Study on the relationship between stress and illness



Symptoms of stress can be evident in different ways including physically, emotionally or mentally. This is dependent on what is causing the stress to occur.

Physical

A stressful situation can cause the body to display various symptoms including tension headaches, inability to sleep, raised blood pressure, problems with the digestive system, nervousness, alopecia, and strokes. A cause of physical stress could be a car accident or starvation such as that associated with eating disorders.

Emotional

Stress which affects the mind can cause emotional responses such as anxiety, depression and irritability, inability to cope with day to day situations, memory loss and an inability to concentrate. Emotional stress could be caused by a bereavement.

Mental

A person who experiences long term stress may develop psychological problems. This can manifest as social isolation, phobias, compulsive behaviours and eating disorders such as over eating for comfort. Mental stress can be caused by the person having a bad day at work.

Stressors, the cause of stress, can be described as " situations that are experienced as a perceived threat to one's wellbeing or position in life, when

the challenge of dealing with which, exceeds the person's perceived available resources".

When a person experiences stressors the body responds with fight or flight. This reaction triggers the release of adrenaline and cortisol which increase the heart rate and decrease the digestion rate. The body's blood supply is diverted to the large muscles providing a burst of energy and strength. The reaction lasts for the duration of the perceived danger and the body returns to normal. The reaction may not completely diminish in someone experiencing chronic stress which can lead to long term health problems.

The general adaptation syndrome (GAS) was described by Hans De Selye during the 1920s. It is the short and long term reaction of the body to stress and is a three stage process.

The first stage of GAS is called the alarm reaction. During this stage the fight or flight response is activated within the body as an immediate reaction to the stressful situation. This response can lead to the person being susceptible to illness due to their immune system being suppressed.

The second stage of GAS is called adaptation. Continued stress causes the body to adapt to the cause of stress to reduce the effects on the body. This could be the situation for someone with an eating disorder whose body adapts to absorb the maximum nutrients from the food eaten or to conserve energy.

The third stage of GAS is called exhaustion where the body has been exposed to a stressor for a prolonged period of time and is no longer able to

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deal with the stress. The result in the body could be severe limitation in the ability of the immune system to fight disease and the person may experience cardiac arrest.

The general adaptation syndrome identifies three stages of reaction to stressful situations an individual may experience. This theory identifies that the more prolonged the exposure to stress is the more severe the reaction is in terms of their health. A strength of GAS is that if an individual is aware of the processes involved they will be able to seek help before their symptoms become life threatening. This would rely on the person being able to identify that intervention is needed at the earliest opportunity. A limitation of the theory is that whilst identifying the stages a person may experience it does not offer any solutions to alleviate the stress.

Friedman and Rosenman (1974) identified two types of personality relating to how individuals respond to stress. Type A personalities were identified as being "impatient, competitive, ambitious, aggressive" they may also experience difficulty in relaxing. A person with Type B personality was identified as "being less driven, more easy-going, patient and able to relax". Friedman and Rosenman carried out research over 8 years monitoring the health and lifestyle of 3500 healthy men. The study concluded that a person with Type A personality had a significantly increased risk of developing coronary heart disease.

This study showed that the population can be divided into two distinct groups of personality traits. A person's reaction to stress is according to this study directly related to the personality type the person has.

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This theory is limited by the need to know the personality type a person is in order to identify if they are at an increased risk of developing health concerns related to stress. An advantage of this theory is that by being aware of the personality type strategies can be put into place to prevent stress from causing health problems.

Brady (1958) conducted a behavioural stress study on monkeys. The monkeys were paired and strapped into chairs before being given electric shocks every 20 seconds. Each monkey had levers and lights which warned them of the imminent shock. One monkey the "executive" was able to use a lever to prevent the shock from being administered. The other monkey "yoked" was not able to control the shock. The executive monkey experienced stress in having to press the lever at the correct time. Brady found that over a period of time the executive monkeys developed gastric ulcers and may have died however the yoked monkeys did not develop ulcers as they did not experience the same level of stress due to their behaviour not influencing the administration of the shock.

This study was conducted on monkeys not humans who may have reacted differently to the stressor the executive monkeys were exposed to. The response in humans might not have been so severe in that they may not have died. The study was not concerned with the welfare of the monkeys used. The limitation of this study is that by conducting it on monkeys it is not necessarily accurate to relate the results to human stress as the results could have been different. An advantage of this study could be that forced behaviour has been identified as a cause of stress which can cause health issues.

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Marmot et al (1997) conducted research into a cognitive approach to stress. The aim of the study was to establish if a lack of control in the workplace caused an increase in the occurrence of stress related illness. The research was conducted over a period of three years using over 10, 000 civil servants. Self report questionnaires were completed to assess the level of job control the participants had. There were also assessments carried out by personnel managers. The researchers then compared the results to incidence of stress related illness. The study found that workers with less work control were at a significant increased risk of dying from a heart attack than those with more control. The workers with less control were also found to be more likely to have other stress related illnesses.

A limitation of this research into a cognitive approach to stress is that the study focussed on one specific group of workers whilst the results indicated that stress related illness increased among those with the least control in the work environment the study does not identify if this is true for the entire population. An advantage is that the study could be applied and repeated in other workplaces to identify if there is a lack of control felt by employees. This would allow employers to increase the level of control with the aim of preventing stress related illnesses.

In conclusion it is possible that all areas discussed show how stress can affect us and can cause illness as a result. Stress caused through a combination of cognitive and behavioural factors creates physiological symptoms which in turn have a harmful effect on our body.

The human body is able to adapt to a certain level of stress however if the stress continues long term it can have a disastrous effect on the body.