem?
5. How much time do you spend working outside of the lectures? (Is this more than anticipated?)
6. Have you had help on study skills? If yes, from whom?
Have you heard of the Student Support Initiative at Avenue Campus?
Have you aware of the counselling service? (Have you used them? Do you know what they do?) Do you know where they are should you need to contact them for anything?
7. Do you read hand outs?
8. How do you feel about your learning experience in general?
(Are you satisfied with the progress you have made?
If not, what are the reasons for lack of it?)
9. How do you feel about the pace and the level of difficulty of the subjects you have taken?
10. Have you attended all your lectures?
If not, are there lessons that haven't attended regularly? Why is this?
11. Have there been any changes over the past year in the following areas and if so, could you describe them:-
In the way you work, the standard of your work, the teaching, the support, the guidance, standard of feedback, the seminars you attend, your learning style, your confidence, your motivation, your personal circumstances, relationships, your social situation?
12. In what way would you say the following have influenced your learning - lecturers, peers, friends, partners, family?
13. What do you think you have achieved?
14. What adjustments, if any, have you had to make?
15. In what way, if any, would you say you had gained or benefited as a person from being at Nene?
16. Would you say there were/are costs (academically, financially and personally) from being here at Nene? Are there any hidden costs?
17. Have your future plans changed as a result of your experiences here at Nene. If so, in what way? (different options, career etc.)

STUDENT LOG FOR NOVEMBER, FEBRUARY AND MAY APPENDIX XXI

Extension of the secretary (Debbie) in Brampton where
a message can be left: (0604) 735000-ext 2011

Dear

Many thanks again for filling in and returning your questionnaire sent in September and special thanks for offering your assistance with my research project.

As you may remember, I needed volunteers to either fill in a questionnaire, complete a 5 day diary or be interviewed by me, well your name was picked out (totally randomly) to receive a diary. It is my intention to send another during February and again in May which will provide really valuable data gathered at different points during your first academic year. Due to the small numbers of students participating in this stage of the study, every questionnaire will count, so PLEASE, PLEASE return it.

Later in the year I hope to invite you, along with other volunteers, to a seminar where the results of my research will be presented. If you would like a copy of my findings so far, leave a message with Debbie on the extension above, or drop me a note in the enclosed envelope (which has been provided for your completed diary). DROP THIS INTO THE POST ROOM JUST THROUGH 2 SETS OF DOUBLE DOORS BEHIND RECEPTION AT PARK CAMPUS or into RECEPTION AT AVENUE CAMPUS and it will get to me.

Many thanks for your help and co-operation.

JACKIE DABNEY
Research student
School of Health and Life Science

P.S. If you have a stress free day, put a line through that particular sheet.

STUDENT LOG

You are requested to record each day over the next 5 days (excluding the weekend), the most stressful single incident or series of related incidents occurring that day.

Would you also record HOW you think the incident may have affected your learning in the short and long term.

Here is an example:

DAY 1: Friday

Most stressful single incident:	<i>Found the pages I needed removed from a journal</i>
---------------------------------	--

OR

Most stressful series of incidence:	
-------------------------------------	--

AS A RESULT

How did the incident(s) affect my learning?	<p><i>I was unable to use the information contained in the article for an assignment I was hoping to complete. It was also a waste of time when I could have been doing something else.</i></p> <p><i>I tried to order it through inter library loan, but I don't think I will get it in time. Tried to find someone who had a copy.</i></p> <p><i>If the article doesn't come or I can't find anybody who has it my assignment will be of a poorer quality in that the information contained in the article was really up to date.</i></p>
---	---

(Example of page from student log for Day 1, 2, 3, 4 and 5)

DAY : (please state)

Most stressful single incident:	
---------------------------------	--

OR

Most stressful series of incidence:	
-------------------------------------	--

AS A RESULT

How did the incident(s) affect my learning?	
---	--

It may help to consider the following when you think of how your learning may have been affected.

- Was it a positive affect, i.e. you were spurred on.
- Your thoughts and feelings at the time of the incident
- Your attitude to academic work in general
- Your attitude to a particular topic/subject
- Your attitude to learning
- Your absorption of material
- Your general level of anxiety
- Your confidence
- Your concentration
- Your motivation

PLEASE TURN OVER THE PAGE

(Example of the reverse of pages from student log for day 1, 2, 3, 4, and 5)

Now, please look through the attached list of common stressful experiences and, if any have occurred today, describe the incident and how you think it may have affected your learning in the space provided below. (If there are more than one, chose the one that you feel had most affect on your learning).

Details of the incident.	
--------------------------	--

How did the incident affect my learning?	
--	--

It may help to consider the following when you think of how your learning may have been affected.

- Was it a positive affect, i.e. you were spurred on.
- Your thoughts and feelings at the time of the incident
- Your attitude to academic work in general
- Your attitude to a particular topic/subject
- Your attitude to learning
- Your absorption of material
- Your general level of anxiety
- Your confidence
- Your motivation
- Your concentration

page 5 only { Brilliant, you've finished, please use the enclose envelope to return to me via either the post room at park or reception at Avenue. Many thanks.

COMMON STRESSORS**LECTURERS**

- A lecturer cuts you off when you try to ask a question in class.
- Being singled out for doing something wrong when the behaviour of others goes unnoticed.
- Being told by a lecturer you are stupid when you make a mistake.
- Lecturers that get angry when you genuinely don't understand what they are saying.
- Lecturers who are always late but become annoyed if you are late
- Lecturers who assume that theirs is the only, and the most important, subject you do.
- Lecturers who expect you to 'go away and get on with it' without any guidance or support.
- Lecturers who treat you in a patronising way.
- Lecturers who try to make you look stupid in front of your class.
- Tutors/Lecturers who always seem to be busy and in a hurry.
- Tutors/lecturers who give you the impression they think your problems are insignificant.
- You are late handing work in because of a genuine reason and receive very little understanding or support.
- You have a lecturer who is intimidating.
- You have problems with your work but you do not feel that the lecturer teaching that area is approachable.
- You overhear comments by staff that you are in a poor academic group compared to others they have taught.
- You work particularly hard and get no encouragement or praise for your efforts.
- Your lecturer/tutor appears to have given up on you.
- A tutor/lecturer mislays your work.
- Being unable to hear a lecturer.
- Getting a low mark on an assignment/essay despite only positive comments from the marker.
- Lecturers who assume a higher/lower level of understanding from your class.
- Lecturers who do not give you enough time to write down even important points from an overhead.
- Lecturers who speak too quickly.
- Waiting over one month for your work to be marked and returned.
- You are given incomplete or vague instructions by a lecturer regarding a task he/she want you to do.
- You are given very little explanation on an assignment with regards to your mark.
- You are trying to listen to useful material at the same time as write down what is on an overhead.
- You are unable to answer a lecturers' question during a lesson.
- You receive what you consider to be an inaccurate/unfair mark for an assignment.
- Being given insufficient time to complete assignments.
- Lecturers who fail to return work after you have worked hard on it.
- You are caught between one lecturer saying one thing and another saying something else.
- You experience difficulties getting hold of your tutor to discuss a problem or answer a question.
- You have an assignment deadline very close to exams.
- You have the deadlines for several assignments set all in the same week.

Being reprimanded for something you haven't done.
Having to go through the library when the lecturer could have given handouts.
Lecturers who give blanket reprimands to all the class, instead of directing them at the student(s) responsible.
You are unable to read the lecturers writing on the board.
Being in a lecture you consider boring.
A lecturer belittles you during a lecture.
You have a lecturer who says you should behave like an adult and then treats you like a child.

LECTURES

Having a lecture in a room/theatre that is too cold.
Having a lecture in a room/theatre that is too noisy.
Attending at least 5 hours of continuous lectures.
A 'useful' overhead is difficult to read.
Not having a break in lectures for lunch.
You arrive for a 9 am lecture to find it has been cancelled.

WORK

A lecturer/tutor tells you that you are producing work that is below an acceptable standard.
Being unable to get any feedback on your progress.
Feeling as though you are skimming over topics because of lack of time.
Finding that you cannot remember what you think was important material.
Forgetting to do an important piece of work until it is too late.
Getting a bad mark on a piece of work.
Getting a lower mark than expected on a piece of work.
Giving a peer assessed presentation.
Having the feeling you should be working harder.
Making a presentation or perform something in front of other students with very little prior notice.
Mislaying or losing your work.
You are in a group where the students are highly competitive with one another.
You are just getting down to work and something unexpected crops up.
You are not sure how hard you have to work to attain an acceptable academic standard.
You are unable to clear your workload.
You are unable to understand a book/article you are reading.
You are working in a group where the other students are poorly motivated.
You are working in a group where there is a clash of personalities
You do not understand something in a lecture that other students seemed to understand.
You feel that a topic/subject/option you chose beyond your abilities.
You feel that a topic/subject/option you chose is a great deal less interesting than you thought it was going to be.
You feel unable to cope with the workload.
You find it difficult to study.

You find you are having difficulty concentrating on your work.
You find yourself worrying about your marks.
You have difficulties maintaining your motivation.
You have difficulties prioritising tasks.
You have the feeling that you've 'bitten off more than you can chew'.
You leave course work/assignments until the last minute because you don't know/understand what to do.
You realise that you have not understood the work as well as you had thought.
You revise a subject you found really boring.

EXAMS

You have more than one exam in a day.
Failing your final exams.
Only having one chance to pass re-sits in September, having missed the exams in May/June due to ill health.
You talk to another student who seems better prepared to take an examination.
You don't have any free days between exams.
You are given a seminar or a presentation to prepare when you are trying to revise.

RESOURCES/FACILITIES

Being unable to find any relevant books for an assignment in the library.
You are unable to find any books on a particular topic in the library.
You are unable to find up-to-date material for an assignment in the library.
You need a book from the library, which should be there, but cannot be found.
You need an important book for an assignment and the one copy is not only out, but it has many reservations on it.
You obtain a book/article shortly before an assignment is to be handed in.
The photocopier doesn't work.
You have difficulty getting access to equipment vital for the completion of an assignment
Not being able to find a book or text a lecturer has recommended.
There is loud background noise in the library.
Finding that pages have been removed from a journal.

PERSONAL

Feeling too tired to study when you get home.
You are finding work difficult and you do not know who to turn to for help.
Not being able to sleep.
You feel lonely.
You have a personal problem that you feel unable to talk to anyone about.
You meet someone who assumes that students lives are stress-free and that they have taken an easy option
Your Parent/s or partner do not seem to appreciate the level of stress you are under.
Reading about poor job prospects for graduates.

OTHER STUDENTS

- Another student borrows your equipment/belongings without asking.
- Other students boasting about their projects/assignments when you think you haven't done very well.
- Other students talking during a lecture.
- Other students talking loudly next to you even though its obvious you are working.
- Other students who behave very immaturely.
- Other students who get good grades without appearing to do any work.
- Other students who arrive very late for lectures.

PLACEMENTS

- You receive a rejection letter for a placement vital to your course.
- You have difficulty finding a placement and feel 'on your own'.

FINANCES

- Going without food.
- Paying poll tax/Community charge.
- You are not able to afford a vital book or piece of equipment recommended for your course.
- You have unexpected expenses which have not been budgeted for.
- Receiving a letter from the Bank regarding the lack of money in your account.
- Borrowing money.
- You are not able to afford adequate food.
- Your grant cheque is over a month late.
- You are refused money at the cash point.
- Being unable to find a part time job that would supplement your grant.
- The electricity is cut off.

PARTNERS

- Your partner expresses that you are growing apart.
- Experiencing difficulties in a romantic relationship due to the geographical distance between you.
- Experiencing difficulties in a romantic relationship due to volume of work.
- Experiencing difficulties in a romantic relationship due to a lack of trust.

TRANSPORT

- Being late for a lecture because of difficulties in finding a car parking space.
- Your car fails to start.
- You return to your car to find it has been damaged.
- Using public transport in the rush hour in order to get to college on time
- Your usual bus fails to turn up and you are late for a lecture.

RENTED ACCOMMODATION

- Someone you share a house with doesn't clean up after themselves.

Someone you share a house with is unwilling to pay their share towards house bills.

You pay rent when you are not in your accommodation.

Someone you share a house with has the TV on loud while you are trying to sleep or work.

Someone you share a house with plays loud music late at night.

Moving in the middle of term.

Experiencing difficulty in finding accommodation.

CHILD CARE

Your child care arrangements break down.

Making complex child care arrangements when you have a lecture at 9 am.

GENERAL

Academic departments which are disorganised.

Having a problem and being dealt with in an unhelpful and unfriendly manner by administration staff.

You begin to have strong doubts that you are on the right career path.

You hear of the sudden death of a fellow student.

You have your belongings stolen.

Lectures on Wednesday afternoon.

Giving a presentation in front of other students and staff

You are physically attacked.

There is a tense atmosphere where you are living.

STRESS FACTORS

APPENDIX XXIII

TABLE 1: (Accounting for 31.7% of common variance.) STRESS FACTOR ONE LACK OF UNDERSTANDING / EMPATHY (FROM STAFF AND FAMILY)

No.	ITEM	Factor Loading				
		F.1	F.2	F.3	F.4	F.5
59	Lecturers who try to make you look stupid in front of your class.	.68	.26			
38	Being told by a lecturer that you are stupid when you make a mistake.	.67	.31			
43	You are late handing work in because of a genuine reason and receive very little understanding or support.	.56	.34			
31	Lecturers that get angry when you genuinely don't understand what they are saying.	.56	.31			
74	Being singled out for doing something wrong when the behaviour of others goes unnoticed.	.54			.30	
56	Having a problem and being dealt with in an unhelpful and unfriendly manner by administration staff.	.53				
36	You have a lecturer who is intimidating	.50				
85	Your lecturer appears to have given up on you.	.48	.27			
49	Tutor/lecturers who give you the impression they think your problems are insignificant.	.45	.27			
50	You overhear comments by staff that you are in a poor academic group compared to others they have taught.	.43				
65	A lecturer/tutor tells you that you are producing work that is below an acceptable standard.	.42				
75	Forgetting to do an important piece of work.	.41	.40			
57	Lecturers who assume a higher/lower level of understanding from your class.	.40				
99	A lecturer cuts you off when you try and ask a question.	.39			.38	
51	Your parent/s partner do not seem to appreciate the level of stress you are under.	.38				

It should be noted that on Table 1, 47% of items, where the highest loadings are on factor one, are also significantly loaded on factor two.

TABLE 2: (Accounting for 4.2% of common variance.) STRESS FACTOR TWO: DIFFICULTIES MANAGING WORKLOAD

No.	ITEM	Factor Loading				
		F.1	F.2	F.3	F.4	F.6
17	You are unable to clear your workload		.73			
35	You feel unable to cope with the workload.	.28	.69			
1	Being given insufficient time to complete assignments		.48			
84	You find it difficult to study.		.46			.35
30	Having the feeling you should be working harder.		.45			
4	Not being able to sleep.		.43			
91	You have an assignment deadline very close to exams.	.29	.38			
40	You have difficulties prioritising tasks.		.33			.31

TABLE 3: (Accounting for 2.9% of common variance.) STRESS FACTOR THREE: AVAILABILITY OF AND ACCESS TO RESOURCES

No.	ITEM	Factor Loading				
		F.1	F.2	F.3	F.4	F.5
26	You need a book from the library, which should be there, but cannot be found.			.70		
54	Being unable to find any relevant books for an assignment in the library.		.29	.69		
6	You are unable to find any books on a particular topic in the library.			.64		
73	You need an important book for an assignment and the one copy is not only out, but it has many reservations on it.			.63		
13	Not being able to find a book or text a lecturer has recommended.			.63		.34
76	You are unable to find up-to-date material for an assignment in the library.			.53	.27	
88	You have difficulty getting access to equipment vital for the completion of an assignment.		.26	.43		
24	You are unable to afford a vital book or piece of equipment recommended for your course.		.27	.37		

TABLE 4: (Accounting for 2.5% of common variance.) STRESS FACTOR FOUR: RELATIONSHIPS WITH PEERS WITHIN THE LEARNING ENVIRONMENT

No.	ITEM	Factor Loading					
		F.1	F.2	F.3	F.4	F.5	F.10
97	Other students talking during a lecture.				.65		
87	Other students talking loudly next to you even though it's obvious you are working.					.63	
14	Other students who behave very immaturely.				.50		
96	Lecturers who are always late but become annoyed if you are late.				.47		
92	You are working in a group where there is a clash of personalities.				.44		
12	There is loud background noise in the library.				.42	.25	
62	Lecturers who treat you in a patronising way.	.34			.35		
100	You are in a group where the students are highly competitive with one another.				.34		.25
94	You are unable to answer a lecturer' question during a lesson.				.33		.26

Table 5: (Accounting for 2.3% of common variance.) STRESS FACTOR FIVE: CONTENT / ENVIRONMENT OF LECTURES

No.	ITEM	Factor Loading				
		F.1	F.2	F.3	F.4	F.5
7	You revise a subject you found really boring.					.49
10	Having a lecture in a room that is too cold.				.25	.47
16	You are not sure how hard to work to attain an acceptable academic standard.		.27			.47
8	You work particularly hard and get no encouragement or praise for your efforts.	.35				.44
18	You do not understand something in a lecture that other students seemed to understand.		.34			.35
15	You are caught between one lecturer saying one thing and another saying something else.				.28	.33
2	Being unable to hear a lecture.		.28			.29

TABLE 6: (Accounting for 1.9% of common variance.) STRESS FACTOR SIX

	ITEM	Factor Loading
		F.6
71	You begin to have strong doubts you are on the right career path.	.63
45	You feel a topic/subject is a good deal less interesting than you thought.	.33
98	You feel lonely.	.27

TABLE 7: (Accounting for 1.7% of common variance.) STRESS FACTOR SEVEN - FEEDBACK

No.	ITEM	Factor Loading	
		F.7	F.11
3	Lecturers who fail to return work after you have worked hard on it.	.69	
23	Waiting for over a month for your work to be returned.	.61	
52	A tutor mislays your work.	.37	
55	Being unable to get any feedback on your progress.	.32	.26

TABLE 8 : (Accounting for 1.6% of common variance.) **STRESS FACTOR EIGHT**

No.	ITEM	Factor Loading	
		F.8	F.5
20	Getting a lower mark than expected on a piece of work	.49	.31

TABLE 9 : (Accounting for .14% of common variance.) **STRESS FACTOR NINE**

No.	ITEM	Factor Loading
		F.9
64	A useful overhead is difficult to read.	.52
70	You are trying to listen to useful material while writing down what is on an overhead..	.46
58	Lecturers who speak too quickly.	.41
42	Lecturers who do not give enough time to write down even important points from the overhead.	.32
44	You are unable to understand a book you are reading.	.25

TABLE 10 : (Accounting for 1.4% of common variance.) **STRESS FACTOR TEN**

No.	ITEM	Factor Loading
		F.10
67	Giving a peer assessed presentation	.66

TABLE 11: (Accounting for 1.4% of common variance.) **STRESS FACTOR ELEVEN**

No.	ITEM	Factor Loading
		F.11
80	You experience difficulties getting hold of a tutor/ lecturer.	.48
77	You are working in a group that is poorly motivated.	.29

TABLE 12 : (Accounting for 1.3% of common variance.) STRESS FACTOR TWELVE

No.	ITEM	Factor Loading	
		F.12	
69	Paying Poll tax/Community charge	.56	
22	Reading about poor job prospects for graduates	.33	

TABLE 13 : (Accounting for 1.2% of common variance.) STRESS' FACTOR THIRTEEN

No.	ITEM	Factor Loading	
		F.13	F.3
27	Academic deaprtments which are disorganised.	.44	.32

TABLE 14 : (Accounting for 1.1% of common variance.) STRESS FACTOR FOURTEEN

No.	ITEM	Factor Loading	
		F.14	
25	You meet someone who assumes that students lives are stress-free and that they have taken an easy option.	.26	

TABLE 15 : (Accounting for 1.1% of common variance.) STRESS' FACTOR FIFTEEN

No.	ITEM	Factor Loading	
		F.15	
11	Lecturers who assume that theirs is the only, and the most imporatnt, subject you do.	.43	

TABLE 16 : (Accounting for 1.0% of common variance.) STRESS FACTOR SIXTEEN

No.	ITEM	Factor Loading	
		F.16	
68	Going without food.	.44	

EFFECT ON LEARNING FACTORS

APPENDIX XXIV

TABLE 1: (Accounting for 26.9% of common variance.) EFFECT ON LEARNING FACTOR ONE: WORK RELATED DIFFICULTIES

No.	ITEM	Factor Loading						
		F.1	F.2	F.3	F.4	F.5	F.6	F.9
35	You feel unable to cope with your workload	.62						
48	You have the feeling you have bitten off more than you can chew.	.55						
37	You have a personal problem that you feel unable to talk to anyone about.	.54						
17	You are unable to clear your workload.	.53						
46	You leave your course work/assignments until the last minute because you don't know/understand what to do.	.51						
89	You have difficulties maintaining your motivation.	.51			.40			
4	Not being able to sleep.	.50						
72	You feel the topic/subject/option you chose is beyond your abilities.	.49						.27
83	You are finding work difficult and do not know who to turn to for help.	.46	.30					
19	Feeling too tired to study when you get home.	.42						

TABLE 2: (Accounting for 4.8% of common variance.) EFFECT ON LEARNING FACTOR TWO: AVAILABILITY OF AND ACCESS TO RESOURCES / INFORMATION

No.	ITEM	Factor Loading				
		F.1	F.2	F.3	F.4	F.5
54	Being unable to find any relevant books for an assignment in the library.		.72			
73	You need an important book for an assignment and the one copy is not only out, but it has many reservations on it.		.69			
6	You are unable to find any books on a particular topic in the library.		.65			
26	You need a book from the library which should be there but cannot be found.		.65			
76	You are unable to find up-to-date material for an assignment in the library.		.61		.26	
13	Not being able to find a book or text a lecturer has recommended.		.58			
27	Academic departments which are disorganised.		.37			

When a comparison is made between the factor two above and stress factor three (Table 3, Appendix XXIII) there is a striking similarity between items. Only item number 27 does not appear in Table 2 above.

TABLE 3: (Accounting for 3% of common variance.) EFFECT ON LEARNING FACTOR THREE:
ADJUSTING TO STUDENT LIFE

No.	ITEM	Factor Loading					
		F.1	F.2	F.3	F.4	F.5	F.6 F.8
69	Paying poll tax/community charge			.60			
53	Another student borrows your equipment/belongings without asking.			.55			
56	Having a problem and being dealt with in an unhelpful and unfriendly way by administrative staff.			.55			.26
82	Other students who get good grades without appearing to do any work.			.53		.38	
25	You meet someone who assumes that students' lives are stress-free and that they have taken an easy option.			.48			
41	You have unexpected expenses which have not been budgeted for.			.47			
22	Reading about poor job prospects for graduates.			.46		.29	
93	The photocopier doesn't work.			.43	.32		
51	Your parents/partner do not seem to appreciate the level of stress you are under.	.28		.41			
14	Other students who behave very immaturely.			.35			.25

TABLE 4: (Accounting for 2.9% of common variance.) EFFECT ON LEARNING FACTOR FOUR:
DISRUPTIONS IN THE LEARNING PROCESS

No.	ITEM	Factor Loading				
		F.1	F.2	F.3	F.4	F.5
97	Other students talking during a lecture				.55	
95	Having a lecture in a room/theatre that is too noisy				.52	
87	Other students talking loudly next to you even though its obvious you are working.	.25		.49		
92	You are working in a group where there is a clash of personalities.				.47	
99	A lecturer cuts you off when you try and ask a question in class.		.27		.44	
94	You are unable to answer a lecturer's question during a lesson.			.34	.44	

TABLE 5: (Accounting for 2.1% of common variance.) EFFECT ON LEARNING FACTOR FIVE:
ACADEMIC ATTAINMENT

No.	ITEM	Factor Loading				
		F.1	F.2	F.3	F.4	F.5
20	Getting a lower mark than expected on a piece of work.					.68
28	You find yourself worrying about your marks.	.28				.54
29	Getting a low mark on an assignment/essay despite only positive comments from the marker.					.52
5	Other students boasting about their projects/assignments when you think you haven't done very well.					.46
66	Getting a bad mark on a piece of work.		.28			.43

TABLE 6: (Accounting for 1.9% of common variance.) EFFECT ON LEARNING FACTOR SIX:
DEGRADING BEHAVIOUR OF LECTURERS

No.	ITEM	Factor Loading					
		F.1	F.2	F.3	F.4	F.5	F.6
59	Lecturers who make you look stupid in front of your class.						.59
62	Lecturers who treat you in a patronising way.						.52
38	Being told by a lecturer you are stupid when you make a mistake.						.50
49	Tutors/lecturers who give you the impression they think your problems are insignificant.						.42
60	Making a presentation or performing something in front of other students with very little prior notice.						.28
86	You receive an unfair/inaccurate mark for an assignment.						.27

TABLE 7 : (Accounting for 1.7% of common variance.) EFFECT ON LEARNING FACTOR SEVEN

No.	ITEM	Factor Loading
		F.7
63	You realise that you have not understood the work	.54
64	A 'useful' overhead is difficult to read.	.47
70	You are trying to listen to useful material at the same time as write down what is on an overhead..	.36
61	You are just getting down to work and something unexpected crops up.	.33

TABLE 8 : (Accounting for 1.6% of common variance.) **EFFECT ON LEARNING FACTOR EIGHT**

No.	ITEM	Factor Loading
		F. 8
10	Having a lecture in a room/theatre that is too cold.	.47
11	Lecturers who assume that theirs is the only, and the most important subject you do.	.42
15	You are caught between one lecturer saying one thing and another saying something else.	.42

TABLE 9 : (Accounting for 1.5% of common variance.) **EFFECT ON LEARNING FACTOR NINE**

No.	ITEM	Factor Loading
		F. 9
33	Tutor/Lecturers who always seem to be busy and in a hurry.	.59
32	Lecturers that who expect you to 'go away and get on with it' without any guidance or support.	.48
34	You are given incomplete vague instructions by a lecturer regarding a task he/she wants you to do.	.47

TABLE 10 : (Accounting for 1.5% of common variance.) **EFFECT ON LEARNING FACTOR TEN**

No.	ITEM	Factor Loading
		F. 10
23	Waiting over one month for your work to be marked and returned.	.60
3	Lecturers who fail to return work after you have worked hard on it.	.54
52	A totor/lecturer mislays your work.	.28
55	Being unable to get any feedback on your progress.	.27

TABLE 11 : (Accounting for 1.4% of common variance.) **EFFECT ON LEARNING FACTOR ELEVEN**

No.	ITEM	Factor Loading
		F. 11
60	Making a presentation or performing something in front of other students with very little prior notice.	.57
67	Giving a peer assessed presentation.	.44

TABLE 12 : (Accounting for 1.3% of common variance.) **EFFECT ON LEARNING FACTOR TWELVE**

No.	ITEM	Factor Loading	
			F.12
7	You revise a subject you found really boring.		.40
18	You do not understand something in a lecture that other students seemed to understand.		.35
9	Finding that you cannot remember what you think was important material.		.28

TABLE 13 : (Accounting for 1.3% of common variance.) **EFFECT ON LEARNING FACTOR THIRTEEN : NOISE**

No.	ITEM	Factor Loading	
			F.13
12	There is loud background noise in the library.		.57
95	Having a lecture in a room/theatre that is too noisy.		.32
97	Other students talking during a lecture.		.29
87	Other students talking loudly next to you even though it's obvious you are working.		.27

TABLE 14 : (Accounting for 1.2% of common variance.) **EFFECT ON LEARNING FACTOR FOURTEEN**

No.	ITEM	Factor Loading	
			F.14
45	You feel that a topic/subject/topic you chose is a great deal less interesting than you thought it was going to be.		.49

TABLE 15 : (Accounting for 1.2% of common variance.) **EFFECT ON LEARNING FACTOR FIFTEEN**

No.	ITEM	Factor Loading	
			F.15
2	Being unable to hear a lecturer.		.59
1	Being given insufficient time to complete assignments.		.32

TABLE 16 : (Accounting for 1.1% of common variance.) EFFECT ON LEARNING FACTOR SIXTEEN : LOSS

No.	ITEM	Factor Loading
		F.16
21	Mislaying or losing your work.	.43
52	A tutor/lecturer mislays your work.	.42

TABLE 17 : (Accounting for 1.1% of common variance.) EFFECT ON LEARNING FACTOR SEVENTEEN

No.	ITEM	Factor Loading
		F.17
83	You are finding work difficult and you do not know who to turn to for help.	.38
79	You have problems with your work but you do not feel that the lecturer teaching that area is approachable.	.30
82	Other students who get good grades without appearing to do any work.	.28

TABLE 18 : (Accounting for 1.0% of common variance.) EFFECT ON LEARNING FACTOR EIGHTEEN

No.	ITEM	Factor Loading
		F.18
47	You obtain a book/article shortly before an assignment is to be handed in.	.50

TABLE 19 : (Accounting for 1.0% of common variance.) EFFECT ON LEARNING FACTOR NINETEEN

No.	ITEM	Factor Loading
		F.19
81	You have the deadlines for leveral assignments set all in the same week.	.27

TABLE 20 : (Accounting for 1.0% of common variance.) EFFECT ON LEARNING FACTOR TWENTY

No.	ITEM	Factor Loading
		F.20
16	You are not sure how hard you have to work to attain an acceptable academic standard.	.26

Items with the greatest number of positive responses in rank order

<u>No. of Responses*</u>	<u>Rank</u>	<u>No.</u>	
92	1	100	You are working in a group where the students are highly competitive with each other.
90	2	65	A lecturer tells you that you are producing work below an acceptable academic standard.
81	3	30	Having the feeling you should be working harder.
76	4	66	Getting a bad mark on a piece of work.
64	5	67	Giving a peer-assessed presentation.
49	6	1	Being given insufficient time to complete assignments.
47	7	28	You find yourself worrying about your marks.
43	8	60	Making a presentation or performing something in front of other students with very little prior notice.
42	9	50	You overhear comments by staff that you are in a poor academic group compared to others they have taught.
40	10	7	You revise a subject you found really boring.
39	11	5	Other students boasting about their projects/assignments when you think you haven't done very well.
38	12	20	Getting a lower mark than expected on a piece of work.
32	13	16	You are not sure how hard to work to attain an acceptable academic standard.
28	14	63	You realise that you have not understood the work as well as you had thought.
28	15	18	You do not understand something in a lecture that other students seemed to understand.
27	16	72	You feel that a topic/subject/option you chose is beyond your abilities.
27	17	29	Getting a low mark on an assignment/essay despite only positive comments from the marker.
27	18	94	You are unable to answer a lecturer's question during a lesson.
24	19	81	You have deadlines for several assignments all set in the same week.
23	20	82	Other students who get good grades without appearing to do any work.

*Total sample = 495

"INCREASING STRESSORS" - Items which are perceived as more stressful, i.e. mean rating for 1st years < 2nd years < 3rd years

Other students boasting about their projects when you think you haven't done very well.	15.
Queuing in the library during your short lunch break.	16.
The lecturer asks you a question during a lecture	21.
You are given an essay to write.	24.
You are unable to find any books on a particular topic in the library	25.
You are unable to find anywhere to study in the library.	26.
You have a lecturer/tutor who never give praise or encouragement.	27.
You have difficulties increasing your overdraft.	28.
A lecturer/tutor being unavailable when you urgently need to see them.	34.
Being forced to buy a book rather than borrow it from the library	36.
Comparing yourself to other students.	39.
During a lecture you hear a colleague being answered in an unsatisfactory way	40.
Lecturers who do not discipline disruptive behaviour.	52.
Not being able to find a book or text a lecturer has recommended.	55.
Studying when children are around.	58.
You are unable to clear your workload.	64.
Not going to a lecture because you consider it to be a waste of time.	84.
Other students talking loudly next to you even though it's obvious you are working	85.
Waiting over one month for your work to be marked and returned.	89.
You are not able to afford a vital book or piece of equipment recommended for your course.	90.
You are physically attacked.	91.
You need a book from the library, which should be there, but cannot be found.	90.
You talk to a very anxious student on your course.	94.
Your partner expresses that you are growing apart.	96.
Academic departments which are disorganised.	98.
Being unable to get to college because you have no money for transport costs.	99.
Feeling excluded from College social life because of domestic responsibilities	101.
Feeling homesick.	103.
Finding yourself worrying about your marks	105.
Receiving a letter from the Bank regarding the lack of money in your account.	115.
Someone you share a house with has the TV on loud while you are trying to sleep or work.	117.
Someone you share a house with plays loud music late at night.	118.
Tutors/lecturers who always seem to be busy and in a hurry.	120.
You are unable to find suitable child care.	122.
You feel unable to cope with the workload.	123.
You have a lecturer who is intimidating.	124.
You have a personal problem that you feel unable to talk to anyone about.	125.

Another student makes you feel stupid/inferior.	129
Experiencing difficulty in finding accommodation.	136
Talking in the library when you are trying to study.	143
You ask a friend/neighbour to look after your children.	148
Another student on your course mentioning a book, a name or a study that is important that you are unfamiliar with.	157
The bank refuses to give you a cheque book.	168
Tutors/lecturers who give you the impression they think your problems are insignificant.	169
You are not able to afford adequate food.	170
You are unfairly picked on by classmates.	171
A tutor/lecturer mislays your work.	178
Making a presentation or perform something in front of other students with very little prior notice.	193
You talk to a student on your course who seems very knowledgeable.	199
A lecturer/tutor tells you that you are producing work that is below an acceptable standard.	202
Attending lectures during your children's school holiday.	205
Getting a bad mark on a piece of work.	208
Getting in for a 9 o'clock lecture.	209
Giving a peer assessed presentation.	210
Going without food.	211
Using a computer.	219
You begin to have strong doubts that you are on the right career path.	223
You feel that a topic/subject/option you chose beyond your abilities.	225
You need an important book for an assignment and the one copy is not only out, but it has many reservations on it.	226
Your car fails to start.	228
Being in a seminar where other students are unwilling to volunteer ideas.	231
Being reprimanded for being late.	232
Forgetting to do an important piece of work until it is too late.	234
You are unable to find up-to-date material for an assignment in the library	238
You find you are having difficulty concentrating on your work.	243
You receive what you consider to be poor service from the bank	245
Experiencing difficulties getting hold of your tutor to discuss a problem or answer a question.	249
Finding that pages have been removed from a journal.	251
Having to finish promptly at the end of a lecture in order to secure transport home.	255
Refectory staff who are unfriendly.	261
The photocopier doesn't work.	262
Walking home alone.	263
Working late into the night.	264

You arrange a meeting with a lecturer/tutor who fails to turn up.	271.
You find it difficult to study.	272.
Your photocopy card running out before you have finished	280
Your lecturer arrives late.	288.
You receive what you consider to be an inaccurate/unfair mark for an assignment	290.
You return to your car to find it has been damaged.	292
You experience delays in getting a time table.	296
You pass a well stocked flower bed in the college and think of the lack of books in the library.	298
You are reprimanded by the security staff in the college car park.	299
You are given very little explanation on an assignment with regards to your mark	307.
You talk to a very confident student on your course	309

"DECREASING" STRESSORS - Items which are perceived as less stressful
i.e. mean rating for 1st years > 2nd years > 3rd years. n=25

	<u>Item no.</u>
Being unable to hear a lecturer.	3.
Lecturers getting irritated or defensive if they are challenged.	7.
Lecturers who are always late but become annoyed if you are late.	49.
Using public transport in the rush hour in order to get to college on time.	60.
You feel that you now have little in common with old friends.	67.
Being ill prepared for lectures.	71.
Choosing food that is cheap but filling rather than more expensive nutritious food.	74.
Other students who arrive very late for lectures.	86.
Lecturers that get angry when you genuinely don't understand what they are saying.	109.
Being given very little notice of organised trips relevant to your course.	132.
You are unable to get change for the photocopy card machine.	146.
A discussion in a seminar or lecture is dominated by one or two students.	156.
Another student flirting or chatting up the lecturer.	204.
Being unable to find a parking space in the car park.	206.
You rely on other people for transport to or from college.	227.
Feeling as though you have little in common with those around you.	250.
Getting up before 7 in order to get to a 9 o'clock lecture.	252.
Lecturers who appear very stressed.	256.
You are unable to read the lecturers' writing on the board.	270.
Your grant cheque is over a month late.	278.
You hear a rumour concerning your course, assignment, exams etc.	285.
You have difficult getting access to equipment vital for the completion of an assignment.	293.
Lectures who do not discipline disruptive behaviour.	295.
You fill in a questionnaire and get no feedback on your contribution.	303.
You have difficult finding a place to have a group discussion.	306.

THEMES: DIARY ANALYSIS	NOV	FEB	MAY
Poor departmental organisation	✓✓	✓✓	
Exam difficulties			✓
Exam worries			✓
Having to prepare a seminar during revision			✓
Waiting for exam results			✓
Worrying about exam results			✓
Working where there is a clash of personalities		✓	
Working with competitive students			✓
Working with unmotivated students	✓✓✓		
Having difficulties socially	✓✓		
Difficulties with friends/family/partners	✓✓✓✓✓	✓✓✓✓✓✓	✓✓✓✓✓
Having doubts about the course	✓		
Having sleeping difficulties			
Illness	✓✓✓✓✓	✓✓✓✓✓✓✓	✓
Loneliness	✓	✓	✓
Tiredness	✓✓✓✓✓	✓✓	✓✓
Worrying about job prospects/future	✓		✓✓
Unable to get on a computer			✓
Transport difficulties	✓✓✓	✓✓✓✓	✓
Difficulties concentrating because of noise		✓	
Difficulties maintaining motivation	✓	✓	
Difficulties using the computer			
Feeling overwhelmed with assignments	✓✓	✓✓✓✓✓	
Finding somewhere to revise			✓
Giving presentations		✓	✓
Organising workload	✓	✓	
Unable to clear workload	✓	✓	
Work difficulties	✓✓✓✓	✓✓✓✓✓✓✓✓✓✓	✓✓
Worrying about work	✓✓✓✓	✓✓✓✓✓	✓✓✓

<u>THEMES</u>	NOV	FEB	MAY
Disturbed by neighbour/flatmate		✓	✓
Problems with landlord/landlady	✓✓		
Feedback - helpful	✓	✓	
Late/lack of feedback	✓	✓✓	
Receiving a poor mark		✓✓✓	✓✓
Computer not working in the library	✓	✓	✓
Queuing in the library	✓		
Unable to find information in the library	✓✓✓✓✓✓✓✓✓✓	✓✓✓✓✓✓	✓
Arriving late for a lecture	✓	✓✓	
Big gap between lectures	✓		
Missed lectures	✓	✓✓	✓✓
'Go away and get on with it' attitude of some lecturers	✓	✓	
Being given vague instructions from lecturer	✓✓	✓✓	
Boring lecture	✓✓✓✓✓✓	✓	
Inadequate discipline from lecturer		✓	
Lecturers writing too small	✓	✓	
Patronising/sarcastic tutors		✓✓✓	
Poor overhead	✓	✓	✓
Trying to write down from a OHP and listen at the same time.	✓✓		
Tutor disinterested	✓		
Tutor in a hurry/unavailable	✓	✓	
Tutor not turning up at all	✓	✓	
Tutor turning up late	✓		
Lecturer talking too fast	✓✓		
Lecturers assuming too high an understanding		✓	
Lecturers assuming too low an understanding	✓		
Money worries	✓	✓✓✓✓	✓✓

APPENDIX XXIX

Items with the greatest difference in mean rating for stress' - High self esteem vs. Low self esteem	Item no.	Difference in mean ratings
You feel lonely	98	0.95
Other student who get good grades without appearing to do any work.	82	0.91
You have a personal problem that you feel unable to talk to anyone about.	37	0.87
You're in a group where the students are highly competitive with one another.	100	0.86
You are unable to answer a lecturer's question during a lesson.	94	0.85
You find it difficult to study.	84	0.82
Giving a peer assessed presentation.	67	0.81
Experiencing difficulties in a romantic relationship due to a lack of t	127	0.8
Moving into accommodation with other students you do not know.	135	0.77
Experiencing difficulties in a romantic relationship due to the geographical distance between you.	125	0.77
You are finding work difficult and don't know who to turn to for help.	83	0.73
You have difficulties maintaining your motivation.	89	0.69
Making a presentation or performing something in front of other students with very little prior notice.	60	0.68
Studying when your partner wants you to be with them.	128	0.66
Experiencing difficulties in a romantic relationship due to volume of work.	126	0.66
You have difficulties prioritising tasks.	40	0.65
You find yourself worrying about marks	28	0.65
You are working in a group where there is a clash of personalities.	92	0.64
You are just getting down to work and something unexpected crops up	61	0.64
You find you are having difficulty concentrating on your work.	78	0.64
Items with the greatest difference in mean rating for affect on learning' - High self esteem vs. Low self esteem		
Being given insufficient time to complete assignments.	1	0.72
Being unable to hear a lecturer.	2	0.72
You feel unable to cope with the workload.	35	0.71
You revise a subject you found really boring.	7	0.7
You are given incomplete or vague instructions by a lecturer regarding a task he/she want you to do.	34	0.7
Lecturers who fail to return work after you have worked hard on it.	3	0.66
You are unable to find any books on a particular topic in the library.	6	0.65
Finding that you cannot remember what you think was important material.	9	0.63
Not being able to find a book or text a lecturer has recommended.	13	0.63
Feeling too tired to study when you get home.	19	0.63
Lecturers who assume that theirs is the only, and the most important, subject you do.	11	0.62
You meet someone who assumes that students lives are stress-free and that they have taken an easy option.	25	0.6
Other students who behave very immaturity.	14	0.59
Having a lecture in a room/theatre that is too cold.	10	0.56
A 'useful' overhead is difficult to read.	64	0.56
Not being able to sleep.	4	0.55
You are not able to afford a vital book or piece of equipment recommended for your course.	24	0.55
Being told by a lecturer you are stupid when you make a mistake.	38	0.55
Lecturers who do not give you enough time to write down even important points from an overhead.	42	0.55
Getting a bad mark on a piece of work.	66	0.55

APPENDIX XXX

Items with the greatest difference in mean rating for 'stress'		Difference
High anxiety vs. low anxiety	Item	in mean
	no.	ratings
Other students who get good grades without appearing to do any work	82	1.11
You feel lonely	98	1.11
Other students boasting about their projects/assignments when you think you haven't done very well	5	0.99
You find yourself worrying about your marks	5	
Feeling too tired to study when you get home	28	0.96
You are in a group where the students are highly competitive with each other	19	0.90
You are finding work difficult and do not know who to turn to for help	100	0.89
You have a personal problem that you feel unable to talk to anyone about	83	0.85
You are unable to answer a lecturer's question in class	37	0.82
Giving a peer assessed presentation	94	0.81
You work particularly hard and get no encouragement or praise for your efforts	67	0.81
You have a problem with the work but do not feel that the lecturer teaching that area is approachable	8	0.78
You meet someone who assumes that students lives are stress-free and that they have taken the easy option	79	0.76
Tutors/lecturers who give you the impression they think your problems are insignificant	25	0.76
You find it difficult to study	49	0.75
You have the feeling that you've 'bitten off more than you can chew'	84	0.73
You are just getting down to work and something unexpected crops up	48	0.73
Lecturers who do not give you enough time to write down even important points from an overhead	61	0.73
Not being able to sleep	42	0.73
Making a presentation or performing something in front of other students with very little prior notice	4	0.72
You have a lecturer who is intimidating	60	0.72
	36	0.71
Items with the greatest difference in mean rating for 'affect on learning' - High anxiety vs. Low anxiety		
Other students who get good grades without appearing to do any work	82	0.95
You feel lonely	98	0.87
You find yourself worrying about your marks	28	0.85
You are in a group where the students are highly competitive with each other	100	0.84
You leave course work/assignments until the last minute because you don't know/understand what to do	46	0.78
Making a presentation or performing something in front of other students with very little prior notice	60	0.73
You obtain a book/article shortly before an assignment is to be handed in	47	0.73
Other students boasting about their projects/assignments when you think you haven't done very well	5	0.73
You are trying to listen to useful material at the same time as write down what is on an overhead	70	0.71
You are working in a group where there is a clash of personalities	92	0.70
You work particularly hard and get no encouragement or praise for your efforts	8	0.70
Your parents/s or partner do not seem to appreciate the level of stress you are under	51	0.67
You are just getting down to work and something unexpected crops up	61	0.67
You have a personal problem that you feel unable to talk to anyone about	37	0.64
You have an assignment deadline very close to exams	91	0.64
You have the feeling that you've 'bitten off more than you can chew'	48	0.63
You have a problem with the work but do not feel that the lecturer teaching that area is approachable	79	0.63
You are not sure how hard you have to work to attain an acceptable academic standard	16	0.63
You are unable to answer a lecturers' question during a lesson	94	0.63
You have the deadlines for several assignments set all in the same week	81	0.63