

**Stress Anxiety Burn-Out
and Coping Mechanisms
In Healthcare Professionals**

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Abstract

Stress Anxiety Burnout and a lack of coping are consistent difficulties faced by healthcare professionals. This study examined stress, anxiety, burnout and coping mechanisms in relation to demographic variables: age, gender, occupation, department, and duration in occupation and department. Measures included the Perceived Stress Scale, the State Anxiety Inventory, the Maslach Burnout Inventory-Human Services Survey, and the Brief COPE Inventory. A correlational design was used through a snow-ball sampling method in a major Dublin teaching hospital. Of the 275 questionnaires distributed, 130 were completed for analyses. Significant results were found in age, occupation, duration in occupation and department, in depersonalisation subscale on the MBI-HSS, and denial, humour, venting and religious coping subscales from the BCI. Enhanced coping mechanisms would enable healthcare professionals to reduce levels of burnout.

1.Introduction

Stress, anxiety, burnout and coping mechanisms have been identified as on-going issues amongst healthcare professionals: its popularity partially due to the physiological, psychological and social effects it may have on our well-being (Lazarus, 1999, p27). Stress has been defined in various forms. Seyle (1974) examined the stress-response and described it as ‘the non-specific response of the body to any demands made upon it’. Longitudinal and cross sectional research studies have demonstrated that stressful occupations have increased the chance of developing coronary heart disease (Karesek et al., 1981; Lynch et al., 1997; Kivimaki et al., 2002;cited by Odgen, 2007, p239). Prior to 2000 in the UK, 20 reports indicated that 25-50% of National Health Service employees felt “distress” in relation to their work. World Health Organisation (WHO) and United Nations (UN) have described stress as ‘epidemic’ (Collins, 2006). Stress results from pressure created from inadequate resources, heavy workload, poor management styles, complaints from patients and relatives, insufficient training, harassment, risk of violence, low job satisfaction, perceived lack of control and low involvement in decision making (Weinberg et al., 2002; Acker, 1999, 2003; Gil-Monte & Peitro, 1997; Koeske & Koeske, 1993; Embriaco et al., 2007). Anxiety is a negative, emotional state that can escalate to such a degree that the individual can no longer cope with everyday tasks (Moser, 2007). A panic attack is a classic example of this state which involves: ‘a sudden onset of intense apprehension, fearfulness or terror, often associated with feelings of impending doom’ (American Psychiatric Association, 1994, p393; cited by Rice, 1999, p10). Anxiety is very similar to stress as it exerts the same psychological, physiological and cognitive processes and responses when faced with a threatening situation. Burnout has been defined as the consequence of a severely stressful occupation which is commonly related to human service occupations (Winstanley et al., 2002). Healthcare professionals are constantly in demand, meeting deadlines leading to physical, social and psychological issues

in their lives. This constant strain leads to prolonged exhaustion and burnout from job stressors (Acker, 2008; Lorenz et al., 2010), which often correlates with job characteristics and personality traits (Embriaco et al., 2007). Coping abilities depend on ways in which individuals appraise a stressful situation. Emotional reactions such as anxiety may develop as part of the coping process; therefore it is important to take control of the situation in order to develop an effective way to reduce stress, burnout and anxiety. In order to cope effectively it is sometimes necessary to seek help through interventions such as meditation therapy. Research carried out on healthcare professionals found that a ‘mindfulness-based stress reduction’ (MBSR) program effectively reduced perceived stress and job-related burnout (Shaprino et al., 2005).

1.1.Stress:

History

The concept of stress was first used in the fourteenth century in relation to strains, affliction, hardship and adversity (Lumsden, 1981). Robert Hooke, a physicist-biologist in the seventeenth century constructed an engineering analysis of stress. He developed concepts such as load, strain and stress and related these concepts to man-made structures such as bridges, as in how they cope and resist heavy loads crossing over them without falling down. Hooke’s discoveries have had a major influence and his concepts remain relevant in relation to the strains and stresses individuals cope with every day. These engineering ideas are applied to the way the body, mind and society react to stress nowadays. The stress stimulus is now known as a stressor and the stress response as a reaction to various factors in the environment (Lazarus, 1999, p29-32).

Levels of stress are increasing as a result of the faster pace of modern living. Stress is escalating in relation to time pressure, inability to keep up with work practices, varying social

attitudes and technology advances. Some argue this is what modern living is about, but it may lead to severe strain physically, mentally and socially on the individual. There has been enormous controversy as to what stress actually is, therefore an interactional definition approach is most relevant. This is a combination of both the environment and physiological processes (Bartlett, 1998, p1-7). A further approach states that it's not interactional but transactional, which takes into account the dynamics surrounding the process of the relationship between the environment and the individual (Lazarus et al., 1984a).

Main theories interest:

Walter Cannon (1932), a Harvard physiologist introduced the terminology of stress into the scientific world. He proposed the idea of homeostasis, meaning organisms have an innate tendency to maintain a stable environment. Cannon produced the 'fight-or-flight' response theory to stress. This theory is associated with emotions of fear and anger and leads the body to mobilize these feelings when faced with a threat or stressor, thus placing physiological strain on its abilities to cope (Lazarus, 1999, p43). Cannon demonstrated that this response includes a complex association in relation to the sympathetic nervous system (SNS) arousal and hormone secretions e.g. cortisol from the adrenal glands. His idea of homeostasis was an important discovery because it demonstrates that organisms try and resist change and maintain balance when confronted with stress (Rice, 1999, p7).

Hans Selye (1956, 1976) a Hungarian endocrinologist, examined how the body responds in order to cope with threatened harm (Lazarus, 1999, p43). In his research on rats, which he exposed to stressors, such as severe fatigue and coldness, he observed that all physiological changes were the same, regardless of the stressor used. Shrinkage of the lymph glands and thymus, an enlarged adrenal cortex and ulcers of the stomach and duodenum occurred. From his research, he developed a neurochemical element of physiological

defences, known as the 'General Adaption Syndrome' (GAS). This theory consists of three distinct stages. The first stage: the alarm reaction, where the body prepares to become mobilized to defend against threat. The second stage: resistance is where the body tries to cope by fighting against this threat. The third and final stage: exhaustion, where the body becomes overwhelmed by this threat and has insufficient resources to diminish it (Taylor, 2009, p148). The GAS activated by the pituitary gland, closely related to the hypothalamus in the brain, also assists the endocrine system in its process of secreting hormones into the bloodstream to target various organs in the body. The pituitary gland secretes the hormone adrenocorticotropin (ACTH) which stimulates the adrenal glands to release cortisol into the bloodstream to aid homeostasis (Lazarus, 1999, p44).

Sympathetic activation:

Stress causes changes to two subdivisions of the Autonomic Nervous System (ANS) which influences hormone activity and effects body tissue. The first subdivision is the SNS which arouses the body to react to a stressful emotion such as anxiety, using up the bodies energy, similar to the fight aspect of Cannons theory (Lazarus, 1999, p45). When the body is aroused by a threatening or harmful situation, the cerebral cortex in the brain submits a set of reactions in relation to these perceptions. The hypothalamus, which is involved in the facilitation of behavioural, endocrine and autonomic functions and controls the main hormones in the body, instigates a rapid response to the stress resulting from this SNS arousal. This prompts the medulla of the adrenal glands to emit catecholamines; epinephrine (EP) and norepinephrine (NE) which increases blood pressure and heart rate and impact on the immune system (Odgen, 2007, p228). Physical symptoms such as sweating and pupil enlargement also occur (Taylor, 2009, p150).

Parasympathetic activation:

The second subdivision of the ANS is known as the Parasympathetic Nervous System (PNS) which inhibits arousal from the SNS and helps restore the body's energy and resources. The hypothalamic-pituitary adrenocortical (HPA) axis acts on behalf of the PNS in response to stress. Seyle provided the foundations for this by demonstrating that stress affects the HPA activity through the GAS theory. The HPA activation is similar to the three phases, alarm, resistance and exhaustion (Taylor, 2009, p151) and is activated by the corticotrophin-releasing hormone (CRH) from the pituitary gland, stimulating the production of glucocorticoids from the adrenal cortex. Cortisol is the final and most significant effector of the HPA axis and is used in the control of the whole body's homeostasis (Chida et al., 2008). These systems are not for continual use and if prolonged activation occurs, dangerous effects occur in the body (McEwen, 2003a, b). The physiological responses to stressors include a heightened stimulation of the brain through the release of neurotransmitters such as glutamate, neuro-effective hormones such as cortisol and catecholamines (adrenaline and nor-adrenaline). The continuous use of stress hormones results in damage to vital brain parts at a cellular level, known as allostatic load (McEwen, 1998). Unfortunately once the stress process continues, recovery becomes difficult. Depression, poor immunity, cardiovascular effects, tumour growth (Ben-Eliyahu et al., 1991; McEwen et al., 1993; McEwen, 2003a, b) and reduced reproductive function (Motzer et al., 2004) occurs.

Relationship of job related stress and physiological effects:

This type of stress occurs when the demands of a job are not recognised by mental regulatory systems in the central nervous system such as information processing, movement performance and planning construction. Stressors activate multiple sequences of events in

which released hormones travel through the bloodstream affecting many different organs. The travel pathway hormones use is moderately slow, therefore the effects of stress continue to effect organs for longer than the actual stressor itself. The constant stress accompanying daily tasks, disturbances and more intense stressful events combine to create poorer physical and mental health. Stressed workers are more prone to illness because of the effects stress has on the immune system. There is a vast amount of research in relation to cortisol damage in neurons within the hippocampus; one of the main areas in the brain where memory forms thus leading to memory impairment (Halpern, 2005). Stress may lead individuals to seek release from the stressors at work by drinking alcohol excessively and not eating and/or sleeping enough thus leading to poor health (Armstrong, 2001). It is important that healthcare workers address the physiological effects stress can have on their body, because they may be at risk of developing anxiety or depression in severe cases.

1.2. Anxiety:

Anxiety is a common symptom usually experienced by everyone at some point in their life (Simpson et al., 2010) generally in response to a stressor or a perceived threat (Sriram et al., 2012). Anxiety involves disrupting behavioural, cognitive and neurobiological elements. Anxiety varies from normal, general anxious feelings to more severe psychological/ mental thoughts. The latter includes a panic attack where the body goes into a state of shock, rendering it incapable of movement, and may result in distortion of speech. Phobic anxiety and general anxiety may be as simple as nervous feelings, although if prolonged, chronic anxiety may result. One particular study discovered similar reactions occurred between clinically diagnosed patients with anxiety disorder and individuals with generalized anxiety. Early signs and symptoms should not be ignored as these still have effects in the same areas of the body and brain as if clinically diagnosed with anxiety disorder (Moser, 2007).

Physiological responses to anxiety:

Brain scans showed increased levels of baseline activity in the parahippocampal gyrus and the cingulate cortex in individuals with anxiety disorder. The amygdala and the pre-frontal cortex also showed increased reactivity to anxiety stimuli. The likely source of this extreme excitatory neurotransmission is in the anterior area of the brain which appears more distinct on a scan. Some researchers believe because drugs which elevate the inhibitory transmitter GABA to reduce anxiety somewhat that increased excitatory neurotransmission may also aid anxiety reduction (Colb et al., 2011, p598).

Anxiety is a symptom of stress and acts as a stressor which in turn activates the neuroendocrine structure, activating numerous physiological and harmful elevated responses, such as: platelet and macrophage cell activation, raised levels of circulating lipids, elevated blood pressure, heart rate and increased myocardial oxygen demand (Fair & Froelicher, 2000). This can lead to a decreased blood flow (ischemia), preventing oxygen from reaching the heart muscle, or blockage leading to a heart attack (myocardial infraction), which may result in death (Kawachi et al., 1994). Prolonged anxiety can include life-long struggles that impair individual's quality of life. A significant impact was found in one particular study investigating the effect anxiety had on cardiac-related readmission. Patients who had severe anxiety were three times more prone to the risk of readmission, in comparison to others within the sample (Volz, et al., 2010). The stressful environment and occupations which healthcare professionals work in, may lead their level of anxiety to escalate at times to a psychological / pathological state. If anxiety is not controlled and continues to affect the individual, they may develop phobic disorder, post-traumatic stress disorder, panic disorder, generalized anxiety disorder and obsessive-compulsive disorder as a result, although the

DSM-IV states that these can occur alongside or without anxiety (McKay et al., 2009, p18-19). This may prevent the individual from working and carrying out their daily tasks and lead to the onset of mental disorders, including physiological harm. Healthcare workers have knowledge of anxiety and how it can develop into a disorder, but because it is a common universal emotion, it is often ignored.

1.3. Burnout:

Burnout is a psychological state resulting from long-term exhaustion, prolonged exposure to job related stressors, spending too much time and energy at work without enough time to recover. Clinical symptoms include emotional irritability and instability, tiredness, insomnia, headaches, issues within relationships and eating problems. Originally the term burnout was used by Herbert Freudenberger (1974), a clinical psychologist, after psychoanalytic case studies revealed that patient's manifestations of prolonged over-commitment to work resulted in complete physical and emotional exhaustion, unrecognised by the patient themselves (Weinberg et al., 2002; Aguayo et al., 2011). Substance abuse was also a high indicator during this period giving rise to the term burnout. Christina Maslach conducted exploratory research into healthcare and human service occupations looking at coping factors, such as how emotionally stable participants were in relation to their job. In 1976 she focused her research on burnout, as participants described this as their psychological strain during interviews (Maslach et al., 2008; Maslach et al., 2001). Burnout research expanded and the majority of research was carried out across post-industrialized countries (Halbesleben et al., 2004; Schaufeli et al., 1998; Maslach et al., 2001; Maslach et al., 2005). The first Maslach Burnout Inventory (MBI) was invented in the late 1970s by Maslach and colleague Susan, E. Jackson in relation to field research conducted with human service and healthcare professionals (Maslach & Jackson, 1981a; 1981b). The first measure is now known as the MBI-Human Services Survey (MBI-HSS) and includes three subscales as

follows: Emotional Exhaustion (EE), Depersonalisation (DP) and Personal Accomplishment (PA) (Maslach et al., 2008; Maslach et al., 2001). In most cases individuals score high on EE and DP, and low on PA (Aguayo et al., 2011). Recent research using the MBI measure on intensive-care unit (ICU) workers found high levels of burnout in ICU nurses and physicians. For these and many healthcare professions, the workload is physically demanding allowing limited rest, leading to sleep deprivation and physiological stress (Embriaco et al., 2007). Socio-demographic variables such as age, gender, ethnicity and education level were linked to burnout in a variety of studies (Edelwich & Brodsky, 1980; Farber, 1983; Freudenberger, 1974; Harrison, 1980; Maslach, 1982; Pines & Karfry, 1978; Ratlif, 1988; as cited by Acker, 2008). Maslach supported this in her previous research on socio-demographic concepts, based on informal observations, demonstrating that older more experienced workers have a lower risk of burn-out, in comparison to younger, less experienced workers (Acker, 2008). Stress can disrupt healthcare workers from carrying out their day to day tasks and increase sleep disruption. Chronic fatigue already appears as a symptom of burnout among healthcare professionals leaving them more susceptible to illness and in severe cases, mortality (Hall et al., 2004). A study carried out on a large sample of nurses in Australia demonstrated psychological work strain appeared to have a greater influence on sleep disruption than physical demands. These results indicate a reduction in the chance of recovery from work strain, and increased the risk of decreased health and well-being (Windwood et al., 2006). Large numbers of studies are demonstrating increased levels of burnout and its physical and psychological effects, therefore healthcare organizations should introduce effective programs to help control and cope with burnout when present.

1.4. Stress, anxiety and burnout:

Stress and anxiety include very similar responses physically and psychologically, affecting healthcare workers' health and quality of life, as well as the social context in which they work in, and the treatment of their patients (Kausar et al., 2010). Stress, anxiety and somatoform-related symptoms include: fatigue, tension, irritability, hostility, lack of concentration, gastrointestinal symptoms, sleep disturbances, increased blood pressure, musculoskeletal symptoms, dizziness, tachycardia, chest discomfort, and substance abuse (Lyraeos et al., 2011). In one particular study work-related stress was linked to decreased quality of care, low morale and poor work productivity in medical staff (Stebbing et al., 2007). Workers become burnt out from the effects of stress and anxiety leading to feelings of exhaustion, depersonalization and reduced confidence in themselves and in their work (Riahi, 2011). These three factors are interlinked in many ways and should be examined in the healthcare professionals, because they are ranking as one of the highest professions in numerous research studies on stress, anxiety and burnout in the twenty-first century (Oginska-Bulik, 2006; Graham, et al., 2001; Acker, 2008; Embriaco, 2007; Healy et al., 2011, Lorenz et al., 2010). Healthcare workers are valuable assets and therefore should be protected and helped to reduce and/or cope effectively with stress in their workplace.

1.5. Coping

Coping is described as the cognitive and behavioural efforts individuals sometimes struggle to make, in order to meet demands perceived as exceeding their resources and found to influence the individuals mental health and well-being, by shielding the harmful effects of stress (Lazarus et al., 1984; Alloway et al., 1987; Hepburn et al., 1997; Tattersall, 1999; Graham, 2001). Everyone reacts in their own unique way to stress but there are two distinct coping styles available. Some individuals use avoidant/passive coping styles, whereas others

use an active approach coping style. Passive coping includes symptoms of denial and withdrawal, whereas active coping involves an active approach to a stressor/threat (Volker et al., 2010). Research suggests that nurses demonstrate that passive coping predicts mental health functioning and EE (Tyler & Cushaway, 1992; Greenglass & Burke, 2002). This avoidant approach is also associated with the stress of contact/dealings with patients, job dissatisfaction (Tyson et al., 2002) and poor work adjustment in clinical psychologists (Kuyen et al., 2003). Neither style is very effective. Both depend on the length of time the stressor is present, for example: Individuals who use the active approach-related coping mechanism confront and engage in cognitive and emotional efforts required to deal with long term threats. However in short-term anxiety physiological reactivity may interfere (Smith et al., 2000). Whereas individuals who avoid or minimize stress by a way of coping may deal with short-term events effectively, although if the threat is prolonged this approach is not as successful (Taylor, 2009, p181). Individuals may show both of these coping mechanisms when dealing with a stressor, therefore neither style are reliable on their own.

Problem/ emotion focused coping styles:

Two more effective styles of coping include problem-focused coping and emotion-focused coping which rely on a variety of factors, such as: age, gender, the type of problem, resources available and control mechanisms the individual may have. Problem-focused coping involves making an effort to reduce the demands of the stressor, or increase the available resources in order to cope effectively. An example of this for a healthcare worker with increased feelings of anxiety and stress would be to speak with a counsellor, or to create a plan, take control and keep to it. Emotion focused coping is a means of controlling the emotions provoked by a stressful situation (Odgen, 2007, p257). An example of this would be to seek out social support from a colleague at work instead of binge drinking or taking drugs in order to cope (Graham, 2001).

Social support:

Social support can be classified into various forms, such as informational support from family and friends in relation to stressful events, emotional support during stressful experiences by reassurance and warmth. Others include tangible assistance by providing support through gifts, such as home cooked meals cooked for a neighbour or friend after a death in their family. Social support prevents psychological distress such as anxiety from increasing during times of stress, and will help decrease physiological and neuroendocrine responses within the body. A variety of tasks carried out by psychologists in relation to this, for example: putting participants through a stressful situation like counting backwards and measuring their sympathetic and HPA axis responses. When a companion is present during this task stress seems to be reduced, possibly because the presence of close social contact causes the release of oxytocin, which has been linked with lowering stress responses (Grewen et al., 2005). Recent research on a sample of 103 Irish healthcare workers, indicated that 76 (74%) received no help from employers to cope with stress and 49%, who did receive help found it inadequate (Healy et al., 2011). This supports previous studies that discovered a relationship between a lack of support at work and work-related traumatic stress (Jonsson et al., 2006). Therefore a number of effective interventions should be readily available to workers in order to cope effectively with stress, anxiety and burnout at work.

Interventions:

The holistic stress model has been tested using a variety of professions, including hospital and home care nurses. Hope has been the key element in investigating eustress, meaning the degree by which a cognitive appraisal of a situation or event is seen to either benefit or enhance an individual's well-being. Research demonstrated that satisfaction with supervision and work were significant predictors of hope at the workplace. Significant

positive relationships of hope and self-reported perceptions of health have consistently been found (Nelson, et al., 2007, p46). Interdependence enables individuals to comfortably seek help when needed in a particular situation. Hope was found to facilitate the significant positive relationship between home care nurses and interdependence, in relation to their perception of health (Simmons et al., 2003). This method may be unsuccessful, as aiming to increase an individual's psychological and emotional response isn't always that simple, aiming to change the workplace context along with this seems more effective (Klink et al., 2001). The next possible step could be stress management training for staff as a compulsory intervention. Stress management training is categorized into primary, secondary and tertiary sectors. Primary intervention involves reducing the risk-factors associated with stress e.g. by introducing flexible work policies (Halpern, 2005) and better work relations. Prevention of stress is important and by having the proper efficient working elements in place, this can prevent stress, anxiety and burnout from occurring in the first place. Secondary level includes relaxation, exercise and nutrition which should be effectively maintained in order to increase immunity and health. Finally tertiary level includes providing counselling and psychotherapy if required to reduce stress. (Nelson et al., 2005). Cognitive behavioural therapies have proven to be very effective in reducing psychological issues. A meta-analytic study demonstrated that employees benefited from stress reduction interventions, such as: Cognitive behavioural therapy, relation techniques, organized-focused interventions and multi-modal interventions. Cognitive behavioural interventions were more effective than relaxation techniques and multi-modal interventions. Cognitive behavioural based techniques aim at adjusting cognitive thoughts that appear as stressful or overwhelming, and reinforce behaviour to appear as active-coping rather than negative-coping. Therefore if healthcare workers are taught and learn how to cope effectively, they will be able to handle stressful situations by using various adaptive methods and behaviours (Klink et al., 2001). This is

important because if these services are in place for healthcare professionals, their quality of health and happiness in the workplace will increase, therefore increasing productivity and improving the treatment of patients, which for example in emergency departments, can be a life or death situation.

1.6.Rational for the present study:

Previous research has rarely focused on stress, anxiety, burnout and coping in one specific study. Although anxiety and burnout are merely symptoms of stress they have appeared in other studies relating to depression and personality types. In previous studies, the demographic variables are generally based on gender, age, ethnicity, level of education and marital status. The purpose of the current study is to examine the relationship between age, occupation, employment area and duration, and to see if these variables have any effect on stress, anxiety, burnout and coping mechanisms in healthcare professionals. This study will attempt to identify any significant differences in gender on any the above variables.

It is predicted that there will be a significant positive relationship between age and stress, anxiety, burnout and coping mechanisms. There will also be a significant relationship between occupation, department, and duration in occupation and department in relation to stress, anxiety, burnout and coping mechanisms.

There will be a significant difference across age groups and stress, anxiety, burnout and coping mechanisms. There will also be differences between gender and stress, anxiety, burnout and coping mechanisms. It was predicted that a significant difference will occur between occupation, department types, and durations in occupation and departments in relation to stress, anxiety, burnout and coping mechanisms.

2.0.Methodology

Healthcare professionals from all departments in a large teaching hospital in the greater Dublin region were invited by letter to participate in this study. These included nurses, doctors, physiotherapists, dieticians, cardiac technicians, social workers, radiographers, psychologists and administrative staff. Participants were selected anonymously through a convenient snow ball sampling method, which involved selecting participants through people you may know and who they may know in order to gather data. Once approval was granted from the Dublin Business School ethics committee, a letter requesting permission to enter the hospital to collect data was sent to the Director of Nursing. Once approval was granted I collected data by attending various departments and leaving questionnaires with the person in charge to distribute to their staff. I also left an envelope for return of completed questionnaires. I returned two weeks later, collected completed questionnaires and reminded staff about the study. I visited more departments as suggested by different managers and continued to hand out questionnaires, returning 2 weeks later to collect them.

2.1.Participants:

A total of 275 questionnaires were distributed and 130 were completed. Participants contributed on the basis of the letter of information informing them about the purpose of the study, one included earning course credits for my final year project (*see appendix 1*).

The nature of the research might be affected by the context or specific department, the duration of employment in this department and the duration of employment in the job. Age and gender may also have an effect upon the outcomes of the study. The gender split was very uneven consisting of more females (n=115) than males (n=115). Therefore these variables will be controlled for as much as possible.

2.2.Design:

A correlation design was used which was quantitative in nature. This design consisted of a variety of groups. The first was gender, split between male and female. The second was age which was divided up into five age groups. Number one: 18-25 year olds, number two: 26-30 year olds, number three: 31-40 year olds, number four: 41-50 year olds and number five: 51-65 year olds. The third categorical group was job title/ current occupation which consisted of nurses, physiotherapists, doctors, cardiac technicians, dieticians, social workers, administrative staff, radiographers and psychologists in order, which was categorised into three main groups including nurses, doctors and others. The next group consisted of a variety of departments, nineteen in total which were then categorised into five major groups including cardiology, physiotherapy, acute, general and specialised departments. The next major group was the length of time in the occupation which was broken down into 0-10 years, 11-20 years, 21-30 years and more than 31 years. The final group was the length of time in a particular department which consisted of 0-2 years, 3-5 years, 6-10 years and more than 11 years. Predictor variables included age, gender, department title, length of time in department, job title, and length of time in job. Criterion variables included total scores from questionnaires and subscale totals from within questionnaires, including: Perceived Stress Scale (PSS), anxiety, EE, DP, PA totals, self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioural disengagement, venting, positive reframing, planning, humour, acceptance, religion and self-blame.

2.3.Materials:

The following four major questionnaires were used: the STAI, PSS, MBI-HSS and the BCI. A short demographic questionnaire requested the participant's age, gender, current

occupation and department, duration of employment in the occupation and in this department (see appendix 2).

PSS-The PSS-14 created by Sheldon Cohen and colleagues, Tom Kamarch and Robin Mermelstein in 1983 is a commonly used scale in assessing the psychological elements of ones perception of stress. It measures the extent to which an individual appraises a situation as stressful (Cohen et al., 1983, p385). The questions were produced to discover the uncontrollable, unpredictable and overloaded aspects of one's life. The scale was designed for community samples originally with a minimum level of sixth class primary school education. It is now used in a variety of healthcare areas in relation to work stress. The PPS-10 version is a better measure for predicting physical and psychological symptoms, and for the use within health services (Cohen et al., 1988). The questions ask respondents how they felt in the last month, in relation to a particular positive or negative feeling, such as: "In the last month, have you felt that things were going your way" or "In the last month, have you felt nervous or stressed". The ten questions are assessed across a five-point likert scale consisting of: 0=never, 1=almost never, 2=sometimes, 3=fairly often, 4=very often. Participants are informed that this scale asks about their feelings and thoughts during the last month. They are instructed to indicate how often they have felt or thought a certain way across the five point scale. Internal reliabilities using Cronbach's alpha's for the PSS-10 within two particular samples: the Harris Poll sample was .78 which was the original reliability factor (Cohen et al., 1998), and the eNation sample for 2006 and 2009 which was .91 (Cohen et al., 2012). The PSS-10 scores range from 0-40, a high score indicating greater stress. The PSS is now translated into 25 languages besides English, according to the Cohen's Laboratory for the study of Stress, Immunity and disease (2012). In another study a total of nineteen articles were identified for the purpose of a review on the psychometric properties of

the PSS. Internal consistency reliability, hypothesis and factor validity were significantly found (Lee, 2012).

STAI-The STAI was conducted by Charles D. Spielberger, Richard L. Gorsuch and Robert E. Lushene in 1964. The STAI is composed of 20-items each to assess 'state' and 'trait' anxiety; only the state form of the STAI was used in this study (Spielberger et al., 1983). On the state scale the respondents are asked to outline how they feel at that very moment in time across four points on a scale: 1=not at all, 2=a little, 3=somewhat and 4=very much so. The minimum score is 20 and a high score is 80. The stability coefficients for state anxiety are reasonably low with a median r of .33. The reason for this is because the state anxiety measure is based on situational factors at the current time of testing, therefore it still is considered valid. Cronbach's alpha is relatively high as .86 reliability was discovered using male independent samples, female college and school students, and others with a median coefficient of .93 across groups (Spielberger, 1983). This measure has been adapted for over 30 different languages for the purpose of cross-cultural research and clinical performance. Construct validity has been shown in more than 10,000 adolescents and adults by the year 2009 (Spielberger, 2009). Numerous tests have showed that the measure is both valid and reliable for anxiety assessment in clinical research settings (Sesti, 2000). Alpha coefficients for working adults are in between .89 and .90 (Winstanley et al., 2002).

MBI-The MBI is the most widely used measure of burnout created by Maslach and Jackson (1986). The MBI-HSS consists of twenty-two questions which are scored from three subscales: EE, DP and PA (Maslach et al., 2008; Demerouti et al., 2007). EE consists of nine items which describe feelings of overwhelming exhaustion from work, such as: "I feel burned out from work". This statement had the highest factor loading (0.84) as very high levels of EE are found in healthcare and human services workers. Scores considered high for EE are ≥ 21 , and low: ≤ 13 (Volker et al., 2010). DP has five items describing cold, insensitive and

impersonal feelings towards patients, known as ‘recipients’ within some items: “I have become more callous toward people since I took this job”. A score of ≥ 10 on DP for medical professionals is considered high. The higher the mean score for EE and DP subscales the greater the experience of burnout. A moderate correlation exists because some statement on each subscale consisted of low loadings. PA had eight items including feelings of success and competence from one’s own work: “I feel I am positively influencing other people’s lives through my work”. PA is scored differently to EE and DP, as it is usually scored low by healthcare workers e.g. a score ≤ 33 (Embriaco, 2007). It had a modest negative correlation with the other two subscales. Therefore the lower the mean scores on PA the higher the degree of burnout (Maslach et al., 2008). Participants were instructed to rate each statement across a seven-point likert scale as follows: 0=Never, 1=A few times a year or less, 2=Once a month or less, 3=A few times a month, 4=Once a week, 5=A few times a week, 6=Every day. Original alpha values conducted were between .81 and .92 for the MBI, for EE .89 is the validation value, for DP the internal consistency level is between .57 and .82, (average reliability=.77) and for PA it fluctuates between .50 and .86.(average reliability=.74) (Aluja, Blanch, & Garcia, 2005; Gil-Monte & Peiró, 1999; Kantas & Vassilaki, 1997; Kim & Ji, 2009; Maslach & Jackson, 1981; Richardsen & Martinussen, 2005). Test-retest reliability is amongst .54 and .60, and reliability coefficients of .90 for EE, .79 for DP and .71 for PA using Cronbach’s alpha coefficient (Winstanley et al., 2002).

BCI- The BCI measure consists of 28 items, including fourteen different factor-analytically, theoretical coping styles in relation to active versus passive coping styles. The fourteen subscales consist of two items in each. This measure can be applied to any context of occupational stress and it is a predictor of clinical effects from various populations (Meyer, 2000). Participants were informed that the items dealt with ways of coping with stress and that there are various ways to deal with it. They were also told that the items ask about their

way of coping in general with stressful events. The extent to which the participant was doing whatever, based on what the item said was measured across a four point scale: 1= "I haven't been doing this at all", 2= "I've been doing this a little bit, 3= "I've been doing this a medium amount", 4= "I've been doing this a lot". The subscales and alpha(α) reliability are as follows for the measures subscales: Active coping (α = .68), Planning (α = .73), Positive reframing (α = .64), Acceptance (α = .59), Humour (α = .82), Religion (α = .82), Using Emotional support (α = .71), Using instrumental support (α = .64), Self-distraction (α = .71), Denial (α = .54), Venting (α = .50), Substance use (α = .90), Behavioural disengagement (α = .65), Self-blame (α = .69). Although these fourteen subscales only include two items in each, their reliabilities are all above .50 which is the minimum; therefore the BCI is a validated reliable measure to use (Carver, 1997).

2.4.Procedure:

I verbally explained to the person in charge of each department as to what my study was about. Participants were asked by their nurse/doctor etc. in charge if they were interested in filling out the questionnaires. An information and invitation letter was attached to the questionnaires explaining who I was and what the research was about. My personal details were included and they were free to contact me regarding the study with any questions/issues that arose as this can be a personal subject for some people. Professional helpline details in a variety of forms was also included if participants were effected by any of the questions. Participation was optional and they could withdraw from the study at any time. They were assured all data was anonymous and would be stored in a confidential and secure manner. Participants were informed that the completed questionnaires which took approximately 10-15 minutes to complete would be collected within two weeks. Overall it took approximately one month to gather 130 completed questionnaires.

2.5.Results:

2.5.1.Descriptive Statistics

From January to March 2013, two hundred and seventy five healthcare questionnaires were distributed and of these, one hundred and thirty were completed. Age ranges were broken into five categories and the most frequent category was the thirty-one to forty years age group (33.8%) with an age range between the forty-one to fifty years age group (19.2%). The next most frequent age group was the fifty-one to sixty-five age group (19.2%) (*See table 1 and 2, See figure 1*). The minimum age was eighteen years and the maximum was sixty five years. A total of 88.5% female (n=115) and male 11.5% (n=15) were categorised into groups. The total scores for scale variables were tested for normality using a histogram and normal curve where the variability of scores was eyeballed and an approximately normal curve or a heavily skewed distribution of scores was distinguished. For scales that were normally distributed the mean and standard deviation was calculated, and for skewed distributions the median was calculated. Total scores were calculated according to the scales and were tested for role, gender, age, occupation and department type, and length of time in this occupation and department.

2.5.2.Inferential Statistics:

Non-parametric variables:

Test for gender differences for PSS, DP and PA total scores

A Mann-Whitney U test was carried out to test the hypothesis that there will be a significant difference between male and female participants for PSS, DP AND PA total scores. Females had a mean rank of 63.85, compared to males who had a mean rank of 56.73

for the PSS total. Males had a mean rank of 71.43, compared to females who had a mean rank of 64.15 on the DP total subscale for burnout. Females had a mean rank of 63.45 compared to males who had a mean rank of 46.46 on the total PA subscale for burnout. The Mann-Whitney U revealed that males and females did not differ significantly on the total PSS, DP or on PA scale.

Test for age differences for PSS, DP and PA scores

A Kruskal-Wallis one-way ANOVA showed that there was a significant difference between age groups, and depersonalisation total scores ($\chi^2 (4) = 11.67, p = .020$), differences in age groups were as follows: the eighteen to twenty-five had the highest mean rank ($M = 85.79$), twenty-six to thirty ($M = 78.96$), thirty-one to forty ($M = 63.94$), forty-one to fifty ($M = 57.24$) and the lowest was the fifty-one to sixty-five age group ($M = 51.20$) (See Table 5 and figure 2). The PA and PSS total scores did not differ significantly.

Test for occupation role differences for PSS, DP and PA scores

Nurses, Doctors and other occupations showed significant results for depersonalisation using a Kruskal-Wallis one-way ANOVA: ($\chi^2 (2) = 8.51, p = .014$). Doctors had the highest mean rank ($M = 90.68$), other professions ($M = 65.71$) and Nurses had the lowest ($M = 58.60$) (See Table 5). Total scores for PA and PSS were not significant.

Test for differences in department types and duration in department and occupation for PSS, DP and PA scores

Duration in occupation and department type using a Kruskal-Wallis one-way ANOVA did not have a significant effect on DP, PA or PSS total scores. Although the length of time working in a department had a significant difference on DP scores: ($\chi^2(3)$

=13.91, $p=.003$). The highest mean rank was in between the zero to two year group ($M=90.05$), next ranked the eleven years or more group ($M=63.95$), next the three to five year group ($M=56.31$) and the six to ten year group was lowest ($M=55.77$). PA and PSS totals did not differ significantly for the length of time working in a department.

Test for differences in particular coping mechanisms and age groups

In terms of coping subscales, a Kruskal-Wallis one-way ANOVA showed a significant difference across age groups for denial ($\chi^2 (4) =11.37, p=.023$), where denial was ranked highest in the fifty one to sixty five age category ($M=80.02$), eighteen to twenty five age group ($M=77.58$), forty one to fifty age group ($M=64.56$), thirty one to forty age group ($M=59.69$) and the lowest age group for denial was the twenty six to thirty age group ($M=55.96$). Humour showed a significant difference across age groups ($\chi^2 (4) =15.86, p=.003$), where the mean rank was highest for the twenty six to thirty age group ($M=85.52$), eighteen to twenty five age group ($M=82.63$), thirty one to forty age group ($M=57.99$), fifty one to sixty five age group ($M=56.92$) and the forty one to fifty age group had the lowest mean rank ($M=54.14$) for humour. Religion also showed significant differences for age ($\chi^2 (4) =15.77, p=.003$), where the fifty one to sixty five age group ($M=77.46$), forty one to fifty ($M=71.80$), thirty one to forty ($M=68.62$), twenty six to thirty ($M=45.62$) and the lowest was the eighteen to twenty five ($M=45.42$). Substance use, behavioural disengagement, use of emotional support, planning and self-blame were not significant in relation to age.

Test for differences between occupation and length of time in occupation

A Kruskal-Wallis one-way ANOVA showed that job titles: Nurses, Doctors and others and length of time in current occupation did not differ significantly in relation to

denial, substance use, use of emotional support, behavioural disengagement, planning, humour, religion and self-blame.

Test for differences between departments and length of time in department

The type of department did differ significantly for religious coping abilities ($\chi^2 (4) = 9.60$, $p = .048$), where the mean rank was highest for acute departments ($M = 79.85$), special ($M = 71.71$), general ($M = 64.81$), cardiology ($M = 56.37$) and physiotherapy ($M = 52.37$) ranking lowest. No significant difference for denial, substance use, use of emotional support, behavioural disengagement, planning, humour, and self-blame was found. Humour and the length of time working in a department did differ significantly ($\chi^2 (3) = 17.38$, $p = .001$), where zero to two years ranked highest ($M = 91.23$), six to ten years ($M = 70.08$), three to five years ($M = 60.95$) and lowest was eleven or more years ($M = 60.69$) (See Table 5 and figure 3). No significant difference for denial, substance use, behavioural disengagement, use of emotional support, planning, religion and self-blame was found.

Test for a relationship between age, length of time in occupation and department in relation to PSS, DP, PA, denial, substance use, , behavioural disengagement, use of emotional support, planning, humour, religion and self-blame.

A Spearman's rho correlation found a significant weak, negative-inverse relationship between age and humour ($r_s (128) = -.30$, $p = .001$) and between age and total depersonalisation ($r_s (129) = -.30$, $p = .001$). A significant moderate positive relationship between age and religion was discovered ($r_s (128) = .325$, $p = .000$). There was no significant relationship between age and substance use, PSS total, self-blame, PA, denial, use of emotional support, behavioural disengagement and planning. A Spearman's rho correlation found a significant weak, negative-inverse relationship between the length of time in the current position/occupation and total DP scores ($r_s (129) = -.20$, $p = .043$) and humour (r_s

(128) = -.22, $p = .011$). A Spearman's rho correlation found a significant weak, negative-inverse relationship between length of time in a department and humour ($r_s(128) = -.22$, $p = .012$). No significant difference for length of time in the job or department, and DP, PA, PSS totals, denial, substance use, behavioural disengagement, planning, religion, self-blame and use of emotional support was found.

Parametric variables:

Test of differences between males and females on total anxiety, total EE, active coping, acceptance, positive reframing, self-distraction, use of instrumental support and venting.

An independent samples t-test found that there was a significant difference between the use of instrumental support in relation to coping between males and females ($t(19.93) = 2.90$, $p = .009$). Females ($M = 4.6$, $SD = 1.71$) whereas, males ($M = 3.4$, $SD = 1.40$). The 95% confidence limits showed that the population mean difference of the variables lies somewhere between .32 and 2.00, therefore the null can be rejected (See Table 3). No significance was found between males and females in self-distraction, active coping, venting, positive reframing, acceptance, total EE and total Anxiety.

Test of differences between occupations, length of time in occupation and age in relation to total anxiety, total EE, active coping, acceptance, positive reframing, self-distraction, use of instrumental support and venting.

A one-way analysis of variance showed that there was a significant difference between nurses, doctors and other occupations on self-distraction scores ($f(2,127) = 5.21$, $p \leq .007$). More specifically Hochberg's GT2 analysis highlighted that doctors ($M = 6.50$, $SD = 4.75$) were significantly more self-distracted than nurses ($M = 4.40$, $SD = 1.69$, $p = .007$) and the others ($M = 4.40$, $SD = 1.70$, $p = .010$) (See Table 4). When checking for normality using a histogram it

was significant on the post-hoc test, but the test for homogeneity of variance using the Levene's test showed that $p=.019$ which was less than 0.05, therefore the assumption of equal variances had not been met. An alternative test had to be selected; the non-parametric Kruskal-Wallis one-way ANOVA which showed that nurses, doctors and other professions did not differ significantly in relation to self-distraction although it did using a one-way analysis of variance. Total EE, anxiety, active coping, use of instrumental support, venting, positive reframing and acceptance did not differ significantly using a one-way ANOVA for these occupations, length of time in occupation or age.

Test on differences between departments and total anxiety, total EE, active coping, acceptance, positive reframing, self-distraction, use of instrumental support and venting.

A one-way ANOVA showed that there was no significant difference between departments in relation to total anxiety, self-distraction, active coping, use of instrumental support, venting, positive reframing and acceptance. After testing for homogeneity of variance, a Levene's test showed that total EE scores were less than .05 which meant the assumption for equal variance was not met, therefore an alternative test was carried out using a Kruskal-Wallis one-way ANOVA. No significant difference was found between departments and total EE scores.

Test on differences between the length of time in current department and total anxiety, total EE, active coping, acceptance, positive reframing, self-distraction, use of instrumental support and venting.

A one-way ANOVA showed that self-distraction differed significantly between the length of time in the current department ($f(3,126)=3.99, p \leq .009$). More specifically Hochberg post hoc analysis highlighted that being in a department for 0-2years ($M=6.09, SD=3.95,$) increased self-distraction, compared to being in a department for 6-10years ($M=4.44,$

SD=1.61) and eleven or more (M=4.20, SD=1.65, p=.007). Total EE scores and venting were less than 0.05 which meant the assumption for equal variance was not met. Therefore an alternative test was carried out using the Kruskal-Wallis one-way ANOVA which showed that there was a significant difference between the length of time in a department and venting scores ($\chi^2(3) = 8.10$, $p = .030$). The differences were in between six to ten years in a department (M=72.30), zero to two years (M=71.52), eleven or more years (M=61.23) and three to five years (M=45.57). Total EE scores did not differ significantly using this test. Total anxiety, active coping, use of instrumental support, positive reframing and acceptance did not differ significantly in the length of time in a particular department.

Relationships between occupations and departments in relation to total anxiety, total EE, self-distraction, active coping, use of instrumental support, venting, positive reframing and acceptance

Using a scatterplot graph to indicate whether there was a relationship between occupations, total anxiety and total EE scores, followed by a Pearson correlation showed there was not a significant relationship between the variables. Judging by the scatterplot graph there was no significant relationship between total EE, total anxiety and departments. A Pearson's correlation showed that there was no significant relationship between occupations, active coping, use of instrumental support, venting, positive reframing and acceptance.

Table 1. Mean scores and standard deviations for total scores on normally distributed scales.

Variables	Mean	Standard Deviation
State Anxiety	34.90	18.03
Emotional Exhaustion	20.25	11.98
Self-distraction	4.64	2.27
Active coping	2.77	1.75
Use of Instrumental support	4.41	7.71
Venting	3.90	2.12
Acceptance	4.99	1.70

Table 2. Median scores for total scores on skewed scales.

Variables	Median
Perceived Stress Scale	14.00
Depersonalisation	4.00
Personal Accomplishment	34.00
Denial	2.00
Substance Use	2.00
Use of Emotional support	4.00
Behavioural Disengagement	2.00
Planning	4.00
Humour	4.00
Religion	3.00
Self-blame	3.00

Table 3. An Independent Samples T-test displaying the differences between female and male groups on instrumental support used as a coping mechanism.

Variable	Groups	Mean	SD	t	df	p
Use of Instrumental support	Female	4.60	1.71	2.90	19.93	.009
	Male	3.40	1.40			

*p significant at .05 level.

Table 4. ANOVA table representing differences between the length of time in department and self-distraction.

Variable	Groups	Mean	SD	F	df	p
Self-distraction	0-2 years	6.09	3.95	3.99	126	.009
	3-5years	4.45	1.62			
	6-10 years	4.44	1.60			
	11+ years	4.20	1.65			

*p significant at .05 level.

Table 5. A Kruskal-Wallis one-way ANOVA representing various significant differences between variables and groups

Variable	Number N=	Groups	Mean	SD	df	p
Depersonalisation (D) N= 129 And age N=130	12 24 43 25 25	18-25 years 26-30 years 31-40 years 41-50 years 51-65 years	85.79 78.96 63.94 57.24 51.20	6.55(D) 1.21(Age)	4	.020
Total	129					
Depersonalisation N=129 and occupations N=130	62 14 53	Nurses Doctors Other healthcare professions	58.60 90.68 65.71	6.60(D) .95(Occupations)	2	.014
Total	129					
Humour N=128 and length of time in department N=130	22 21 42 43	0-2 years 3-5 years 6-10 years 11+ years	92.07 51.17 63.87 57.52	1.64 (Humour) 1.07(Length of time in department)	3	.001
Total	128					

*p significant at .05 level.

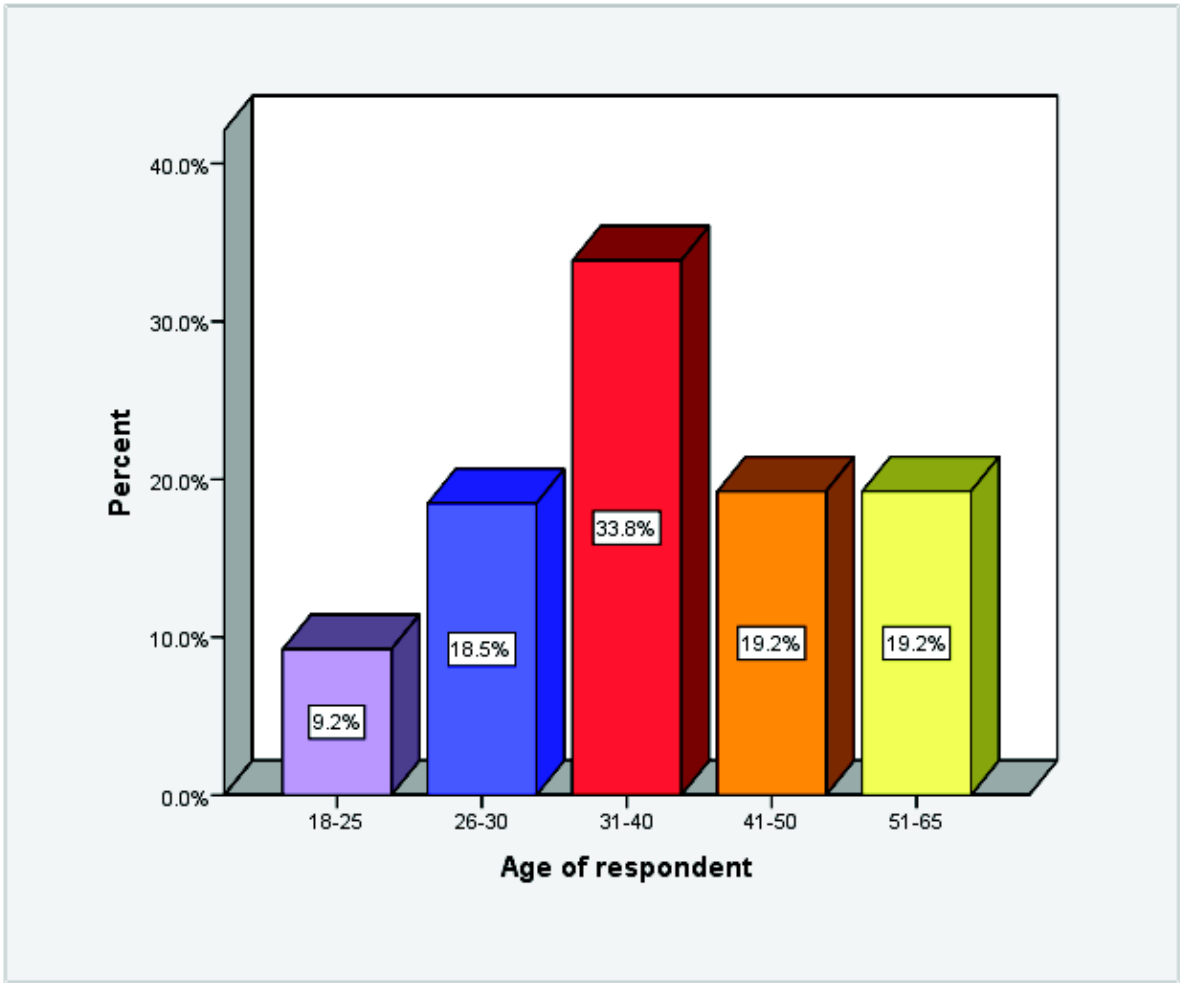


Figure 1. A bar chart representing the different age categories

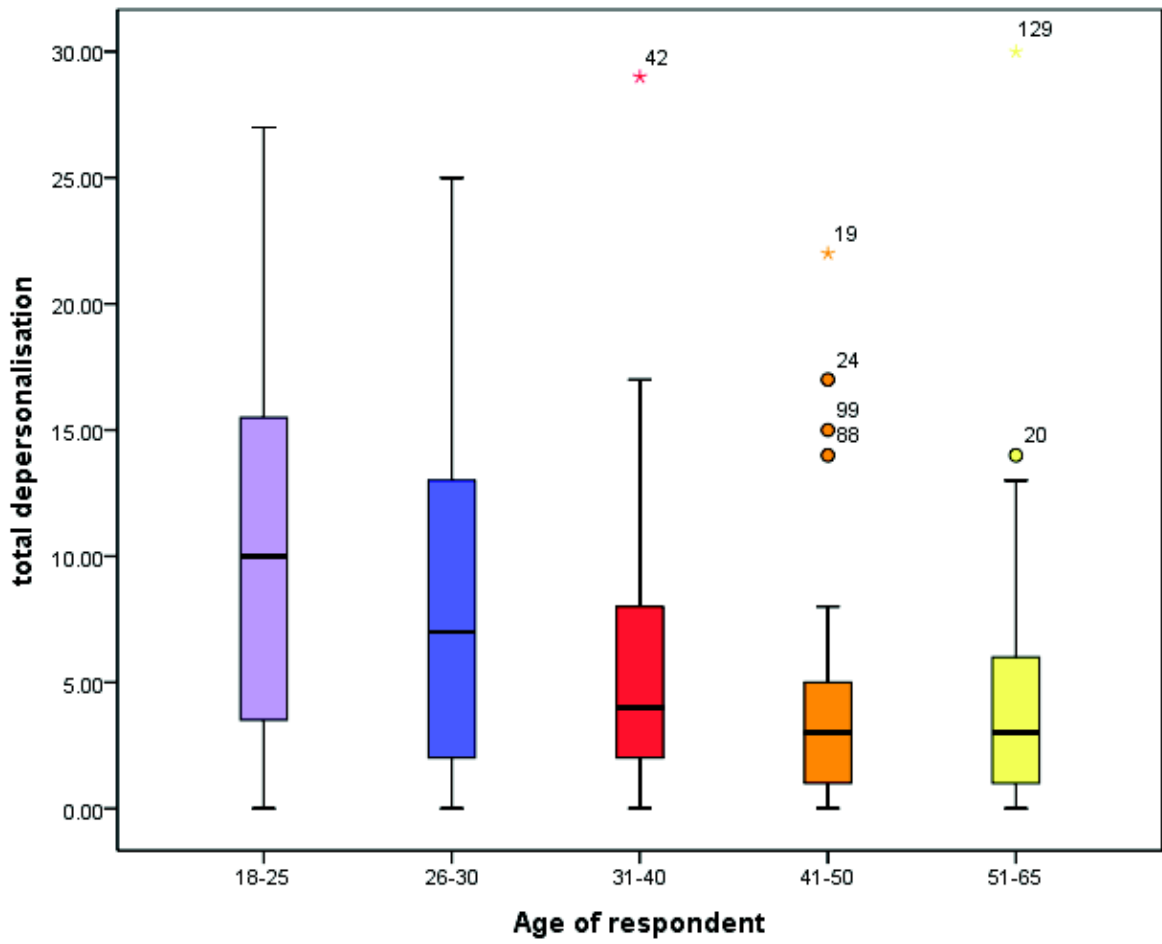


Figure 2. A boxplot representing the relationship between age and depersonalisation total scores

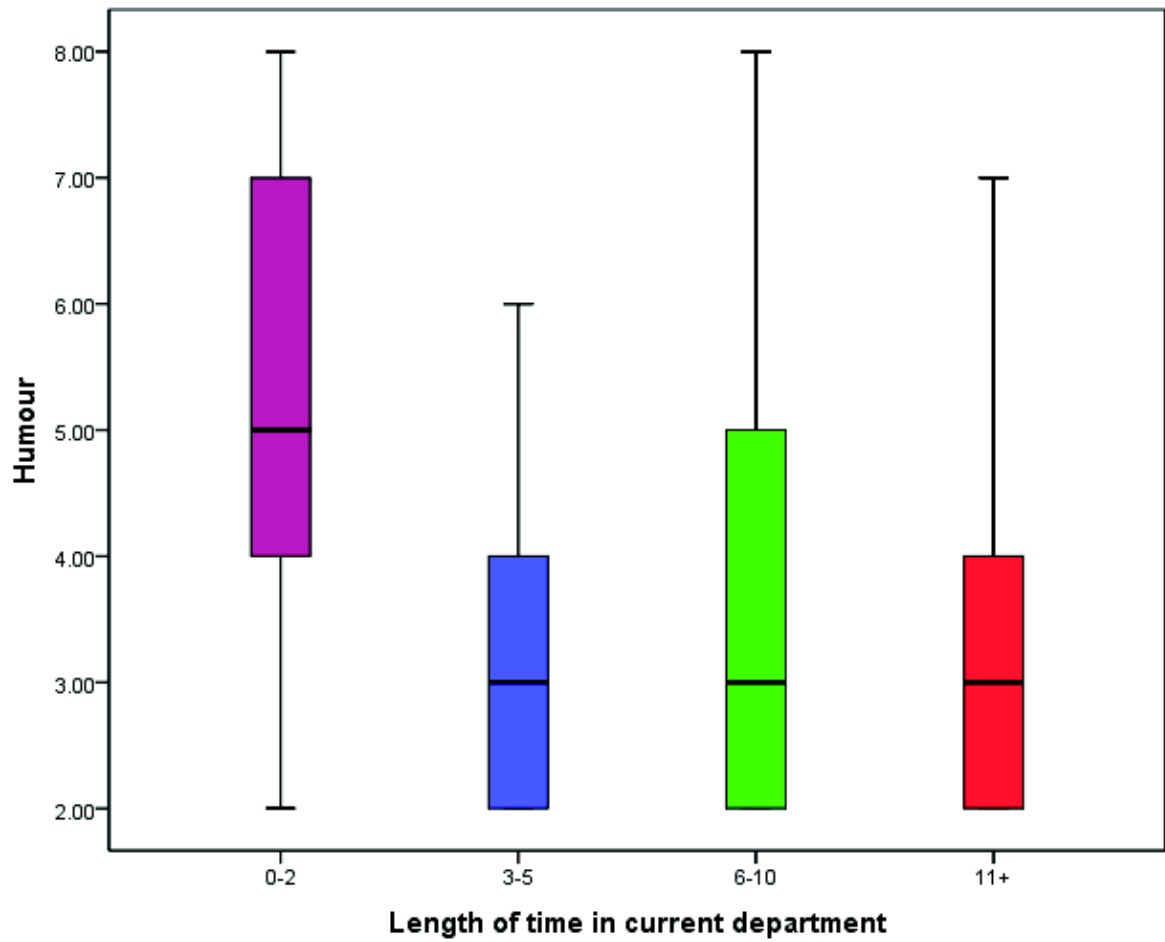


Figure 3. A boxplot representing the relationship between the length of time in current department and humour in relation to coping mechanisms

3.0.Discussion

The aim of this research study was to discover if any differences and if any relationship existed between the demographic variables: age, gender, occupation, department and duration in occupation and in department, in relation to stress, anxiety, burnout and coping mechanisms amongst healthcare professionals. A significant difference was found in gender and use of instrumental support as a coping strategy for work stressors, with females having a slightly higher mean difference in comparison to males. Using an ANOVA, doctors were found to use self-distraction as a coping strategy more often when compared with nurses and other healthcare professionals. However, assumptions of equal variances were not met for self-distraction in relation to occupations when testing for homogeneity of variances using the Levine's test. As an alternative to ANOVA, a Kruskal-Wallis demonstrated no significance between doctors, nurses and other healthcare professionals and self-distraction. A significant difference for self-distraction as a coping mechanism was found in relation to the length of time working in a particular department with workers using self-distraction less, the longer the duration of employment within a department.

Venting was used more often when working in a department for six to ten years in comparison to zero to five years and eleven or more years. Significant results were found in relation to age and coping mechanisms of denial, humour and religion. Denial was higher in older workers (51-65 years) and younger workers (18-25 years) in comparison to 31-40 year olds. Perhaps the older workers did not recognise that they were stressed as this may have been a normal response to their job. The younger workers may not be brave enough to acknowledge their stress. Humour was used most frequently in 26-30 year olds and less frequently in 40-51 year olds. It appears that humour was an attractive alternative to dealing with stress for younger employees. Workers with lesser duration of time (zero to two years) within a department used humour more frequently in comparison to workers eleven or more

years duration. A significant moderate positive relationship between age and religion was discovered, as religion was used in order to cope by 18-26 year less frequently than 51-65 year olds. Acute departments including intensive care, coronary care, and accident and emergency staff used religion more in comparison to the physiotherapy department. This would appear appropriate as these departments would experience a lot of stressful situations. This study demonstrated a significant but weak inverse relationship between age, humour, DP, duration in occupation and department, thus as age, length of time in occupation and departments increased, humour and DP decreased or vice versa. These findings supported particular elements of the hypothesis such as: ‘there will be a significant difference between age, burnout and coping’, ‘there will be a significant difference between gender and coping’ and ‘a significant difference will occur between occupation, department types and durations in occupation and departments in relation to burnout and coping’. These findings did not support the hypothesis that ‘there will be a positive relationship between age and stress, anxiety, burnout and coping mechanisms’. However a moderate positive significant relationship was found between age and one subscale on the coping measure: religion. In support of the hypothesis: ‘There will also be a significant relationship between occupation, department and duration in occupation and department in relation to stress, anxiety, burnout and coping mechanisms’, some weak significant relationships were found in relation to age, duration of employment in occupation and department, against humour in coping and DP in burnout.

3.1.Support/contrary of findings:

Previous research indicated that gender is not a strong predictor of burnout, which supports non-significant findings between gender and burnout in the present study. Although some studies may argue males have higher levels of DP in comparison to females. Males and females did differ in self-distraction as a coping mechanism in the present study. Gender

differences were not found for coping strategies by Volker et al., 2010. Maslach stated that women are more emotionally involved with others and therefore are more likely to become burned out in comparison to males (Acker, 2008), but this gender difference was not a finding in this study. Gender differences were found using a sample of psychiatrists in relation to stressors at work. Females found seeing relatives, ward consultations, commitment to hospital-based outpatient clinics, and longer working hours most stressful, whereas males found it stressful having to travel and follow up patients in the community (Benbow et al., 1999). Daily hassles and tasks such as these may be some of the main contributing factors of burnout and a lack of coping in healthcare workers, which supports findings in the present study. A UK based study found that younger psychiatrists were more stressed and burned out from work than their clients (Guthrie et al., 1999; Fothergill et al., 2004). This finding again supports healthcare professionals inability to cope with their own stressors, as they may be burned out and unaware of its effects on their health and work. Recent studies have found that women are more stressed than men (Jones et al., 2011) and that stress decreases as age increases (Cohen et al., 2012). No significance for stress was found in this study in relation to gender or age; however age and DP in relation to burnout did show statically significant differences. Recent research has concluded that age is consistently related to burnout in comparison to other demographic variables, and younger employees are seen to have higher levels of burnout (Maslach et al., 2001). This supports the present findings in that 18-25 age groups had higher levels of DP in comparison to older age groups (40-65 years). Results in the present study support the finding of an inverse relationship between length of time in occupation and DP; a negative correlation was found between length of time in an occupation and DP. In contrast, duration and experience, in workers dealing with drug addicts in one particular study, did not differ in relation to their levels of burnout (Volker et al., 2010). Another study on psychiatrists found that as age increased and the length of time spent

working on acute wards, stress levels increased (Benbow et al., 1997). This finding did not show significant results in the present study, however acute departments did show that as age increased so too did religious beliefs, a commonly used coping mechanism. A recent research study using a sample of healthcare professionals working with elderly patients and using religion to cope with work stressors, found that aspects of religious faith were positively related to increased stress and positive religious outcomes (Grant, 2006). Another study using healthcare workers found that they distracted themselves with other tasks in order not to face the problems from work. Other participants in this study chose prayer or worshipping as a coping mechanism (Sinem et al., 2012). In a large health region in Canada, both qualitative and quantitative methods were used to examine coping strategies of physicians that included humour, talking with co-workers and ignoring stress (Lemaire et al., 2010). From the present study a significant finding was that humour was used as a coping mechanism in older and in those with increased length of time in occupation and department. The use of humour was positively associated with self-distraction in another study (Craver, 1997, 1989; Kuiper et al., 1993; Saroglou et al., 2004). This may be related to the fact that older workers are in denial of their burnout and as a result they use self-distraction and humour in order to cope with daily tasks at work, which would support findings in the present study. One major factor, which decreases a healthcare workers ability to cope is a lack of advice and social support, especially from managers (Maslach et al., 2001). Melchoir, (1996) found significant results in support provided by nurse managers or quality care providers, and a reduction in symptoms of DP, in comparison to no intervention, including help or support (Melchoir et al., 1996; Marine et al., 2009). One common finding is the influence that different healthcare positions have on levels of burnout and coping. In one particular study DP was lower among psychologists in comparison to social workers and nurses. Emotion-focused coping lead to higher levels of DP, which may be the reason why there are differences between

professionals in terms of burnout (Ben-Zur et al., 2006). A recent study carried out by Hooper, (2010) looked at the differences between nurses working in emergency trauma centres and other specialities. Findings of this study revealed that nurses in general are at risk of stress; regardless of the department they are in. Findings also revealed that 80% of nurses had moderate to high levels of burnout (Hooper et al., 2010; Healy et al., 2011). In the present study doctors, in comparison to nurses and other healthcare professionals, had higher levels of DP. Negative aspects of burnout were associated with doctors and the type of department they worked in. Within an oncology unit, humour was associated as a coping mechanism by doctors (Dorz, et al., 2003). These findings are similar to the present ones. The particular role of female doctors has been found damaging with a ten year lower life expectancy when compared to the general public (Heim, 1991). In one particular study on burnout syndrome amongst critical care healthcare workers, females in particular appeared to be more burned out in a series of studies (Embriaco et al., 2007). There was no significance for department types in this study although various research studies on healthcare professions have found significant differences. Accident and emergency staff are continuously labelled the most stressed unit in healthcare settings (Embriaco et al., 2007; Healy et al., 2011). Therefore further analyses into the study of particular professions such as these, and the departments they work in could reveal greater results in the future.

3.2. Weaknesses

The present study was far too broad in terms of variation across demographic variables, which made it difficult to specify significant differences and/or relationships between the scale and demographic variables. However, some of the significant findings included some interesting hypothesis that could be used in the future. In most studies carried out on burnout, EE was the key aspect, however in the present study DP was. Coping strategies such as denial, religion, venting and humour, conclude interesting findings, as

causes such as personality factors could be researched in relation as to why these were the main coping strategies used in this sample. There was a higher percentage of females, in comparison to males, therefore females should have been chosen to represent the sample alone, or future studies could include an equal mix of both in order to get greater gender differences for research in healthcare workers. Other factors like the time of day were not taken into consideration, however as a hospital setting is busy and stressful at times, this may have influenced the participants focus when completing the questionnaires.

3.3.Strengths

Age is an important factor, and commonly used in predicting and assessing a variety of variables, and it was a significant factor in the present study in relation to DP, denial, humour and religion. The sample itself is very interesting, as it targets a population ranking as one of the highest in relation to burnout and a lack of coping mechanisms, which has produced numerous amounts of research in the last few years. As a result, new and more improved studies and interventions could be developed. In future research studies, stress burnout anxiety and coping mechanisms may be examined in pairs or alone, across a much larger sample of healthcare professionals. A younger and older age group could be compared on levels of burnout and coping strategies, or in a particular department deemed most stressed. A long term study, although time consuming and costly, could be an essential element in reducing stress, burnout and a lack of coping in healthcare workers. This was only a relatively small sample, in comparison to large-scale ones, therefore a huge amount of significance could result from a more structured and longitudinal study. Unfortunately as workers are increasingly becoming more affected by stressful situations in the workplace ,it is essential to carry on research in this area.

Data was found to be partially interpretable, as some data analyses found did fit with the hypothesis stated initially. Therefore if some adjustments were made in order for data to fit the whole hypothesis in future studies, results would more than likely be significant.

In conclusion, enormous amounts of research on stress, anxiety, burnout and a lack of coping in healthcare professionals has been produced, as they are ranking one of the highest stressed population of workers. Various workers have unrecognised symptoms, and their situation eventually worsens as a result of prolonged stress and burn-out. This study found significant differences in the DP dimension of burnout in relation to age, occupation, length of time in occupation and department in a sample of healthcare workers. Coping mechanisms used included denial, humour, venting and religion. Some of these coping mechanisms correlated with age and length of time in department. Others such as religion found a significant difference in relation to department type, particularly in acute areas including emergency, coronary and intensive care units. As a result of these findings, future research could research coping mechanisms and their causes in greater detail, in a larger sample of healthcare professions and levels of burnout, especially DP.

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Appendices

Appendix 1: Information sheet and copies of contact details for support services.

Dear Participant,

My name is Mairead Fallon; I am a final year psychology student at Dublin Business School and I am required to complete an independent research project during this year. I wish to investigate stress, anxiety, job-related 'burn out' and coping in healthcare professionals.

I would like to invite you to participate in my study by answering some short demographic questions first and complete the following four questionnaires. It will take no more than 15 minutes. All data will be anonymised and analyzed by the researcher and supervisor only. Data will be stored in a confidential manner. Participation is voluntary and you may withdraw from the study at any time, but once completed it may not be recovered due to anonymity.

As this subject is of a sensitive nature I enclose my personal details: [REDACTED] and please feel free to contact me if you have any questions regarding this study. If this study has raised any personal issues, professional help is available at:

Samaritans Ireland,
4-5 Usher's Court,
Usher's Quay,
Dublin 8.

Helpline: 1850 60 90 90.

Email: jo@samaritans.org

Website: <http://www.samaritans.org.uk/talk/branches/ireland.shtm>

Telephone: +353 1 6710071

Fax: +353 1 6710043

Aware
National Office,
72 Lower Leeson Street,
Dublin 2.

Helpline: 1890 303 302

Email: info@aware.ie

Website: <http://www.aware.ie/>

Telephone: 01 661 7211

Fax: 01 661 7217

I appreciate you taking part in this study and thank you for your time.

Yours Sincerely
Mairead Fallon.

Appendix 2: Copy of questionnaires.

Please read these carefully:

Indicate by a tick

1. **AGE:** 18-25 41-50

26-30 51-65

31-40

2. **GENDER:** Female

Male

3. **CURRENT OCCUPATION:** _____

4. **CURRENT DEPARTMENT:** _____

5. **DURATION OF EMLPOYMENT IN THIS OCCUPATION:**

6. **DURATION OF EMLPOYMENT IN THIS DEPARTMENT:**

Instructions

The questions in this scale ask you about your feelings and thoughts **during the last month**. In each case, you will be asked to indicate how you often felt or thought a certain way. For each question circle one of the following marked 0-4:

0 = never 1 = almost never 2 = sometimes 3 = fairly often 4 = very often

1	In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2	In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3	In the last month, how often have you felt nervous and stressed?	0	1	2	3	4
4	In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5	In the last month, how often have you felt that things were going your way?	0	1	2	3	4
6	In the last month, how often have you found that you could not cope with all the things you had to do?	0	1	2	3	4
7	In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
8	In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
9	In the last month, how often have you been angered because of things that happened that were outside of your control?	0	1	2	3	4
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

Read each statement and select the appropriate response by choosing 1-4 to indicate **how you feel right now**, that is, at this very moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

1 2 3 4
Not at all A little Somewhat Very much so

1. _____ I feel calm.
2. _____ I feel secure.
3. _____ I feel tense.
4. _____ I feel strained.
5. _____ I feel at ease.
6. _____ I feel upset.
7. _____ I am presently worrying over possible misfortunes.
8. _____ I feel satisfied.
9. _____ I feel frightened.
10. _____ I feel uncomfortable.
11. _____ I feel self-confident.
12. _____ I feel nervous.
13. _____ I feel jittery.
14. _____ I feel indecisive.
15. _____ I am relaxed.
16. _____ I feel content.
17. _____ I am worried.
18. _____ I feel confused.
19. _____ I feel steady.
20. _____ I feel pleasant.

How often:	0	1	2	3	4	5	6
	Never	A few times	Once a month	A few times	Once a	A few times	Every
		a year or less	or less	a month	week	a week	day

How often

0-6 Statements:

1. _____ I feel emotionally drained from my work.
2. _____ I feel used up at the end of the workday.
3. _____ I feel fatigued when I get up in the morning and have to face another day on the job.
4. _____ I can easily understand how my recipient feel about things.
5. _____ I feel I treat some recipients as if they were impersonal objects.
6. _____ Working with people all day is a strain for me.
7. _____ I deal very effectively with the problems of my recipients.
8. _____ I feel burned out from my work.
9. _____ I feel I am positively influencing other people's lives through my work.
10. _____ I have become more callous toward people since I took this job.
11. _____ I worry that this job is toughening me emotionally.
12. _____ I feel very energetic.
13. _____ I feel frustrated by my job.
14. _____ I feel I am working too hard on my job.
15. _____ I do not really care what happens to some recipients.
16. _____ Working with people directly puts too much stress on me.
17. _____ I can easily create a relaxed atmosphere with my recipients.
18. _____ I feel exhausted after working closely with my recipients.
19. _____ I have accomplished many worthwhile things in this job.
20. _____ I feel like I am at the end of my rope.
21. _____ In my work, I deal with emotional problems very calmly.
22. _____ I feel recipients blame me for some of their problems.

These items deal with ways you have been **COPING with the stress in your life**. These items ask what you have been doing in general to cope with stressful events. Think about what you usually do when you are under a lot of stress. Each item says something about a particular way of coping. I want to know to what extent you have/have *not* been doing what the item says, how much or how frequently.

Use these response choices labelled 1-4 to indicate this. Try to rate each item separately in your mind from the others. Make your answers as true **FOR YOU** as you can.

1	2	3	4
I have <i>not</i> been doing this at all	I have been doing this <i>a little</i> bit	I have been doing this <i>a medium</i> amount	I have been doing this <i>a lot</i>

1. _____ I have been turning to work or other activities to take my mind off things.
2. _____ I have been concentrating my efforts on doing something about the situation I'm in.
3. _____ I have been saying to myself "this isn't real".
4. _____ I have been using alcohol or other drugs to make myself feel better.
5. _____ I have been getting emotional support from others.
6. _____ I have been giving up trying to deal with it.
7. _____ I have been taking action to try to make the situation better.
8. _____ I have been refusing to believe that anything has happened.
9. _____ I have been saying things to let my unpleasant feelings escape.
10. _____ I have been getting help and advice from other people.
11. _____ I have been using alcohol or other drugs to help me get through it.
12. _____ I have been trying to see things in a different way, to make things seem more positive.
13. _____ I have been criticizing myself.
14. _____ I have been trying to come up with a strategy about what to do.
15. _____ I have been getting comfort and understanding from someone.
16. _____ I have been giving up the attempt to cope.
17. _____ I have been looking for something good in what is happening.
18. _____ I have been making jokes about it.
19. _____ I have been doing something to think about it less, such as going to the movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. _____ I have been accepting the reality of the fact that it has happened.
21. _____ I have been expressing my negative feelings.
22. _____ I have been trying to find comfort in my religion or spiritual beliefs.
23. _____ I have been trying to get advice or help from other people about what to do.
24. _____ I have been learning to live with it.
25. _____ I have been thinking hard about what steps to take.
26. _____ I have been blaming myself for things that happened.
27. _____ I have been praying or meditating.
28. _____ I have been making fun of the situation.

