

**Stress, burn-out and coping mechanisms
amongst Irish healthcare nurses. A questionnaire survey.**

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Submitted in partial fulfilment of the requirements of the Bachelor of Arts
Psychology degree at the National College of Ireland. , School of Business,
Dublin.

April 2016

BA (Hons) Psychology

Submitted to the National College of Ireland.

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Acknowledgements.

On behalf of my research degree, I would like to express my profound gratitude to my thesis supervisor for all her support, inspiring guidance, profound knowledge and assistance throughout the course of this undergraduate project .I also would like to thank the individuals who participated voluntarily in this study for giving up their time to take part. I would also like to thank the research hospital for granting me the permission to conduct my research. To all my course mates, I am grateful for your care, friendship and loyalty over the last three years. I am also very grateful to all psychology staff in NCI for their support and guidance. I must also thank my family for supporting me throughout my research degree at the National College of Ireland.

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Signature of research student: Emma Guven**Date:** 29th March 2016

Abstract:

Objective: Extensive research suggests that stress, burnout, job satisfaction and psychosocial health are all major problems faced by Irish healthcare nurses. This study investigated stress, burnout and levels of coping in a sample of Irish healthcare nurses.

Methodology: 60 participants (15 males and 45 females), completed standardised demographic questions and then a number of questionnaires; the Perceived Stress Scale (PSS), the Maslach Burnout Inventory (MBI) and the Brief Cope Questionnaire (BCI) at a major Dublin teaching hospital. The data was analysed using an independent samples t-test, one way Anova of variance and a Pearson correlation.

Results: Significant results were found between genders on the levels of perceived stress. No statistically significant results were found between age on the levels of stress, burnout and coping as well as the years in occupation on the levels of stress, burnout and coping mechanisms.

Discussion: Limitations of the research are the small sample size. Future research should use a larger sample, include an equal mix of both males and females in order to detect greater gender differences in healthcare professionals and implement the use of a longitudinal design to test for greater burnout levels.

1.1 Introduction:

Stressful factors can influence healthcare workers in many aspects of personal and organizational life. It's been found that different styles of personality, gender differences of an individual, age of the person, family history and emotional state can all influence a person's level of obtaining workplace stress. For example, in a previous study by Wichert (2002) he found that men and women who reacted differently to stress over the long term, that men showed an increased level of physical deterioration as a response to stressful situations, whereas women showed more psychological symptoms (Wichert, 2002).

Stress can be related to anything mental, behavioural and cognitive and early signs of stress include less productivity, higher irritability and poor physical and mental health. A previous study, conducted in 2001 by the Canadian Mental Health Association, assessed a majority of Canadians ($M=51%$), and it was found that work was a major source of stress in their lives (Canadian Mental Health Association, 2001). This supports research findings that stressful factors in the workplace can affect both personal and organizational lives of healthcare staff.

Burnout stress has been found to occur in most occupations, however stress has been associated with changes in cognitive, behavioural and emotional functions in nurses (Cox, Griffiths, & Rial-Gonzalez, 2000); sleep disturbances,

interferences with relationships at home , inability to focus , increased utilization of sick time , and burnout (McCloskey & Taggart ,2010).

Burnout doesn't only effect nurses but also other healthcare workers for example existing research studies have indicated that medical professionals are also exposed to high levels for obtaining occupational stress. It was found , that one –third of physicians experience burnout at certain points throughout their careers (Shanafelt , Sonja , Lithien , Dyrbye , Sotile & Daniel et al , 2012).

As well as that , a study examined by Shanafelt et al (2009) found that high levels of job burnout was correlated highly with medical errors among American surgeons , even when overnight shifts and working hours were controlled for (Shanafelt et al , 2009). Findings from international literature can support that burnout is estimated at 40% in professional nurses. These findings support that burnout has a major impact on healthcare nurses daily lives (Brand et al , 2010) and should be taken into consideration.

The economic recession has had a major impact in the Irish healthcare profession specifically on nurses reported levels of stress and burnout.

The Irish health service is actively managing sickness absence and supports their staff through employee support services that includes occupational health, human resources, staff care programmes and psychology services. The HSE have indicated a decreasing trend in employee absence over the last six years , for example in the month of June over the last six years , absence rates of

nurses have fallen from 5.76% in 2008 to 3.98% in 2014 (HSE 2014 , as cited in *the Irish Psychologist*, Psychological Society of Ireland publications).

Furthermore, staff care employment programmes which indicated that 334 calls were made to the staff care line between 1st January and 30th of September 2014 , 171 (50.7% of respondents); Respondents required support with a work issue and 163 of the respondents (48.3%) needed support with a personal issue (HSE 2014). Burnout and stress, are a subjective personal feelings, that result from the high intensity regarding demands of heavy workload in the internal and external environment. This was found in one study conducted by Sherring and Knight (2009) who found that healthcare is one of the reasons why nurses don't function at their optimum level (Sherring and Knight , 2009).

The World Health Organisation (WHO) and United Nations (UN) describe stress as an epidemic (Collins , 2006). Burnout stress at work results from pressure from heavy workload , poor management , complaints from patients and relatives , insufficient training , harassment , a low job satisfaction , perceived lack of control and poor involvement in decision making (Weinberg et al , 2002 , Acker 2003 , Gil-Monte & Peitro , 1997 ; Koeske & Koeske , 1993 ; Embriaco et al , 2007). It has been found, that baseline characteristics of burnout stress disorders are significantly associated with an increased risk to

develop health disorders such as major depression and anxiety (Witthcen et al , 2000).It's clear that nurses experience a higher likelihood of obtaining job burnout and stress which could impact on their job performance and satisfaction at work.

Previous research in the area of burnout has found that some nurses abuse drugs or alcohol or adopt unhealthy eating habits to deal with job burnout (Miliken, Clements & Tillman 2007).An EU-OSHA poll study carried out in 2012 in Ireland (through 546 telephone interviews of full-time, part-time and self-employed workers)found that the most reported issue was work-related stress and job insecurity for nurses (76%) , excessive workload and long hours (73%) and experiencing bullying or harassment at work (70%).It's also been found that roughly 4 in 10 workers in Ireland (42%) believe the cases of work related stress are common in the workplace (EU-OSHA ,2013)

Furthermore, a study conducted by Ewers et al (2002) , found that nurses can become cold and cynical as a result of burnout, displaying less levels of empathy (Ewers et al , 2002). It is somewhat paradoxical that those who look after our health are those who are most vulnerable to psychological disorders. In general , healthcare nurses are very important in society, and should be helped to cope with their levels of work related stress in the workplace. It's important, that awareness of the problem is addressed, so that change can be implemented which will enhance better psychological outcomes in the long run. As a result of stress in the

workplace as well as heavy workload, nurses have experienced violence. This was found in one qualitative study by Currid (2008) who found that eight qualified mental health nurses who worked at a hospital in London experienced violence as a result of busy and chaotic work environments that involved challenging demands (Currid, 2008).

Challenging demands in nurses has been found to be associated with burnout, especially with prolonged exhaustion from stressors (McVicar 2003). All of these findings demonstrate that better work environments that support nurses through autonomy and organisation, can also reduce the levels of burnout and stress over time. Better organisation that promotes clinical leadership has been found in one study by Hanrahan et al (2010) to promote positive effect. Throughout history there has been a growing amount of research on stress and burnout.

According to *Claude Bernard* (1860), a French physiologist of the mid-nineteenth century, he introduced the concept of the inner world, which he described as the body's ability to maintain a constant internal environment, known as "*milieu interieur*". Bernard described how the body reacts in response to the external environment by developing a state of equilibrium to any outside changes enabling independence (Bernard, 1865) Dynamic equilibrium, in the internal bodily environment is essential for survival. This is consistent with other theorists for example *Walter Cannon* (1932) a Harvard physiologist who

introduced the terminology of stress defining the work of dynamic equilibrium that Claude Bernard had described.

Through his experiments, he demonstrated the fight or flight response theory to stress. When we feel danger, the hormone norepinephrine (adrenaline) floods through every tissue in our bodies. Adrenaline exerts several important effects in different body organs, all of which, from Cannon's point of view, maintain homeostasis in fight-or-flight situations. Cannon's ideas demonstrated that the body tries to maintain inner consistency in order to maintain balance when confronted with stress known as homeostasis.

As well as Walter Cannon's work, this has influenced research by other theorists for example **Hans Selye** (1974), a Hungarian endocrinologist who elaborated more on Cannon's findings, by examining the stress response in which he described it as the "*mutual actions of forces that take place across any section of the body, physical or psychological*" (Selye, 1974). Selye's definition of stress has often been restated as '*the body's response to any actual or threatened disturbance of homeostasis.*') In his theories, Selye described how this gland controls the secretion of hormones such as cortisol that are important in the physiological response to stress.

In his research on rats, which he exposed to stressors, he observed that all physiological stressors remained the same. The rats developed many symptoms including enlargement of the adrenal cortex, atrophy of the thymus and lymph

nodes, and ulcers of the stomach and duodenum. From his research, he developed the “General Adaptation Syndrome (GAS)”. The theory consists of three elements. Firstly, the alarm stage where the body reacts to stress and activates its fight or flight response system, releasing hormones such as adrenaline, noradrenaline and cortisol. Secondly, the resistance stage, where the body tries to cope with the stress and thirdly, the exhaustive stage, where the body loses its ability to combat the stressors and reduce its harmful impact because the energy is all drained out. The GAS activated by the pituitary gland, in the brain also secretes hormones into the bloodstream to various body organs. The pituitary gland releases the hormone adrenocorticotropin (ACTH) which stimulates the adrenal glands to produce hormones into the bloodstream to aid homeostasis (Lazarus , 1999 , p4).

1.2 Burnout

Nursing is a profession that requires considerable time and energy in relationships with others seeking treatment and care, often in trying circumstances. Clinical symptoms of burnout include emotional exhaustion, tiredness, insomnia, headaches, increased absenteeism and eating disorders. The term “burnout”, was coined by German born American clinical psychologist Herbert Freudenberger(1974). In his work, he described the symptoms of exhaustion professionally and also conducted a comprehensive

study on burnout. According to two European epidemiological studies , burnout affects approximately 25% of all nurses (Landau , 1992 ; SaintArnaud et al , 1992).Among the socio-demographic factors of these findings, age is the most important factor most consistently related to the origins of burnout (Maslach et al ., 2001) .This may be for many reasons however retrospective findings by Acker (2008) , can support that the older working nurse has a decreased level for obtaining job burnout, in comparison to younger , less experienced nurses (Acker , 2008).

Older nurses may experience less job burnout , as they have better adaptability skills to their jobs , and implement coping strategies , then more younger nurses. This was found in one study conducted by Barron et al (2005) who found that younger nurses under the age of 30 experienced higher levels of job turnover than more older nurses (Barron & West , 2005 ; Bowles & Candela 2005 ; Kiyak et al , 1997). These findings suggest that age is a major predictor on obtaining job burnout.Accoring to Aiken et al (2001) , nurses under the age of 30 years' experience higher levels of burnout ($n=43.6\%$) than more experienced nurse over the age of 30 ($n=37.5\%$) (Aiken et al , 2001).

As well as that , Attencio et al (2003) indicated that a positive work environment could improve job satisfaction , retain nurses and decrease turnover. This may be the result of producing more healthier work environments that reduce the levels of burnout (Lynn & Redman , 2005).Its important that job organizations introduce

effective strategies and programs to help control and cope with job burnout in nurses which will increase job satisfaction in the long run.

1.3 Job Satisfaction.

Job satisfaction is best understood as a discrepancy between how much a person wants or expects from a job and how much the person actually receives (Price, 2001). Many factors have been found to affect nurses job satisfaction. These are the age of the nurse, the gender of the nurse, experience in the job, educational level and coping mechanisms. Better workplace structures can support healthier nurses, reduce the levels of burnout and increase job satisfaction (Wagner et al, 2010). A range of findings derived from quantitative and qualitative studies have reported in the literature on sources of job satisfaction among nurses. One study conducted by Aiken et al (2001) found that job dissatisfaction among nurses was highest in the United States (41%) followed by Scotland (38%), England (36%), Canada (33%) and Germany (17%). The nurses in Germany (61%) reported that they were more satisfied with the opportunities for advancement while the nurses in the United States (57%) and Canada (69%) felt more satisfied with their salaries. Nurse managers need to promote higher standards of job satisfaction among nurses as lower burnout will impact on job satisfaction (Lee & Cummings, 2008). A study implemented by Aronson (2004) in psychiatric hospitals examined the level of job satisfaction among nurses. It was found that

respondents reported low levels of satisfaction and high levels of burnout among mental health nurses resulted in low job satisfaction (Ogrresta , Rusac , & Zorec , 2008 ; Spear , Wood , Chawla Devis & Nelson , 2004).

In other studies, high workload was related to lower levels of job satisfaction (Kalisch et al., 2010). Numerous studies that assessed nurses job satisfaction investigate nurse-patient relationships, opportunities for promotion, autonomy and similar issues but very few have addressed the physical work of nurses. Nurses who work in non-teaching hospitals have a higher level of job satisfaction than nurses who work in teaching hospitals (Mrayyan ,2007).It's important that nurses are satisfied with their jobs , as this is also associated with better patient care satisfaction (Vahey et al , 2004). It's clear from all the previous research, that higher rates of burnout are related to job dissatisfaction.

1.4 Coping Mechanisms

Effective coping strategies have a positive impact on reducing burnout among nurses and increasing job satisfaction (Kash et al., 2006). It's been found, that mindfulness – based stress reduction (MBSR) has a potential intervention to improve nurses ability to effectively cope with work –related stress while also improving the quality of patient care. Coping refers to the perceptual, cognitive or behavioural response used to manage, avoid or control situations that could be regarded as difficult (Folkman & Lazarus, 1984). Eliminating work related stress is not a realistic goal for nurses. However, interventions that are aimed at helping nurses to cope effectively with stress are more realistic. Furthermore, exercise programs (Bruning & Frew, 1986; Raingruber & Robinson 2007), journaling (Alford, Malouff, & Osland 2005; Medland et al., 2004), and cognitive – behavioural skills development (Gardner, Rose, Mason, Tyler, & Cushway, 2005).

According to Folkman (2001), he defined two coping strategies For instance, some individuals use avoidant –passive coping styles while others might use active coping styles. Active coping styles are an attempt to come to terms with problems at work by cognitively analysing the situation by actions in order to overcome the problem. In comparison, passive coping styles include denial and withdrawal symptoms Problem-focused strategies include strategies for example defining the problem, generating and weighing alternative solutions, and following a plan of action, whereas emotion-focused strategies include processes

such as avoidance, denial, seeking emotional support, and positive appraisal (Folkman & Lazarus, 1984).

Coping strategies in nursing may be influenced by the length of time in the profession with regards to age, as well as the gender of the individual in relation to overcoming job burnout and stress. Furthermore, the more younger nurses experience higher levels of burnout than their older counterparts so stress is a predictable factor on age , gender and levels of experience. This needs to be investigated more. The more experienced nurses cope by implementing emotional labor (covering up emotions, pretending to feel emotions) which promotes more effective patient care so coping styles are also predictors of age , gender and length of time in the occupation.(Aiken et al , 2001) The younger nurses under the age of 30 who perform emotional labor experience higher levels of burnout., agitated emotions (frustration , anger).

1.5 The Present study:

In summary, there is a lot of background research in the area of stress , burnout, job satisfaction and psychosocial health among healthcare nurses, however previous work has focused primarily on demographic variables such as age, gender, job occupation, and marital status which are limited. Previous studies have investigated burnout extensively in different healthcare occupations, but only a few studies are published on nurses which do not make findings representative to all healthcare workers. The purpose of this study is to provide a more extensive review in relation to the relationship between age, gender, and duration of employment in nursing and to examine how each of these variables has any effect on the levels of perceived stress, burnout and coping in healthcare nurses both male and female using an independent samples t test, one way anova of variance and a Pearson's correlation.

Hypothesis 1:

- It is predicted there will be a difference between males and females on measures of stress, burnout and coping.

Hypothesis 2:

- It is predicted there will be a difference across age groups on measures of stress, burnout and coping.

Hypothesis 3:

- It is predicted that there will be a significant relationship across years in occupation as a nurse on the levels of stress, burnout and coping.

2.0 Methodology:

A sample of healthcare nurses in a large teaching hospital in the greater Dublin region were invited by letter to participate in the study. Participants were selected anonymously through a convenience sampling method which meant selecting people based on who volunteered for the study. Once approval was granted from the National College of Ireland ethics committee a letter requesting permission to enter the hospital to collect data was sent to the Director of Nursing and Occupational Health (see **appendix 1**). Once approval was granted by letter from the directorate nurse manager (see **appendix 2**), data was collected by going to the department and leaving the self-report questionnaires with the person in charge of distributing them to their nursing staff. Once acknowledgment was made that the questionnaires had been filled the completed questionnaires were collected two weeks later.

2.1 Participants:

The sample consisted of 60 participants, females $n=45 = 75\%$ and males $n=15 = 25\%$ who responded to the questionnaires. The respondents ranged between the age brackets of 18-65. The most frequent age range within the sample of females was the bracket of 31-40 year olds (13 participants) accounting for (30%) of the overall sample range. The most frequent age range within the sample of males was the bracket of 26-30 year olds (6 participants). The longest length of time working in the occupation within the sample was the bracket of 11-20 years for

males accounting for (10 participants) of the overall sample. The longest length of time working in the occupation within the sample was the bracket of 0-10 years for females. A total of 60 questionnaires were completed. Participants contributed on the basis of the letter of information informing them about the nature of the study (see **appendix 3**), one included earning course credits for the final year project. The research might have been affected by the duration of employment in the job. Age and gender might also have affected the outcomes of the study. The study consisted of more females (n=45) than males (n=15). Therefore these variables needed to be controlled for in the study.

2.2 Design:

The research project utilized a correlational design which was quantitative in nature. A control group was not included but there was use of a pilot study. The study was questionnaire based and was all completed by paper and pencil. The data, as a result of being collected through questionnaires was then transferred to SPSS. Using SPSS once all the data was inputted, a series of statistical analysis was performed on the data. The design consisted of collecting information on four demographic variables gender which was split up into male versus female. The second demographic variable was age, which was divided up into five groups. The first group 18-25 year olds, the second group 26-30 year olds, the third group 31-40 year olds, the fourth group 41-50 year olds and the fifth group 51-65 year olds. The third demographic variable was marital status which was divided up

into single, married and widowed. The fourth demographic variable was the length of time in occupation as a nurse which was divided into 0-10 years, 11-20 years, 21-30 years and more than 30 years. The predictor variables included age, gender and length of time in the occupation. The criterion variables included the scores from questionnaires and subscales including the Perceived Stress Scale (PSS) ,Maslach Burnout Inventory (MBI) totals on EE,DP and PA and the Brief Cope Questionnaire (BCQ) measuring active coping , use of emotional support , substance use ,denial , behavioural disengagement , humour , acceptance , religion and self-blame.

2.3 Materials

The following three major questionnaires were used: the PSS, MBI-HSS and the BCI.A short demographic questionnaire requested the participant's age, gender, marital status and duration of employment in healthcare. (**see appendix**).

PSS –The PPS-14 scale created by Sheldon Cohen and colleagues and measures the psychological elements of ones perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. The items are designed to assess how unpredictable, uncontrollable, and overloaded respondents find their lives to be. The PSS scale is used in a variety of healthcare settings in relations to one's level of work stress. The PPS 10 is a better measure for predicting psychological symptoms, physical symptoms and utilization within

health services (Cohen & Williamson, 1988). The questions ask respondents how they felt in the last month, for example to a feeling such as “In the last month, have you felt that things were going your way” or “In the last month have you felt stressed or nervous”. The questionnaire consists of ten questions assessed across a five point Likert scale. The responses can range from 0=never, 1=almost never, 2=sometimes, 3=fairly often, 4=very often. Participants are aware that the scale asks about their personal feelings and thoughts over the last month. Respondents mention how often they have felt or thought this way by indicating across the five point Likert scale. The minimum score for the scale is 0 and the maximum score is 40. The higher the score the more likely one is to experience a higher level of perceived stress. The PSS-10 has demonstrated good reliability and validity with Cronbach’s alphas ranging from 0.78, to 0.91 and test retest reliability coefficients ranging from 0.55 to 0.85. The PSS scale has been translated into 25 different languages worldwide and indicates good psychometric properties in measuring the perceptions of one’s stress.

MBI-The Maslach burnout inventory, consist of 22 item questionnaire which is scored from three subscales EE, DP and PA (Maslach et al, 2008). Maslach et al. (1996) reported internal consistency estimates of reliability: 0.90, 0.79, and 0.71, for the EE, DP, and PA subscales. EE has been categorized as feelings of being overextended and depleted of one’s emotional physical resources. For example, “I feel emotionally drained from my work”. EE is one of the most

thoroughly analysed dimensions by some researchers as the critical component of burnout (Maslach , Schaufeli & Leiter ,2001).A minimum score of 17 or less for EE would describe low levels of burnout. A score between 18 and 29 would describe moderate burnout and a maximum score of over 30 would describe a high level of burnout.DP consists of five items that refer to cold and impersonal feelings towards patients, for example “working with people directly puts too much stress on me”. The higher the mean score for emotional exhaustion and depersonalization scales, the greater the level of burnout. A score greater than 10 on DP is high for healthcare professionals. A minimum score of 5 or less describes low level of burnout , a score between 6 and 11 moderate burnout and a maximum score greater than 12 describes a high level of burnout. The PA scale has eight items which consist of feelings of success from work. The lower the scores on personal achievement, the greater the level of job burnout (Maslach et al ., 2008).The PA includes , the accomplishment from one’s own work for example “I feel I am positively influencing other people’s lives through my work”.PA scores are usually lower than EE and DP scores. A minimum score lower than 33 on PA subscale, the greater the level of job burnout (Maslach et al , 2008).A score between 34 and 39 moderate burnout. A maximum score over 40 on the PA subscale describes a low level of burnout. Test re-test reliability coefficients or 90 for emotional exhaustion, 79 for depersonalization and 71 for personal accomplishment. Each respondent , indicates their answer on a seven point likert scale ranging from 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.

BCI-Is a self-report questionnaire, developed by Carver (1997) to assess a number of different coping behaviours and thoughts a person may have in response to a specific situation. The questionnaire consists of 28 coping behaviours and thoughts (2 items for each subscale) with fourteen theoretical coping responses: self-distraction ($\alpha=.71$) , active coping ($\alpha=.68$), denial($\alpha=.54$) , substance use ($\alpha=.90$), use of emotional support($\alpha=.71$) , use of instrumental support ($\alpha=.64$), behavioural disengagement ($\alpha=.65$), venting ($\alpha=.50$), positive reframing ($\alpha=.64$), planning($\alpha=.73$) , humour ($\alpha=.82$) , acceptance ($\alpha=.59$), religion ($\alpha=.82$) and self-blame.($\alpha=.69$). Questions such as “I have been getting help and advice from other people” and “I have been using alcohol or drugs to help me get through it” are measured. These are measured across a four point likert scale 1=I haven’t been doing this at all , 2=I’ve been doing this a little bit , 3=I have been doing this a medium amount and 4=I’ve been doing this a lot. This measure can be applied to occupational stress in healthcare. The brief cope scale has a Cronbach’s alpha found to be .82. The higher the score the greater level of coping strategies used by respondents and the lower the score the less level of coping used by respondents.

2.4 Procedure

The ethical approval of the research investigation was granted by the Ethics Board of the National College of Ireland. A meeting was set up with the directorate nurse manager asking for permission to conduct a study in her department at the hospital. During the meeting, it was verbally explained to her what the study was about and that it would be of great benefit to the research degree and to research in general if they would grant permission to conduct the investigation. It was also explained to the department director that a member of family works in the hospital department so would assist greatly with obtaining the information for the research project.

The research study was granted by the department director on approval that ethical considerations such as the participant's names and hospitals identity would be kept anonymous throughout the research study and that all participants completing the study would be over the age of consent and would have the choice to participate or withdraw from the study. The nurse director informed the staff in the department if they would be interested in filling out the questionnaires. An information letter regarding the outline of the study, procedure under investigation, contact numbers for professional support groups in the fear of personal issues and information with regards to the publication of the research data will be provided so that each participant would know what the study was for, and also a letter of invitation informing the participants about who the researcher was and that the study was for a final year research degree in Psychology. The

information letter also included the researchers contact details. Participants were informed that participation was optional and that they could withdraw from the study at any stage in the fear of distress or anxiety due to the sensitive nature of the questions being asked. Participants were also assured that all data would be kept anonymous and stored in a confidential manner by the use of ID password, and only the researcher and supervisor would have permission to access the information. The participants were informed that the questionnaires wouldn't take more than 10-15 minutes to complete and would be collected by the researcher at the hospital after two weeks. It took three weeks to collect the 60 completed questionnaires. Once a sufficient number of respondents had completed the study, the data could be transferred to SPSS for statistical analysis to be ran.

Pilot Study

A pilot study was performed on a total of four participants to give a clear estimate on how long it would take to complete the questionnaire and general overall feedback about the difficulty was given. The time taken for participants to fill out the questionnaires along with the short demographic sheet took approximately 10 minutes. The participants in the study had given oral feedback that the questionnaire was easy to understand and not too invasive with regards to personal issues. A few minor changes had been made for presentation purposes to make it more organised and comprehensive

2.5 Results

Descriptive Statistics

From November to January 2016, sixty healthcare questionnaires were completed. Information from each demographic variable was collected and scores were distinguished. The minimum age was 18 and the maximum age was 65. A total of n=45 females and males n=15 were put into groups. Total scores from the questionnaires were calculated and were tested for age, gender and length of time in the occupation.

Results

Table 1: Frequencies for the current sample of Irish healthcare nurses on each demographic variable (N = 60)

Variable	Frequency	Percentage
<i>Gender:</i>		
Male	15	25.0
Female	45	75.0
<i>Age:</i>		
18-25	15	25.0

26-30	11	18.3
31-40	18	30.0
41-50	8	13.3
51-65	8	13.3

Marital Status:

Single	28	46.7
Married	30	50.0
Widowed	2	3.3

Length of time in Occupation:

0-10	28	46.7
11-20	21	35.0
21-30	9	15.0
30 + year	2	3.3

For the Perceived Stress Scale a number of items had to be reverse coded as they were positively worded and total scores were got for the Maslach Burnout Inventory Scale and the Brief Cope Questionnaire.

Table 2 (*table for displaying descriptive statistics for continuous variables*)

<i>Total PSS</i>	
<i>Mean</i>	<i>18.7</i>
<i>Standard Deviation</i>	<i>3.74</i>
<i>Range</i>	<i>22</i>
<i>Possible Range</i>	<i>10-32</i>

Table 3 (*table for displaying descriptive statistics for continuous variables*)

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<i>Total MBI</i>	
<i>Mean</i>	60.5
<i>Standard Deviation</i>	16.0
<i>Range</i>	79
<i>Possible Range</i>	22-101

Table 4 (table for displaying descriptive statistics for continuous variables)

<i>Total BCI</i>	
<i>Mean</i>	54.1
<i>Standard Deviation</i>	11.5
<i>Range</i>	55
<i>Possible Range</i>	28-83

Inferential Statistics

A test for differences between males and females on the levels of stress, burnout and coping mechanisms total scores.

An independent samples t test was conducted to compare gender differences in the levels of stress, burnout and coping mechanisms. (**Hypothesis 1**). The particular analysis was used to determine whether there was a significant difference between one another. The results reported that there was a mean score of 20.4 for males on perceived stress and a mean score of 18.1 for females on perceived stress. The results report a mean score of 61.1 for males on burnout and a mean score of 60.4 for females on burnout. The results reported a mean score of 58.9 for males on coping mechanisms and a mean score of 52.5 for females on coping mechanisms. T-test indicated there was a statistically significant difference in the scores for perceived stress on gender (mean=20.4 , SD= 5.38) conditions ($t(58)= 2.08, p=0.04$). T test indicated there was no statistically significant difference in the scores for burnout on gender (mean =61.1, SD=13.2) conditions ($t(58) = p 0.16= 0.87$). T test indicated there was no statistically significant difference in the scores for coping mechanisms on gender (mean=58.9 , SD= 9.28) conditions ($t(58) = 1.91 p=0.06$). Therefore , the findings fail to fully support the hypothesis.

A test for differences across age groups on the levels of stress, burnout and coping mechanisms.

A one-way Anova was conducted to compare differences on the levels of age on stress, burnout and coping mechanisms (**Hypothesis 2**). The particular analysis was used to determine whether there was a significant difference between one another. The mean score for the 18-25 year olds condition was (mean=18.0, SD=1.7) on the levels of perceived stress. The mean score for 26-30 year olds condition was (mean=19.4, SD=2.5) on the levels of perceived stress. The results reported a mean score for the 31-40 year old condition was (mean=18.5, SD=4.5) on the levels of perceived stress. The results report a mean score for the 41-50 year old condition was (mean=17.5, SD=5.7) on the levels of perceived stress. The results reported a mean score for the 51-60 year old condition was (mean=20.3 , SD=3.7) on the levels of perceived stress. The Anova test indicated that there was no statistically significant difference between age groups on the levels of perceived stress even though the older nurses had higher mean scores in comparison to the younger age categories $F(4,55) = 0.82, p < .51$. Thus, the null hypothesis can be accepted. (**Table 5**)

Source	Sum of Squares	df	MS	F	Sig
Between	46.6	4	11.6	0.82	0.51
Within	781.9	55	14.2		

Total	828.6	59
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The results reported a mean score for the 18-25 year old condition was (mean=54.4, SD=16.4) on the levels of burnout. The results reported a mean score for the 26-30 year old condition was (mean=61.2 , SD=12.4) on the levels of burnout. The results reported a mean score for the 31-40 year old condition was (mean=64.5 , SD=19.1) on the levels of burnout. The results reported a mean score for the 41-50 year old condition was (mean=66.8, SD=14.8) on the levels of burnout. The results reported a mean score for the 51-65 year old condition was (mean=55.7, SD=9.63) on the levels of burnout. The results indicated there was no statistically significant difference between age groups on the levels of burnout $F(4,55)=1.34$, $p < .26$. Thus , the null hypothesis can be accepted. (**Table 6**)

Source	Sum of Squares	df	MS	F	Sig
Between	1346.0	4	336.5	1.34	0.26
Within	13798.7	55	250.8		

Total	15144.8	59
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The results reported a mean score for the 18-25 year old condition was (mean=51.0, SD=8.0) on the levels of coping. The results report a mean score for the 26-30 year olds condition was (mean=53.6, SD=7.9) on the levels of coping. The results report a mean score for the 31-40 year old condition was (mean=55.8, SD=15.1) on the levels of coping. The results report a mean score for the 41-50 year old condition was (mean=60.3, SD=5.3) on the levels of coping. The results report a mean score for the 51-65 year old condition was (mean=50.2, SD=15.0) on the levels of coping. The results indicated there was no statistically significant difference between age groups on the levels of coping mechanisms $F(4, 55)=1.20$, $p < .32$. Thus the null hypothesis can be accepted. (**Table 7**)

Source	Sum of Squares	df	MS	F	Sig
Between	628.0	4	157.0	1.20	0.32
Within	7223.3	55	131.3		
Total	7851.4	59			

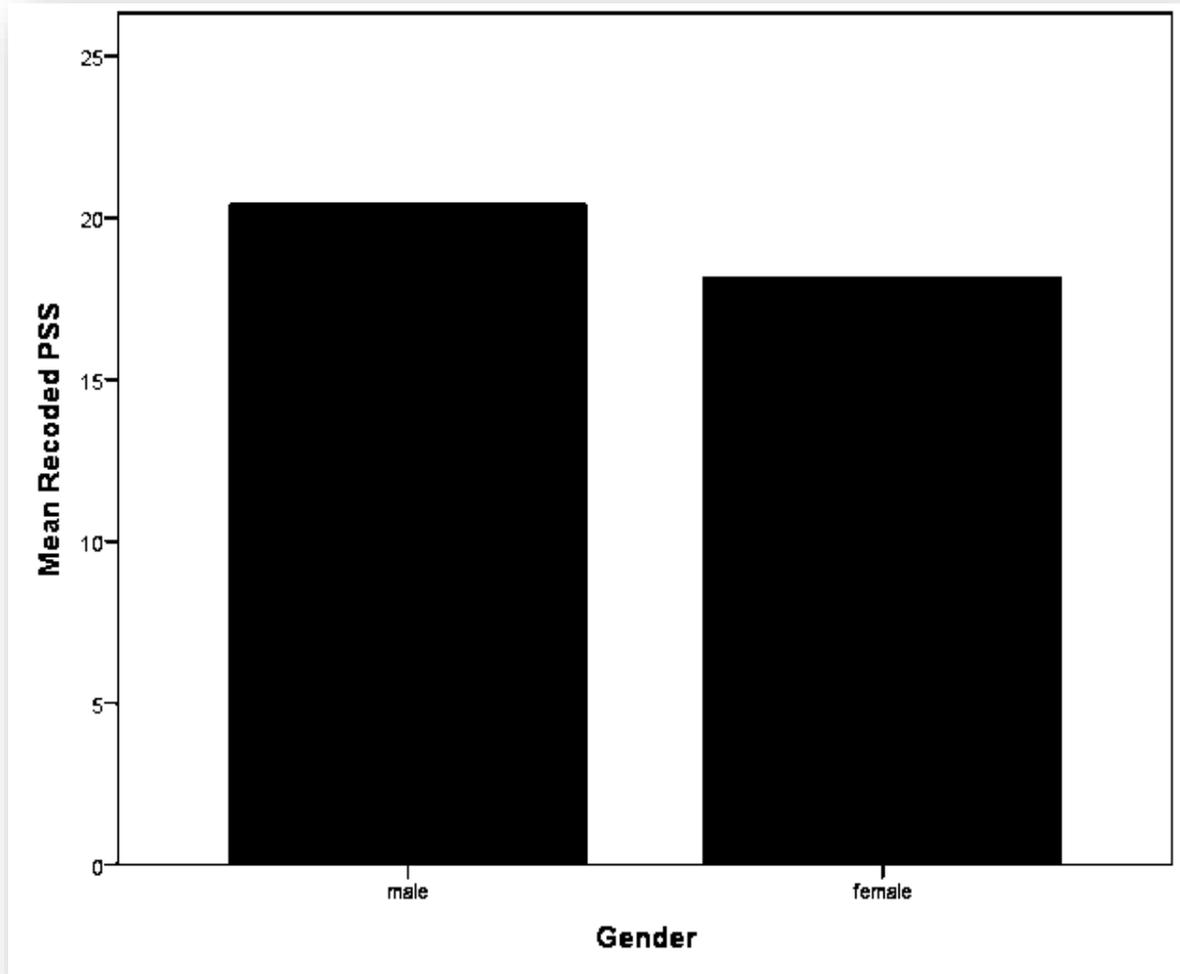
Test for a relationship between the years in occupation on the levels of stress, burnout and coping mechanisms. (Hypothesis 3).

A Pearson's product moment correlation coefficient was conducted to compare whether or not there was a relationship between the years in occupation on the levels of stress, burnout and coping mechanisms. There wasn't a statistically significant difference between duration of years in occupation on the levels of perceived stress $r(60) = 0.04, p = 0.79$. It was also found there was a weak relationship between variables. There wasn't a statistically significant difference between duration of years in occupation on burnout $r(60) = 0.10, p = 0.46$ even though there was a strong relationship between the variables. There wasn't a significant difference between duration of years in occupation on the levels of coping $r(60) = 0.13, p = 0.34$ as well as that a weak relationship was found between variables. Thus, the null hypothesis can be accepted.

Variable	Years(Occ)	Stress	Burnout	Coping
Years (Occ)	-----	0.04	0.10	0.13
Stress	0.04	-----	-0.34**	-0.21
Burnout	0.10	-0.34**	-----	0.62**
Coping	0.13	-0.21	0.62**	-----

Note: Statistical Significance: *p <.05, **p < .01

A bar chart representing the difference between males and females on perceived stress.



Discussion

The aim of this study was to discover if any differences and if any relationship existed between the demographic variables gender, age and duration in occupation in relation to stress, burnout and coping mechanisms in Irish healthcare nurses. A statistically significant difference was found between

genders on the levels of perceived stress with males having a slightly higher mean difference compared to females thus findings fail to fully support the research hypothesis one. This goes against previous research which indicates that gender is not a significant predictor of perceived stress. Using an ANOVA, no statistically significant differences were found between ages on the levels of perceived stress, burnout and coping even though older nurses reported higher mean scores in comparison to younger nurses.

The study demonstrated a non-significant and weak relationship between the years in occupation on the levels of stress, burnout and coping mechanisms. These findings fail to support fully that there will be a significant difference between gender and perceived stress as there was a difference found between males and females on the levels of perceived stress. . These findings did not support the hypothesis that there will be differences in relation to age on the levels of stress, burnout and coping as well as years in the occupation on the levels of stress, burnout and coping mechanisms.

Future Research

Future research into stress, burnout and coping mechanisms on Irish healthcare nurses should be carried out on larger sample sizes. There were a higher percentage of females compared to males, so the study should have used only females to represent the sample, or included an equal mix of both male and female

participants. This would provide researchers with greater information on gender differences in healthcare nurses. Furthermore, other factors might have impacted the limitations of the study, like the time of the day was not taken into consideration. A hospital setting can be busy and stressful, this may have influenced the participants focus when completing the questionnaires. Another limitation was the use of cross sectional data to investigate the links between stress, burnout and coping mechanisms.

A limitation of cross-sectional research is that no causal inference can be made between variables. Testing the causal factors of burnout requires longitudinal research designs. In addition, for providing better evidence for causal relationships, longitudinal studies would yield valuable information about the development and successive stages of stress, burnout and coping. Although time consuming and costly, such studies are critical to our understanding of burnout, stress and coping mechanisms. A huge amount of significance could result from a more structured and longitudinal research design. As the data was obtained by self-report, this may have reflected bias in reporting. Participants may have underestimated or overestimated their level of stress, burnout and coping mechanisms. Future research, should address the lack of healthcare studies investigating the levels of burnout.

On an empirical front, more research into burnout rates is needed. Researchers need to replicate this study to confirm burnout rates of nurses working in the

public hospital system. This will also address concerns of the present samples representativeness which arose from an undesirable response rate. To decrease burnout among nurses, administrators should increase continuing education programs for nurses, especially those programs that deal with stress management, coping and accomplishments. The sample in the study was interesting, as previous research literature has provided a vast amount of research in the last few years on this population of healthcare workers. Future research studies, could investigate on a younger or older sample population of nurses comparing the levels of burnout and coping mechanisms in various hospital departments as this study only investigated one department area.

Research studies have found that women are more stressed than men (Jones et al , 2011) , There was a difference found for stress in the study in relation to males and females with males having a higher mean score in comparison to females .Furthermore, there was no statistically significant difference detected for stress , burnout and coping mechanisms in relation to age. Further analysis into the study of healthcare nurses could reveal greater results in the future, so it would be worthwhile to investigate the effects of stress, job burnout and coping mechanisms in other healthcare workers such as doctors , psychologists and social workers who are all prone to experiencing high levels of stress and burnout on a daily basis.

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Appendices

Appendix 1: Letter of Approval to the hospital.

Dear Sir/Madam.

As part of my final year degree in Psychology at the National College of Ireland, I am undertaking a research study that requires me to gain access to a healthcare sample of nurses. My study aims to investigate stress, burnout and coping in nurses. I would really appreciate if your hospital could grant me permission to conduct my research study.

I need access to 60 healthcare nurses between the age range of 18 to 65. My study has been granted approval by the ethical review board at the National College of Ireland. My research study will keep names of participants and the hospitals identity anonymous. My study won't take longer than 10 minutes and shall be completed by answering some short demographic questions along with three questionnaires that asks questions with regards to nurse's levels of perceived stress, burnout and ways of coping.

Participants will be made aware that participation is voluntary and they can withdraw from the study at any stage if they feel it is necessary. My contact number is 0862715151 so feel free to contact me and my email address is emmaguvan@gmail.com.

Yours thankfully,

Emma Guven.

Appendix 2: Permission letter from the hospital.

11th November 2015.

I give permission to Emma Guven to access the nursing staff in Neurosurgery to partake in research on “Stress, Burnout and Coping”, as part of her thesis for her Psychology degree. It has been assured that confidentiality and anonymity would be maintained in the process.

Yours Sincerely

Denise Fahy.

Appendix 3: Information sheet and contact details for support services.

National College of Ireland.

Background to the study:

You are invited to take part in a research study which aims to investigate stress, burnout and coping mechanisms in healthcare nurses. I am undertaking this research as part of my final year project for a BA degree in Psychology, at the National College of Ireland (NCI), Dublin. This study has been approved by the ethics review committee in NCI. I am looking for participants over the age of 18 and who work in nursing to complete my study. You will be asked to answer some short demographic questions, followed by three questionnaires.

It will take no longer than 10-15 minutes. All the data will be anonymous and analysed in a safe manner by the researchers in charge as well as the supervisor. All the data will be stored in a confidential manner. Participation is voluntary and you may withdraw from the study at any time, if you feel it's necessary. As the subject is of a sensitive nature, I have provided you with my email emmaguyen@ncirl.ie so feel free to contact me if you have any questions concerning the study. If this study has affected you in anyway or raises any personal issues, professional help is available at:

Samaritans Ireland,

4-5 Usher's Court,

Ushers Quay,

Dublin 8.

Helpline: 18 50 60 90 90.

Telephone : 01 671 0071

Email: jo@samaritans.org

Aware,

National Office,

72 Lower Leeson Street,

Dublin 2.

Helpline: 1890 303 302

Telephone: 01 661 7211

Email: info@aware.ie

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

Yours Sincerely,

Emma Guven.

Appendix 4: Demographic questions.

Please read these carefully:

Indicate by a tick:

1: **AGE:** 18-25 _____
 26-30 _____
 31-40 _____
 41-50 _____
 51-65 _____

2: **GENDER:** Female _____
 Male _____

3: **MARITAL STATUS:** Single _____
 Married _____
 Widowed _____

4: **DURATION OF EMPLOYMENT IN THIS OCCUPATION:** 0-10 year's _____
 11-20 years _____
 21-30years _____
 30+year's _____

Appendix 5: Perceived Stress Scale.

The questions in this scale ask you about your feelings and thoughts during the last month. You will be asked to indicate how you felt or thought. For each question circle one of the following marked 0-4.

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

In the past month, how often have you been upset because of something that happened unexpectedly?

0 1 2 3 4

In the past month, how often have you felt unable to control the important things in your life?

0 1 2 3 4

In the past month, how often have you felt nervous or stressed?

0 1 2 3 4

In the past month, how often have you felt confident about your ability to handle personal problems?

0 1 2 3 4

In the past month, how often have you felt that things were going your way?

0 1 2 3 4

In the past month, how often have you found that you could not cope with all the things you had to do?

0 1 2 3 4

In the past month, how often have you been able to control irritations in your life?

0 1 2 3 4

In the past month, how often have you felt that you were on top of things?

0 1 2 3 4

In the past month, how often have you been angry because of things that happened that were outside of your control?

0 1 2 3 4

In the past month, how often have you felt that difficulties were piling up so high that you could not overcome them?

0 1 2 3 4

Appendix 6: Maslach Burnout Inventory.

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**

- 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 peoples lives through my work.
- 10 _____ I have become more callous towards 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 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.

Appendix 7: Brief Cope Inventory.

These items deal with ways you have been **COPING** with the stress in your life. These items will ask you what you have been doing to cope with stressful situations. Think about what you do when you are under a lot of stress. Each items explains a different way of coping.

These responses are labelled 1-4 .Try to rate each item as true for you as you can.

1	2	3	4
I have not been doing this at all.	I have been doing this a little bit.	I have been doing this a medium amount.	I have been doing this a lot.

- 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 my situation Im 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 understand 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.