Exploring the influence of Irish post primary teachers’ profession on their perceived stress

Brian Devitt

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Supervisors
Dr Raymond Lynch
Dr Niall Seery

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Abstract

Research has consistently indicated that teaching is a stressful occupation with large numbers of teachers experiencing burnout (Hakanen et al. 2006). High stress is associated with poorer physical and psychological health for teachers (ibid). Higher stress levels are also associated with poorer work motivation and performance outcomes regarding teachers (Shernoff et al. 2011). Links have been made between teacher stress and teacher attrition in Ireland and internationally (Buckley et al. 2017). The levels of burnout and rates of attrition seen in newly qualified teachers in different countries has seen researchers suggest that we should be concerned about their mental health (Chaplain 2008, Chapman 2013). Researchers in Ireland have suggested that teacher stress can have personal and economic implications (Darmody and Smyth 2011). There is a scarcity of larger empirical research projects in this area relating to post primary teacher stress in the Irish context (Darmody and Smyth 2011, Buckley et al. 2017). Consequently the aim of the research was to explore the influence of Irish post primary teachers’ profession on their perceived stress.

Teacher stress was explored in the context of the Job-Demands Resources Theory of Stress (J-DR) (Bakker and Demerouti 2016). The JD-R is a work stress theory (ibid). The theory is regarded as being a universally flexible model in terms of occupation and culture (ibid). The J-DR is underpinned by transactional views of stress which argue that stress is a psychologically mediated/appraised response a person has to stressors in their environment (Bakker and Demerouti 2007). The authors of the J-DR suggest that stressors known as job demands and stress buffering/work engagement factors known as job resources interact and mediate how much stress an individual experiences as a result of their work environment (Bakker and Demerouti 2016). A mixed method exploratory sequential design consisting of two distinct phases was developed to identify job demands and job resources which may influence teacher stress in Ireland.

The first qualitative phase of the project involved a grounded theoretical analysis of data from 8 focus groups, comprising of 43 teachers who discussed job demands and job resources which they perceived may influence their stress. 31 variables emerged from the analysis; these were grouped within a 5 factor higher order structure including: professional efficacy, facilitating learning, department policy, management culture and social environment. The second quantitative phase of the project involved the quantitative analysis of 356 surveys from teachers in 37 schools, the surveys contained the Perceived Stress Scale, a global measure of perceived stress levels (Cohen et al. 1983), the survey also contained interval based questions relating to the job demands and job resources identified in the first phase of the research. A number of school and teacher demographic variables were also captured.

7 higher order factors emerged from the survey following a principle components analysis; a follow up regression analysis indicated that only 4 of the factors combined significantly to predict 28.5% of variance in participating teachers perceived stress scores. The factors were professional efficacy, supportive environment, expectations and department policy. Small but significant effects were also found in terms of 3 school demographic variables: governing body of school, student population and student sex. The data indicated that increased average stress scores were present for
those in voluntary secondary schools, girl’s secondary schools, finally those in schools with less than 400 students or greater than 800 students.

This thesis additionally argues that when the results are considered within the context of the Irish educational system; a system underscored by high stakes standardised testing (Banks and Smyth 2015), rising accountability and the resulting artificially narrowed curriculum (Conway and Murphy 2013), a richer more critical understanding of the findings is uncovered. It is argued that tensions at the heart and soul of the Irish educational system have an omnipresent role in perpetuating the job demands and mitigating the job resources uncovered. The tensions are caused by the “backwash effect”, a result of high stakes matriculation assessment becoming the tail that wags the curriculum dog (Hargreaves 1989, Klein 2016).
Declaration

I hereby certify that this material, which I now submit for assessment on the programme of study for the award of Doctor of Philosophy, is entirely my own work and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my own work.

Signed ________________________  Date________________________
Acknowledgements

The research project would not have been possible without the schools, principals and teachers who so generously gave up their time to engage in the focus groups and surveys, sharing their thoughts on teacher stress and it’s antecedents in the school environment.

I wish to acknowledge the financial support of the Faculty of Education and Health Science for selecting me for the UL40 scholarship which allowed me to enrol on the EHS structured PhD programme and begin learning: the attitudes, skills and knowledge of a professional researcher.

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To my parents, Catherine and Jim, I will always be in your debt for all the support and help you have given me over the years. I was very lucky to have one parent a teacher who placed a strong emphasis on the value of education and another a farmer who placed a strong emphasis on the value of hard work and perseverance….a good combination.

Finally I would like to dedicate this thesis to my wife Naomi and one year old son Tony. Thank you Naomi for all your encouragement and “pick me ups”, they were needed on too many occasions. To the new baby boy or girl currently on the way, thanks for giving me the final motivation to get finished!
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List of abbreviations

ASTI  Association of Irish Secondary School Teachers
ACCS  Association of Community and Comprehensive Schools (Ireland)
ANOVA  Analysis of Variance
CARD  Classroom Appraisal of Demands and Resources Survey
COR  The Conservation of Resources Theory of Stress
CID  Contract of indefinite duration
CIB  Citizens Information Board (Ireland)
CSE  Core Self-Evaluations
DEIS  Delivering Equality of Opportunity in Schools
DSI  Daily Stress Inventory
ERSI  Economic and Social Research Institute
ERI  The Effort Reward Imbalance Theory
ETBI  Education Training Board Ireland
GAS  General Adaption Syndrome
INTO  Irish National Teachers Organisation
JD-R  The Job demands Resources Theory
JMB  Joint Managerial Board of Schools (Ireland)
M  Mean
MM-GT  Mixed Methods Grounded Theory
MBI  Maslach Burnout Inventory
MBI-ES  Maslach Burnout Inventory for use in educational settings
MBI-GS  Maslach Burnout Inventory for use in general settings
NVIVO  Qualitative Data Analysis Software
OSI  Occupational Stress Indicator scales
OLBI  Oldenburg Burnout inventory
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>PAS</td>
<td>Performance Adaption Syndrome</td>
</tr>
<tr>
<td>PCA</td>
<td>Principle Components Analysis</td>
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<tr>
<td>PSI</td>
<td>Pressure Management Indicator scales</td>
</tr>
<tr>
<td>PSS</td>
<td>Perceived Stress Scales</td>
</tr>
<tr>
<td>PSQ</td>
<td>Perceived Stress Questionnaire</td>
</tr>
<tr>
<td>SCV</td>
<td>Statistical Conclusion Validity</td>
</tr>
<tr>
<td>SRRS</td>
<td>Social readjustment rating scale</td>
</tr>
<tr>
<td>SASS</td>
<td>US Schools and Staffing Survey</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Science</td>
</tr>
<tr>
<td>SD</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>TFS</td>
<td>Teacher Follow-up Survey United States</td>
</tr>
<tr>
<td>TUI</td>
<td>Post Primary Teachers Union of Ireland</td>
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1. Introduction

The following chapter of the thesis will introduce the research which provided the motivation, focus and value for undertaking this PhD. Existing research relating to teacher stress in Ireland will be discussed for a number of paragraphs, specifically the key findings relating to teacher stress at post primary level. The problem of teacher attrition and its links to stress and burnout will be discussed. The effects of chronic stress on individual’s physiological and psychological health and well-being will be illuminated. The effects of stress on: interpersonal, cognitive and motivational aspects of job performance will be explored. Finally the research aim and associated questions will be shared.

1.1 Teacher stress in Ireland

Surveys by the Health and Safety Authority (HSA) and the Association of Secondary Teachers Ireland (ASTI) have previously identified stress and anxiety as the most common cause of occupational absenteeism and a significant factor in early retirement (Fitzgerald 2008). A report compiled by the ERSI (Economic and Social Research Institute) on behalf of the Irish Teaching Council indicated that 45% of primary school teachers in Ireland reported experiencing occupational stress (Darmody and Smyth 2011). The Association of Irish Secondary School teachers (ASTI) commissioned a report in 2014 entitled the Millward Brown poll which found that 60% of secondary school teachers in Ireland were feeling continuously stressed (Buckley et al. 2017). Research conducted with teachers in the Irish National Teachers Organisation (INTO) has also indicated that they believe that their job had become more stressful in the last
five years at the time of surveying (Morgan and Craith 2015). The following paragraphs and table summarise key findings and dears in the research relating to teacher stress in Ireland.

Kerr et al. (2011) conducted 15 qualitative interviews with post primary teachers. Teachers in the research identified challenges maintaining professional and personal boundaries with students and moving between a supportive and encouraging role as an educator (ibid). The pastoral role in addition to their primary pedagogical role was identified as a source of stress (ibid). Discipline issues in association with a lack of support from parents or guardians was a key stressor which participants felt they were not prepared for on their undergraduate courses (ibid). Teamwork and mutual support from colleagues and management were identified as important buffers (ibid). Key recommendations from the research included the need for a larger empirical research project exploring teacher stress in Ireland (ibid). Also it was suggested that initial teacher education programmes in Ireland needed modules training teachers how to deal with serious discipline issues, how to form appropriate professional boundaries and finally stress coping methods (ibid).

Foley and Murphy (2013) conducted 3 focus groups with 20 post primary teachers in Cork exploring occupational stress. Confrontations with parents, divisions among staff and perceived unfair treatment by management were seen as particularly stressful experiences (ibid). Rising class sizes and dealing with disruptive students were identified as challenging issues faced in the classroom (ibid). The challenge of attaining a contract of indefinite duration (CID) was identified particularly for newly qualified teachers (NQTs). The researchers also suggested that individual differences also play an important role in the appraisal of stress for individuals (ibid).
Foley and Murphy (2015) carried out a quantitative research project with 192 teachers exploring contributions of demographics, individual differences, environmental factors and coping factors to the development of the burnout condition. Burnout was conceptualised in line with the work of Maslach (1978) who argued it was comprised of an individual being emotionally exhausted, disengaged from their work and feeling a lack of personal accomplishment. In the research emotional exhaustion was correlated with neuroticism, collaboration and teacher student relations (Foley and Murphy 2015). Disengagement was correlated with core-self-evaluations (CSE), classroom order, organisation and contract status of NQTs (ibid). Personal accomplishment was correlated with teacher self-efficacy, extraversion, positive classroom interactions, order, organisation, active coping strategies and contract status of NQTs (ibid). The authors noted that there was a need for a larger empirical project exploring stress in the post primary setting as some normality issues emerged relating to their scales used and analysis methods (ibid). The authors suggested that interventions combining individual and organisational approaches would provide the best chances of buffering burnout (ibid).

Buckley et al. (2017) conducted research that consisted of 10 semi-structured interviews, 5 with primary school teachers and 5 with secondary school teachers. The findings indicated that individual differences and personal resources play a key role in Irish teachers’ experience of stress (ibid). Perceptions of control emerged as a key theme in terms of buffering stress (ibid). Uncertainty relating to professional identity emerged as a stressor (ibid). Positive relationships as opposed to problematic relationships were identified (ibid). The researchers recommended that suitable professional supports including counselling and psychologist services be offered to schools and teachers as a part of policy (bid). Internally in the schools, it was suggested
to formally encourage both collaboration among staff and mentoring initiatives. Outside of the work environment, the researchers encouraged teachers to engage in recreational activities (ibid). A lack of larger empirical research projects in terms of Irish teacher stress was also identified as a problem (ibid).

The following table summarises the published research regarding post primary teacher stress in Ireland. Specifically the table summarises the findings relating to the way that a teacher’s profession may impact their stress.

Table 1: Post primary teacher stress in Ireland

<table>
<thead>
<tr>
<th>Post primary teachers stress in Ireland: summary of key findings</th>
<th>#1 (Kerr et al. 2011)</th>
<th>#2 (Foley and Murphy 2013)</th>
<th>#3 (Foley and Murphy 2015)</th>
<th>#4 (Buckley et al. 2017)</th>
</tr>
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<tbody>
<tr>
<td>Demands</td>
<td>Resources</td>
<td>Recommendations</td>
<td>Identified dearths</td>
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<tr>
<td>• Challenge maintaining personal and professional boundaries (#1)</td>
<td>• Collaboration (#1)(#3)</td>
<td>• ITE programs should teach skills for: stress management, dealing with serious discipline issues and forming appropriate boundaries (#1)</td>
<td>• Lack of larger empirical projects exploring post primary teacher stress (#1) (#2) (3#) (#4)</td>
<td></td>
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<tr>
<td>• Combining pastoral and pedagogical roles (#1)</td>
<td>• Positive relationships (#3)(#4)</td>
<td>• Interventions combining individual and organisation approaches should be used (#3)</td>
<td>• All the research was conducted on the premise of identifying demands and not resources (#1) (#2) (3#) (#4)</td>
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<tr>
<td>• Discipline (#1)(#2)</td>
<td>• Organisation (#3)</td>
<td>• Counselling and psychologist services should be available as per national policy (#4)</td>
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</tr>
<tr>
<td>• Parents lack of support (#1)(#2)</td>
<td>• Teacher self-efficacy (#3)</td>
<td>• Formal strategies for promoting collaboration and mentoring in schools (#4)</td>
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<td>• Divisions among staff (#2)</td>
<td>• Classroom order (#3)(#4)</td>
<td>• Teachers should engage in recreational activities (#1)</td>
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<td>• Unfair treatment by management (#2)</td>
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<td>• Class sizes (#2)</td>
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<td>• CID NQTs (#2)(#3)</td>
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<td>• Identity uncertainty (#4)</td>
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<td>• Student personal issues (#4)</td>
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1.2 Teacher stress: the international picture

Internationally it has been reported that a large proportion of teachers view their job as highly stressful (Santavirta et al. 2007, Chan 1998). A large proportion of burnout in teachers may be accounted for by the highly demanding workload and lack of resources to cope (Santavirta et al. 2007, Shernoff et al. 2011). In comparison to other professions, teachers show high levels of exhaustion and cynicism, the key elements of burnout (Lorente Prieto et al. 2008, Skaalvik and Skaalvik 2016). It is important to note that the vast majority of teachers are not stressed, anxious and burned out—they are in fact content, enthusiastic and find their jobs rewarding and satisfying (Hakanen et al. 2006). However researchers also suggest that teaching can be a stressful occupation with some teachers suffering long term stress and burnout which affects their well-being (Borg and Riding 1991, Travers and Cooper 1996). Some researchers have also suggested that teaching is the most stressful of all the professional occupations (Mintz 2007). In studies comparing various professions, teaching has often emerged as the one where the highest frequency of stressful events occurs (Froeschle and Crews 2010).

1.3 Stress and teacher attrition

Links have been made between teacher attrition and teacher stress in Ireland, the UK and internationally (Henke et al. 2001, Ingersoll 2001, Borman and Dowling 2008, Scheopner 2010, Chapman 2013). Chaplain (2008) argued that the levels of stress reported relating to newly qualified and trainee teachers in the UK suggests we should be concerned about their mental health. Chaplain (2008) shared some figures about teachers in the UK suggesting that: (1) 40% of teachers who enrol on teacher training courses do not finish the programs, (2) of those that complete the courses, 40% leave
the profession within 5 years and (3) increasing numbers of UK teachers are taking early retirement. The research points to similar circumstances in other countries. Hakanen et al. (2006) suggested that in Finland, teachers report the highest levels of burnout compared to all other human service professions and white collar jobs. Hakanen et al. (2006) also shared figures which suggest that up to 20% of teachers in the US are suffering from burn out (Maslach and Jackson 1981) at any given time. Although the rates of teacher attrition vary by region, they are significant in all regions where data has been gathered in a significant way. The evidence suggests that between 30% and 50% of teachers are leaving the profession within the first 5 years of entering the career, within 3 years 20% to 33% of novice teachers leave the profession (Blazer 2006, Ingersoll et al. 2014, Ingersoll 2001, Smith and Ingersoll 2004). While there is a lack of larger empirical research relating to teacher attrition in Ireland, a project by Chapman (2013) with 93 participants indicated that career commitment and stress were inversely related.

1.4 Stress and teacher health

Research has pointed to a number of negative health related outcomes associated with stress and burnout. Results from longitudinal studies demonstrate that chronic exposure to high demands results in individuals becoming burned out (Bakker et al. 2000), individuals scoring high on burn out scales are more likely to be physically and/or psychologically exhausted and as a result distancing themselves from their work (Bakker et al. 2000). Research has also shown that individuals scoring high in stress and burnout (exhaustion and depersonalisation) are also likely to have more psychological and physical health problems (Tennant 2001, Schaufeli and Enzmann
Specifically burnout has been related to higher levels of anxiety, depression and alcohol dependency (Ahola 2007).

Some research suggests that frequency of negatively perceived stressors rather than the subjective intensity of the distress caused by stressors is more predictive of psychological states such as depression and anxiety (Motowidlo et al. 1986, Shernoff et al. 2011). Research has also indicated that a high frequency of demands is more predictive of negative physiological symptoms rather than the experience of acute episodic stressors (Schonfeld 2001). Longitudinal data indicates as well as predicting higher levels of anxiety and depression—burnout is also predictive of greater levels of dissatisfaction with life (Hakanen and Schaufeli 2012). Furthermore, research has indicated that burnout is related to a wide variety of negative physical health related outcomes such as: sleep disturbances, headaches, respiratory infections, gastrointestinal infections (Kim et al. 2011). From a physiological perspective, variables such as blood pressure, heart rate and cholesterol levels have been shown to be correlated to occupational stress levels (Motowidlo et al. 1986).

Hakanen et al. (2006) presented findings with Finnish teachers which indicated that high job demands mediated by burnout promotes ill-health in line with research previously mentioned. Tennant (2001) shared research which indicated that for trainee teachers, as perceptions of job demands increased and perceptions of support (resources) available decreased, chances of depression were increased. Similarly Santavirta et al. (2007) found that as their sample of Finish teachers perceived that the demands and strain in their job increased they were more likely to be emotionally exhausted, lacking in vitality and expressing lower levels of positive emotional well-being.
1.5 Stress and teacher performance

Motowidlo et al. (1986) argued that long term experience of stress can cause decrements to an individual’s interpersonal, cognitive, and motivational aspects of job performance. Findings with teachers indicates that when burned out, they are more inclined to evaluate job demands more critically, complain more often about their workload and as a result create a negative work climate for colleagues (Bakker and Schaufeli 2000). A large study with 3500 people indicated that prolonged experience of burnout was associated with memory impairment (Peterson et al. 2008). In a meta-analysis Taris (2006) found that objective measures of work performance (reported by clients, colleagues or supervisors) was correlated with the exhaustion element of burnout.

Empirical evidence for the relationship between self-rated job performance and burnout (measured as exhaustion and cynicism) has been found in various studies (Wright and Bonett 1997, Bakker and Heuven 2006). Research conducted by Shernoff et al. (2011) supports this view with participating teachers in their research indicating that they felt that their teaching performance suffered due to loss of concentration and less effort preparing lessons due to distress and burnout. On the other hand Hakanen et al. (2006) argued that teachers who are not distressed and burned out are more likely to be enthusiastic and able to mobilize the interest, energy, excitement and curiosity of their students.

A positive relationship between burnout and absenteeism has been established in research (Schaufeli et al. 2009). The evidence suggests that higher levels of burnout are associated with greater numbers of absences in the work year (Borritz et al. 2006). High job demands have been shown to be predictive of absenteeism while lack of job
resources has shown to be predictive of turnover intentions (Bakker et al. 2003). McCarthy et al. (2014) argue that their findings from a study with 185 elementary school teachers in the United States indicate that teachers who perceive their job as having high demands and low resources report lower levels of organisational commitment.

Ingersoll (2001) conducted research using the US Schools and Staffing Survey (SASS) (50,000 teachers surveyed) and its supplement, the Teacher Follow-up Survey (TFS) (5000 teachers surveyed), his findings suggested that school staffing problems in the US at the time were due to excess demands caused by a “revolving door” where large numbers of teachers were leaving the profession for reasons other than retirement, the data indicated that the turnover accounted for by retirements was minor when compared with turnover associated with job dissatisfaction and pursuing other employment. This survey, the largest of its kind has been conducted every three years since 1987. Ingersoll et al. (2014) reported that the findings from the 2012 data were similar to what Ingersoll presented in 2001.

The findings from a research experiment in the United States where teachers completed the Classroom Appraisal of Demands and Resources (CARD) survey indicate that teachers who perceive their job as having high demands and low resources are more likely to report lower satisfaction levels with their job (McCarthy et al. 2014). The finding that teacher’s satisfaction with their job is negatively associated with burnout is well established in the literature (Okeke et al. 2015).
Buckley et al. (2017) suggested that the statistics on teacher stress in Ireland at primary and post primary level are concerning (see section 1.1 paragraph 1). Researchers have also suggested that post primary teacher stress has received scant attention from academics in Ireland (Kerr et al. 2011), Particularly researchers have continually argued that there is a lack of larger empirical research projects relating to secondary school teachers (Kerr et al. 2011, Darmody and Smyth 2011, Foley and Murphy 2015, Buckley et al. 2017). It is also evident that identification of stressors or demands was the primary focus of previous research in Ireland as opposed to emphasising identification of job resources which may buffer teacher stress. The following aim and associated research questions were developed to assist in appropriately focusing the literature review and consequently developing suitable research objectives for the project. The research lens of the post primary teacher’s profession was selected to focus the research on uncovering data at an individual practice level, school practice level, and policy level which may influence Irish post primary teachers perceived stress levels.
Aim: To explore the influence of Irish post primary teachers’ profession on their perceived stress.

Questions:

1. What theoretical framework relating to workplace stress could be utilised as a suitable lens to explore post primary teacher stress in Ireland?
2. What instruments exist apposite to the investigation of teachers’ stress across post primary schools in Ireland?
3. What is the relationship between environmental school factors and post primary teacher perceived stress?
4. What is the relationship between demographic factors and teachers’ perceived stress?
2. Literature review

The literature review chapter is divided into nine sub-sections:

- Section one introduces and defines some key terms that are relevant to this project.
- Section two explores the theoretical underpinnings of stress.
- Section three presents a summary of work stress literature and theory.
- Section four presents an overview of the theoretical framework which underpins this project.
- Section five examines some of the psychometrically validated instruments which have been used to measure stress.
- Section six explores the job resources and job demands which have been identified as key moderators of stress in the workplace with a focus on teaching.
- Section seven explores demographic variables and their influence on stress with a focus on teaching.
- Section eight provides a summary of the literature review.
- Section nine shares the research objectives for this project informed by the literature search.
2.1 Key definitions: stress, stressor, burnout and anxiety

As pointed out by Lazarus (1993b) the study of stress has been plagued by confusing and inconsistent use of terms to denote the variables of the stress process. Lyon (2000) suggested that the confusion has led to the primary research term “stress” being conceptualised as: the independent variable, the dependent variable and the process itself. A widely adopted position however, is that stress is the experienced condition or feeling when individuals appraise that the demands of their situation exceed their perceived resources and endangers their well-being (Lazarus 1993a). This is the conceptualisation of stress that underpins this research project. A stressor on the other hand is an external or internal demand/load/agent that challenges the individual (Bakker and Demerouti 2014).

There are strong links between stress and burnout (Bakker et al. 2005), therefore this term must also be defined for the context of this research project. Burnout is when an individual is emotionally, physically or psychologically exhausted from the long term experience of excessive stressors and begins to disengage from their work (Bakker and Demerouti 2007). Burnout occurs when individuals experience demands greater than the resources to cope with them over a long period of time (Bakker et al. 2014). Where an individual has a high level of resources to cope with a high level of demands over a long period, this may actually result in the individual finding their job challenging and being more motivated and engaged in the job (Bakker et al. 2014).

There are also strong links between stress and anxiety (Spielberger 2010). While stress is concerned with the emotional, psychological and physiological response of a person to stressors in their environment (Lazarus 2000), anxiety is an emotion characterized
by an unpleasant state of inner turmoil and worry (Rosenhan and Seligman 1995). Differences between state and trait anxiety have been presented by academics: state anxiety refers to short term feelings of tension, apprehension and heightened automatic nervous system activity (Spielberger 2010), on the other hand, trait anxiety refers to individual differences that predispose individuals to be more likely to worry about future or past experiences over the long term (Spielberger 2010). In summary stress relates to psychological and physiological states as a result of stressors an individual is dealing with while anxiety is concerned with a psychological and physiological state as a result of an individual worrying about the past or the future. One could be stressed and not anxious in theory. It would be unlikely one could be anxious and not stressed.
2.2 Theoretical models of stress

The aim of this research was to explore the influence of school demographic and environmental variables on post primary teachers’ perceived stress — examining factors which buffer and promote their feelings of stress. An essential component of achieving this aim was to first explore the key theory which explores the physiological and psychological processes associated with the phenomenon. The theoretical orientations to defining stress can be classified into three broad areas: response based, stimulus based and transactional based (Lyon 2000). Firstly as a way of a brief introduction, the theoretical foundations of the study of stress will be presented before exploring the three main theoretical models which have evolved over the last 80 years.

2.2.1 Brief history of stress research

Lumsden (1981) highlights that the use of the word stress in terms of human adversity or hardship can be found in literature as far back as the 14\textsuperscript{th} century. Lazarus (1993b) explained that it was not until the 17\textsuperscript{th} century that the famous philosopher and polymath Robert Hooke brought technical importance to the term stress. Hooke sought to scientifically design equations to aid in the process of designing structures which could resist known loads or forces. Load referred to the force on the structure. The stress experienced by the structure was its area divided into the known force while strain was the deformation experienced by the structure (Hinkle Jr 1974).

In the 1920’s following World War I—post traumatic stress disorder was known as shell shock; researchers believed that the dysfunction was neurological rather than
psychological and was caused by damage from exploding shells (Grinker and Spiegel 1945). However, come World War II—the emphasis had shifted to emotional breakdown in response to the “stresses” of combat (ibid). After World War II, it began to become evident to researchers that other common life experiences such as: marriage breakdown, illness or loss of loved ones could produce emotional breakdowns similar to those seen after war—this led to a growing interest in the research of stress (Lazarus 1993b). The first dominant models in the area reflected Hooke’s ideas—loads or demands on the system (inputs) resulted in strain or breakdown (outputs) in a process known as stress (ibid).

### 2.2.2 Stress as a response

In the 1950’s Selye (1956), known as the father of stress research, defined stress as a non-specific physiological response of the body to environmental stressors and thus it became the dependent variable in his research (Lyon 2000). Selye proposed a triadic model as the basis for the non-specific physiological response of the body to stress (Selye 2013). He suggested that: adrenal cortex hypertrophy, thymicolymphatic atrophy (the thymus, the lymph nodes and the spleen) and gastrointestinal ulcers accompanied most illnesses (ibid), Selye noted from his research that these three responses were interdependent and were provoked no matter what the illness or stimulus (ibid). They represented a generalised “call to arms” of the body’s defences when in reaction to excessive demands or stimuli (ibid).

Selye developed his General Adaption Syndrome (GAS) theory of stress in response to what he perceived as a lack of scientific rigour regarding the study of stress (Selye 1950, Selye 1976). Rice (2012) explained how Selye combined observable facts about
stress which could be explored in terms of space and time: within space were the triad of adrenal, thymic lymphatic, and intestinal changes which took place in the body. Within time, three distinct phases were identified: the alarm reaction stage, the resistance stage, and the exhaustion stage. See Figure 1 below.

In addition to both: the triad of physiological measures of stress on the body outlined above, and the three stages of the GAS theory shown above, Selye (1956) identified an individual’s resistance level as the final construct within his theory. Selye noted that in normal day to day situations, people function within a normal level of resistance to stress or “homeostasis” (Babatunde 2013). Selye reasoned that internal self-regulating and harmonising devices enable adaption to routine stressors experienced by the individual (ibid).
2.2.2.1 Alarm Stage

Selye (1956) wrote that during the alarm stage when a demand is placed on the body, there is a generalised stimulation of the autonomic nervous system: parasympathetic nervous system activity (rest and digest) is suppressed, while sympathetic nervous system activity (fight or flight) is activated (Selye 1956). The degree of stimulation depends on the severity of the demands or stimulus encountered by the person (Babatunde 2013).

2.2.2.2 Resistance and Exhaustion Stages

Selye argued that the resistance stage of the GAS centres on the body either: establishing a reduction in the alarm response produced by the body and the stressor is resisted, or the use of the body’s syntoxic and catatoxic defence mechanisms in order to coexist successfully with the stressor (Seyle 1975). Finally if the body is not able to return to pre-alarm status i.e. homeostasis the individual may enter the exhaustion stage which is characterised by heightened cortisol levels resulting in negative effects on the circulatory, digestive, immune, and other systems of the body (Selye 1979).

The GAS theory was designed to explain the stress response of the body or entire system to encountered stressors when activated. Selye also identified the LAS; Local Adaption Syndrome—in this case only local tissue is effected by a stressor, for instance a bruise or sprain on the body which will not induce the system wide stress response or GAS (Papathanasiou et al. 2015). In an important note—Selye conceptualized adaptive energy as being limited by an individual’s genetics (Lyon 2000).
Throughout his research career, Selye kept developing his stress theory. He added the concepts of eustress and distress (Selye 1975). Eustress is a positive form of stress which results in positive feelings and physiological states when an individual is able to effectively cope with the experienced stressor while distress is a negative form of stress which results in negative feelings and bodily states when an individual does not have the capability to deal with the experienced stressor (ibid).

Selye’s research is not without criticism. Selye believed that both physiological and psychological stressors both produced the GAS. Mason et al. (1976) presented research which indicated that corticosteroid secretion was associated with psychological stress and not responsive to physiological stressors such as heat, exercise and hunger. Proponents of the psychological or transactional models of stress would argue that while there are overlaps between psychological stress and physiological stress, both require different levels of study (Lazarus 1966, Folkman 2013). Lazarus (1993b) believed that stress viewed as merely a form of physiological activation ignored the qualitative differences in the individual as they interacted with their environment.

### 2.2.3 Stress as a stimulus

Lyon (2000) explains that in the 1960’s psychologists began to take interest in the relationship between psychologically stressful experiences and health. This is visible in the work of Masuda and Holmes (1967) and Holmes and Rahe (1967) who began exploring how life experiences and events effect one’s physiological health. In their stimulus based theory of stress, life changes and experiences were treated as the stressor to which individuals respond (ibid). While the previously discussed response based model of stress treated stress as the dependent variable, here stress is considered the
independent variable which is controlled and changed in stimulus based theories of stress. The dependent variable in this type of research is health or illness measures.

Holmes and Rahe (1967) developed a tool known as the social readjustment rating scale (SRRS)—the scale was designed with the purpose of measuring stress which they defined as the adjustment or adaption required by individuals after major life changes or events. The central proposition of this model was that too many life events or changes in a short period of time may increase ones vulnerability to illness in the following year (ibid). The scale consisted of 42 items or life events each given an independent adaption score. The life events consisted of experiences such as marriage loss, death of a loved one, divorce, retirement and similar events (ibid). Holmes and Rahe (1967) found a small but significant correlation between the adaption scores and illness experienced the following year when using a sample of navy personnel.

In a similar effort DeLongis et al. (1982) explored whether people’s experiences of “daily hassles and uplifts” over the previous month was predictive of health outcomes. Using a multiple regression analysis of scores from a 117 item scale DeLongis et al. (1982) determined that perceived experiences of daily hassles and uplifts were insufficient at predicting health outcomes.

By the end of the 1980’s, the stimulus-based approach to describing and quantifying stress without appraisal had fallen out of favour (Lyon 2000). Lyon (2000) suggests that there were three inherent problems with the assumptions of the model: 1. Life changes are normative and that each life change or hassle resulted in the same adjustment for all people, 2. Change is stressful regardless of the desirability of the event to the individual, 3. There is a common threshold of adjustment after which illness will occur.
A number of researchers produced findings that challenge the validity of the stimulus based theory of stress. Johnson and Sarason (1979) analysed a large body of studies which explored the predictive capabilities of life events relating to illness, their findings indicate that no more then 4-6% of illness can be predicted by life events. The authors suggest that the low correlation coefficients of between .20 and .30 may be because individuals regularly experience stress that is not necessarily related to life events.

Studies began to emerge which indicated that cognitive mediation was involved in the stress process and its relationship with health. Kobasa (1979) introduced the concept of hardiness—she described hardiness as: 1. a strong commitment to one’s self, 2. a vagarious attitude to the environment, 3. a sense of meaningfulness and 4. having an internal locus of control (ibid). In an experiment with 837 participants, Kobasa found that those who scored low on the hardiness scales (multiple scales were used to measure hardiness) and high on the previously mentioned SRRS scale had significantly more illness (ibid). In essence she found that hardiness was a moderator of stress.

Antonovsky (1987) introduced the concept of sense of coherence as an even more powerful moderator between life event stress and illness. Antonovsky describes senses of coherence as: 1. Comprehensibility—the degree to which a situation is perceived as predictable and explicable, 2. Manageability—the perceived availability of resources to meet the demands of the stressor and 3. Meaningfulness—the degree to which people perceive that the stressor or demand is worthy of the individual’s time and energy.
2.2.4 Stress as a transaction

Proponents of psychological stress theory argue that an individual’s response to “stressful conditions” in the laboratory do not produce dependable results—for some participants certain specific conditions may impair performance, while for other participants the same specific conditions may see improved performance, and for some participants there may be no noticeable difference in performance with the same specific conditions (Lazarus 1991). Lazarus suggested that to understand stress and what happens between the stressor and the reaction, it was essential to take into account individual differences in motivational and cognitive variables (Lazarus et al. 1952). Transactional models of stress argue that an individual’s perceptions of their resources and the demands that they are experiencing determine whether or not they will experience stress (McCarthy et al. 2009). Stress in the result of the transaction between the person and their environment (Lazarus 1966).

Although there were a number of early academics emphasising the position that psychological stress was dependent on cognitive mediation (Grinker and Spiegel 1945, Janis 1958, Arnold 1960, Mechanic 1962), it was the work of Lazarus and his colleagues that helped convince the majority of the scientific community of the limitations of the behaviourist approaches to understanding stress and the significant role of cognitive appraisal in stress reactions (Lazarus 1966, Lazarus 1968, Lazarus et al. 1970). Lazarus (1991) has argued that appraisal which is key to his transactional model of stress is influenced by factors such as: individual problem solving knowledge, personality and culture. Lazarus (1993b) defined appraisal as:

“A universal process in which people constantly evaluate the significance of what is happening for their personal well-being”.

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Lazarus (1993b) thus defined psychological stress as a reaction to stressor(s) of various kinds that emerged out of the person-environment relationship. Lazarus (1966) identified two types of appraisal: primary and secondary—in primary appraisal, the individual determines whether the stressor can influence their well-being in any way—while in secondary appraisal, the individual determines what ways they can cope with the stressor(s). As Lazarus developed and evolved his transactional theory of stress, he emphasised the importance of the coping process (Lazarus 1966, Lazarus et al. 1974). Lazarus (1993b) explained the coping process as follows:

“*We alter our circumstances, or how they are interpreted, to make them appear more favourable—an effort called coping*”

While traditionally coping efficacy was associated with stable traits of personality, Lazarus’s research accentuated that coping efficacy was a process—one’s thoughts and actions influence how well one can cope with a stressor(s) appraised as stressful or demanding (Lazarus 1966). Lazarus (1993b) identified two types of coping: *problem focused coping* and *emotion focused coping*. In *problem focused coping*, if the person’s relationship with their environment is changed by coping actions then the stress reaction may be influenced in a positive way (Lazarus 1993b). Emotion focused coping involves people changing the way they interpret the stressors, reappraising stressors in non-threatening and benign ways may weaken the cognitive foundations of the stress reaction (Lazarus 1993b).

Lazarus’s model of stress has not been without criticisms and challenges: Zajonc (1984) argued that physiological and affective responses can be evoked without cognitive mediation. Hobfoll (2004) suggested that too much emphasis was being placed on the role of cognitive mediation and appraisal, and not enough on the objective environment.
Cox and Mackay (1985) also developed a transactional model of stress, the theory focused on health outcomes and placed emphasis on understanding the role of personality in the transactional process which underscores the stress process in the model. Lazurus’s transactional model of stress provides the theoretical underpinnings of the description of the stress process used for this project as the dependent variable is perceptions of stress in the model and in this research. In summary individuals perceive demands in their environment, they then apprise if the demand or stressor have positive or negative implications for their well-being, the appraisal is cognitively mediated by an individual’s personality, motivation, skill level, and previous success among many other factors (Lazarus 1993a).

2.2.5 Stress as a transactional biomarker response—the allostatic load model

While Lazarus’s (1966, 1993) transactional model of stress has been praised for its depiction of the cognitive mediational process(s) that takes place in the appraisal of stressor(s) in the person-environment relationship (Ganster and Rosen 2013), it does not explicitly explain the physiological response patterns of the body to stress (ibid). Ganster and Rosen (2013) suggested that while researchers found limitations in Selye’s (1956, 1976) GAS model and work, the past twenty years has uncovered new findings which can provide deeper insight into the relationship between stressful demands and the experience of stress at the physiological level.

Lupien et al. (2006) proposed the Allostatic load model (AL) of stress. The theory is regarded as being a developmental one, combining cognitive and biological research into one theory (ibid). AL theorists accept the premise of cognitive appraisal and the
primary role it plays in the stress process as espoused by Lazarus (Lupien et al. 2006). The primary proposition of the theory is that perceived stress activates physiological responses that lead to dysregulated cardiovascular, endocrine and immune functioning (McEwen 1998, McEwen 2015). Essentially chronic perceived stress leads to physiological wear and tear (Johnson et al. 2017).

Selye (1956) introduced the concept of homeostasis—the body’s attempt through physiological processes to maintain a stable environment by returning to certain set points. This notion has been superseded by allostasis (McEwen 1998)—which means that while the body’s physiological systems operate around certain set points, the set points are subject to seasonal rhythms and can be altered due to chronic overload.

The AL model is developmental and proponents of the theory accept that experiments analysing the relationship between stressors and biomarkers such as cortisol (a primary AL response) are inconsistent due to the complexity of the biological system and its interaction with cognitive appraisal (Ganster and Rosen 2013). Many questions remain unanswered about the physiological responses that are triggered by stressors (Lupien et al. 2006). However, researchers in the field believe that in time the model through refinement may be better able to explain how perceived stress initiates a complex cascade of physiological responses and their effect on the biological system as time passes (Meurs and Perrewé 2011, Ganster and Rosen 2013).
2.3 Work stress theoretical models

The following section of the thesis will introduce and discuss some of the key theoretical models in work stress literature. The models all attempt to explain how work may influence one's stress, even resulting in the condition known as burnout. Firstly, the concept of burnout—a syndrome as a result of long term experience of chronic stressors on the job will be explored (Maslach and Jackson 1981), the Demand-Control-Support model of stress will be discussed (Karasek Jr 1979), The Conservation of Resources Theory by Hobfoll (1989) will then be introduced, this will be followed by a discussion about the Effort Reward Imbalance theory of stress (Siegrist 2002), Finally, the Job Demands-Resources theory of stress and burnout will be introduced and explored (Bakker et al. 2014, Bakker and Demerouti 2016).

2.3.1 Burnout

The burnout syndrome has been conceptualised as a prolonged response to both chronic, emotional and interpersonal stressors on the job (Maslach et al. 2001). Traditionally there are three key aspects to the burnout syndrome: 1. increased feelings of emotional exhaustion, 2. disengagement resulting in the development of cynical attitudes and feelings for one's clients which have been shown in some cases to result in dehumanized perceptions of one's clients, and finally 3. a tendency to evaluate oneself or performance negatively i.e. decreased feelings of self-efficacy (Maslach and Jackson 1981, Bakker et al. 2014). A large body of work indicates that burnout can lead to a deterioration in service that is provided by a staff, can negatively influence job turnover, absenteeism and staff morale (ibid). Burnout has also been shown to correlate with self-
reported instances of physical exhaustion, insomnia, increased use of drugs and family problems (ibid).

Traditionally emotional exhaustion and depersonalisation were always viewed as the two core elements of burnout (Green et al. 1991). This is because research has consistently shown that emotional exhaustion and depersonalisation are strongly correlated with each other but just loosely correlated with personal accomplishment (Lee and Ashforth 1996). Personal accomplishment has poorer significant relationships with other variables related to burnout when compared with the other two classical components of burnout (Schaufeli and Enzmann 1998). In essence, Demerouti et al. (2001) suggest that empirical evidence indicates that emotional exhaustion and depersonalisation constitute the syndrome of burnout which is loosely related to feelings of personal accomplishment.

### 2.3.2 Demands-Control-Support Model of Stress

Karasek Jr (1979) introduced the Demands-Control model of stress. The theory suggests that decision latitude (control) plays a role in determining how individuals will respond to demands (ibid). The theory suggests that individuals with high control in their jobs will experience less stress when demands are placed on them compared with individuals with low job control (ibid). Individuals with high job control are said to play an active learning role in their jobs which aids coping while alternatively individuals with low control jobs are passive in their jobs and short on work related coping skills. Karasek and Theorell (1992) further developed the theory to include social support as a coping resource—the new theory became known as the Demands-Control-Support model of stress. The theory suggested that social support provided a further coping mechanism when faced with high demands in the work place. The
Demands-Control-Social Support model of stress has been superseded by the Job Demands-Resources (JD-R) model of stress (Bakker et al. 2014, Bakker and Demerouti 2016). Control and social support are viewed as two of many resources which can aid coping in the JD-R theory (ibid) which will be discussed later in the text.

2.3.3 Conservation of Resources Theory of Stress

The Conservation of Resources theory (COR) of stress was proposed by Hobfoll (1989) —the theory identifies 4 types of resources which help individuals cope with demands: objects (home, vehicle); energies (time, money); personal characteristics (self-esteem, mastery) and conditions (work role value, socio-economic status). Hobfoll (1989) argued that one experiences stress from an actual or threatened net loss of resources—stress was also said to emerge from a lack of resource gain following the investment of ones resources.

2.3.4 Effort Reward Imbalance Theory of Stress

The Effort Reward Imbalance theory (ERI) of stress proposed by Siegrist (2001) suggests that stress in the work place results from imbalances in social exchange and reciprocity. In this model of stress, failed reciprocity happens when an individual extends high efforts that are not adequately matched by the organisation in terms of rewards (Siegrist 2002). The failed reciprocity results in an imbalance between effort and reward which in turn causes a combination of negative feelings and physiological responses associated with stress. On the other hand the theory posits that when a balanced exchange occurs between effort and reward, then positive emotions emerge which in turn result in personal growth and enhanced well-being.
2.3.5 Person-Environment Fit Model

The person environment fit model of stress suggests that the individual must be suited to the environment that they are working in (French et al. 1982). There are two versions, the SV and DA version (Edwards and Cooper 1990). The SV versions suggests that environmental supplies must align with individuals’ motives, goals and values (French et al. 1982). The DA version suggests that demands must align with individuals’ personal resources and abilities (ibid).

2.3.6 Job Demands-Resources Theory

An additional workplace theory with a high level of citations is the Job Demands-Resources theory—previously known as the Job Demands Resource model (Demerouti et al. 2001, Bakker and Demerouti 2007). The authors of the theory suggest that the theory can be used to make predictions about, stress, burnout, health, motivation, work engagement and job performance (Bakker et al. 2014). The authors and proponents of the theory and systematic meta-reviewers argue that an important reason for the popularity of the model in the scientific community is the flexibility of the model to different occupations and work environments (Bakker and Demerouti 2016, Lesener et al. 2019).

The theory (JD-R) suggests that working conditions can be categorized into two broad categories: job demands and job resources—job demands are primarily related to the exhaustion component of burnout previously mentioned, while lack of job resources are primarily related to the disengagement element of burnout mentioned previously (Demerouti et al. 2001).
Job demands refer to physical, psychological, social and organisational aspects of the job that require sustained physical and/or psychological effort which results in physiological and/or psychological costs (Dicke et al. 2018). Job resources refer to physical, psychological, social and organisational aspects of the job that are: (a) functional in achieving work goals, (b) reduce job demands and the associated physiological and psychological costs, or (c) stimulate personal growth and development (ibid).

The primary proposition of the JD-R model is that when job demands and resources are both high, one’s level of strain will be high but one’s engagement level will remain high also. On the other hand when job resources and demands are both low, one’s level of strain will be low and one’s level of engagement will also be low; finally when demands are high and resources are low, strain will be high and engagement will be low; this may result in the burnout syndrome if the work conditions persist chronically over time (Demerouti and Bakker 2011, Breevaart and Bakker 2018).

A second proposition of the JD-R theory is that job demands and job resources are the triggers of two independent processes — a physical and psychological health impairment process and a motivational work engagement process respectively, see figure 2 (Bakker and Demerouti 2014). The authors suggest the reason for these effects are because job demands cost effort and consume resources whereas job resources fulfil basic psychological needs like the need for autonomy, relatedness and competence (Bakker and Demerouti 2014, Ryan and Deci 2000, Breevaart and Bakker 2018).

The third proposition put forward by the JD-R theory is that job demands and resources interact with one another predicting employee well-being and performance (Bakker and Demerouti 2007). The authors of the theory suggest that there are two ways that
resources and demands interact: (1) combinations of resources buffer the impact of demands on stress and burnout, (2) job demands amplify the impact of job resources on work engagement (Bakker and Demerouti 2014). Research with teachers confirms both of these statements—support, appreciation and organizational climate have been shown as important resources, helping teachers to cope with challenging interactions with students (Bakker et al. 2007). The previously mentioned resources were also associated with higher levels of work engagement even when demands such as pupil misbehaviour were high, thus supporting the second proposition (ibid).

The development of the JD-R theory saw the addition of personal resources to the model (Bakker and Demerouti 2014). Personal resources such as self-efficacy, self-esteem and optimism have been shown to mediate the relationship between job resources and work engagement (Xanthopoulou et al. 2007). A positive reciprocal relationship between job resources, personal resources and work engagement have been suggested to exist (ibid). In the latest update of the theory, Bakker and Demerouti (2014) suggest that the positive reciprocal relationships between the three can be explained with the Fredrickson (2004) Broaden and Build Theory (BBT).

The BBT theory suggests that positive states have the ability to broaden individual’s momentary thought action repertoires creating enduring: personal, social and psychological states. The changes made put a positive-psychological twist to the model (Schaufeli and Taris 2014). The revised theory suggests that a combination of a lack of resources and high demands leads to burnout which may then lead to physical and psychological health problems (Schaufeli and Bakker 2004). On the other hand high job resources and high job demands leads to motivation, work engagement and positive psychological and physiological states (ibid).
Job crafting was another addition to the JD-R theory as it developed (Bakker et al. 2014). The theory now suggests that when individuals do not have favourable working conditions to facilitate engagement, they purposefully change the design of their jobs by choosing tasks, negotiating different job content and assigning meaning to their tasks or jobs (Akkermans and Tims 2017). The authors of the JD-R theory suggest that individuals engage in crafting for one of four reasons: to (1) increase structural job resources, (2) increase social job resources, (3) increase challenging job demands and (4) decrease hindrance job demands (Tims et al. 2012).

In summary, the JD-R theory is supported by research which consistently shows that employees demonstrate high levels of organizational commitment when they work in demanding, resourceful environments which promote work engagement (Bakker and Demerouti 2014). The J-DR theory provides the theoretical underpinnings for this research project.

Figure 3: Source: Bakker, Arnold B., and Evangelia Demerouti. "Job demands–resources theory." Wellbeing (2014).
### 2.3.7 Work stress models compared

**Table 2: Work stress models compared**

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<td><strong>Summary</strong></td>
<td>High decision latitude (control) buffers the negative effects caused by demands to ones health in one’s job due to an active learning process that takes place. Social support was later added to the theory as a further buffer process.</td>
<td>Resources (objects, energies, personal characteristics and conditions) buffer demands. Stress results from actual or perceived loss of resources. Stress also results from no gain in resources following investment of resources.</td>
<td>Stress results from imbalances in social exchange and reciprocity. Failed reciprocity causes negative feelings and physiological responses associated with stress while a balanced exchange results in personal growth and enhanced well-being.</td>
<td>Job demands predict stress and exhaustion. Job resources predict (dis)engagement. Interaction effects also occur: 1. resources most beneficial at promoting engagement when demands high, 2. Greater numbers of job resources help individuals cope with demands.</td>
</tr>
<tr>
<td><strong>Critiques and Limitations</strong></td>
<td>Demands were limited to workload. Empirical evidence from meta studies has not supported the buffer hypothesis: job control and social support interacting with job demands and buffering negative effects on stress and well-being (Dawson et al. 2016). (Bakker et al. 2010).</td>
<td>Job resources are better predictors of work (dis)engagement and motivation (Bakker and Demerouti 2014). While combinations of job resources have been shown to buffer the effects of demands on stress—demands are the primary predictors of stress and exhaustion (Breevaart and Bakker 2018).</td>
<td>The model suggests that it is not the “actual” level of mismatch between efforts and rewards that’s important, but the “perceived” mismatch. Researchers have critiqued the lack of explanation in terms of individual differences (Mark and Smith 2008). The model ignores job demands which are predictive of stress.</td>
<td>A critique of all the models above is that they do not include roles for individual differences and subjective perceptions (Mark and Smith 2008).</td>
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Summary: Prolonged chronic stress in the work environment results in:
1. exhaustion,
2. disengagement and depersonalisation,
3. lack of personal accomplishment feelings.

Exhaustion and disengagement are considered the core elements of burnout.
2.4 Theoretical framework for this research

The theoretical understanding of the stress process for this project comes from the Lazarus transactional theory rather than Cox’s transactional model (Cox and Mackay 1985, Lazarus and Folkman 1987). Cox was interested in the physiological health outcomes of stress which was not the focus of this research (Cox and Mackay 1985). Lazarus’s transactional theory argues that psychological stress is the outcome of a transaction between a person and their environment (Lazarus 1966). The transaction is mediated by two stages of cognitive appraisal: in the first stage the individual globally assesses if the stressor may influence their well-being positively or negatively (Lazarus 2000), in the second stage of appraisal the individual assess what resources they have available to cope (ibid). Reappraisal also continually takes place as an individual assesses the changing nature of a stressor and their resources to cope (Lyon 2000).

There is strong constructive alignment between the conceptual nature of the Lazarus transactional framework and the aim of this research project; exploring the influence of Irish post primary teacher’s profession on their perceived stress. The research aims to explore if the transaction between a post primary teacher (person) and their profession (environment) influences their perceived stress (psychological stress). In addition to the conceptual alignment, the transactional theory has empirical support for its propositions as individual differences, situational circumstances and behaviour have all been shown to be predictors of stress coping efficacy in meta reviews: (Lee and Ashforth 1996, Halbesleben 2010, Alarcon 2011). Additionally both the response based literature and stimulus based literature discussed in sections 2.2.2 and 2.2.3 are also not conceptually appropriate for this project. Once again the project is concerned with the teachers’ psychology rather than their physiology which is the focus of both these types of
literature. Finally empirical concerns exist relating to both theoretical perspectives (Lyon 2000).

The Job Demands-Resources Theory (J-DR) provides the theoretical underpinnings for understanding the mechanisms by which one's work influences their stress levels (Bakker and Demerouti 2016). The theory is an extension of the Job Demands-Resources model of burnout (Demerouti et al. 2001). The latest edition of the Job-Demands Resource theory combines the research traditions of job design and job stress theories and can be used to explain the effects of job demands and resources on employee stress, burnout, well-being and motivation (Bakker and Demerouti 2014, Bakker and Demerouti 2016). The authors of the theory argue that the success of the theory is linked to its flexibility, all job characteristics can be characterised as either job demands or job resources, meaning the theory is applicable to all working environments (Bakker and Demerouti 2014). The theory has been used to make predictions with teachers in different jurisdictions (Bakker et al. 2007, Xanthopoulou et al. 2007, Bakker and Demerouti 2007).

Searches of literature published in the last 10 years, revealed a number of useful reviews of occupational stress models (Ganster and Perrewé 2011, Dewe et al. 2012, Bakker et al. 2014, Sohail and Rehman 2015, Schmidt et al. 2019). A summary of the prominent models is included in section 3.2 of the thesis. Once again this research aimed to explore the influence of teachers’ profession/professional practice on their perceived stress using an exploratory sequential design (Creswell et al. 2003). The J-DRs framework presented the best conceptual tool for capturing new/alternative knowledge in the Irish context when compared with the other models. For instance the Demand-Control-Support model begins with the presupposition that there are effectively two resources in any work environment. This meant that teacher self-efficacy, a key job resource
which emerged from the Grounded theoretical analysis may not have emerged. Similar critiques can be made regarding the other models not selected, it could be argued that the flexible nature of the J-DR theory means that the main theoretical arguments of the other theories can be captured in data coded as demands or resources if relevant to the given context being studied.

The definition of stress used for this project comes from the transactional description of the stress process and the J-DR conceptualisation of the work environment into job demands and job resources. Thus stress is the experienced condition or feeling when individuals appraise that the demands of their situation exceeds their perceived resources and their well-being is threatened or endangered (Lazarus 1993a, Bakker and Demerouti 2016).
2.5 Psychometric stress measuring instruments

As the aim of the research was to explore the influence of the post primary teachers’ profession on their perceived stress, the next step in the research project was finding a suitable psychometrically validated instrument for measuring stress. The instrument could be used to see which demographic and teaching related factors identified in phase 1 of the project could account for variance in teacher stress. The Perceived Stress Scale was selected as the most appropriate instrument. The following section will detail the options regarding s stress measuring instrument and the reason for selecting the Perceived Stress Scale (PSS).

2.5.1 Comparing instruments for measuring psychometric stress

Scholar, Web of science and Scopus were searched for instruments suitable for measuring individuals’ overall or global stress levels. 40 instruments previously designed for measuring strain, stress and burnout were uncovered. Literature since 2009 was searched using combinations of the following terms: stress, occupational stress, work stress, strain, occupational strain, work strain, burnout, occupational burnout, work burnout, survey, measure, instrument, scale, review, meta review, meta-analysis, systematic review. Reviews of instruments by (Lyon 2000, Abbas et al. 2013) and (Bakker and Demerouti 2014) emerged in the search and were particularly helpful.

The instruments identified in order of year of publication were: the Cornel medical index (Brodman et al. 1951), the job related tension index (French Jr and Kahn 1962), the social readjustment rating scale (Holmes and Rahe 1967), the work environment scale (Moos and Insel 1974), the job diagnostics survey (Hackman and Oldham 1975),
the job characteristics survey (Sims Jr et al. 1976), the Maslach burnout inventory (Maslach and Jackson 1981), the daily hassles-uplifts scale, the organisation role stress scale (Pareek 1983), the perceived stress scale (Cohen et al. 1983), the job stress scale (Parker and DeCotiis 1983), the stress diagnostic survey (Ivancevich and Matteson 1984), the stress arousal checklist (Cox and Mackay 1985), the daily stress inventory (Brantley et al. 1987), the burnout measure (Pines and Aronson 1988), the generic job stress questionnaire (Hurrell and McLaney 1988), the occupational stress indicator (Cooper et al. 1988), the work stress inventory (Barone et al. 1988), the job stress survey (Spielberger 1991), the perceived stress questionnaire (Levenstein et al. 1993), the job demand control measure (Jackson et al. 1993), the depression-anxiety-stress scale (Lovibond and Lovibond 1996), the job content questionnaire (Karasek et al. 1998), the occupational stress inventory (Osipow and Spokane 1998), the pressure management indicator (Williams and Cooper 1998), the perceived work characteristics survey (Haynes et al. 1999), the job demand-control-support questionnaire (Van der Doef and Maes 1999), the trier inventory of chronic stress (Schulz and Schlotz 1999), the general Nordic questionnaire (Lindström et al. 2000), the general health questionnaire (Goldberg and Williams 2000), the stress in general scale (Stanton et al. 2001), health and safety executive indicator tool (Cousins et al 2004), the four dimensional symptom questionnaire (Terluin et al. 2004), the effort reward imbalance scale (Siegrist et al. 2004), the Swedish demand-control-support questionnaire (Sanne et al. 2005), the Oldenburg burnout inventory (Demerouti and Bakker 2008), the Copenhagen psychosocial questionnaire (Pejtersen et al. 2010), the stress overload scale (Amirkhan 2012), the stress and adversity inventory (Slavich and Shields 2018) and the stressometer (Vohra et al. 2019).
The selection of the instrument was based on a number of key inclusion/exclusion criteria deemed relevant to the success of the research. In postal surveys, the response rate from participants’ drops as survey length increases (Cook et al. 2009). Additionally previous research in Ireland has indicated that time pressures are an issue for post primary teachers (Fitzgerald 2008). The survey instrument for this research contained 46 items prior to the addition of the validated instrument for measuring stress, therefore it was important to select a shorter instrument to ensure that the complete survey was more palatable for the potentially busy teachers who were being invited to be participants. The ethical clearance for the research centred on exploring post primary teacher stress, a number of the uncovered instruments measured constructs such as well-being, depression and anxiety in addition to stress, therefore it was decided against their use, these instruments were in general too long and ethically outside the scope of the project.

In section 1.6 it was argued that there is a gap in the Irish literature in terms of empirical evidence relating to post primary teacher stress (Kerr et al. 2011), (Buckley et al. 2017). Empirical evidence relating to burnout has already been gathered in a meaningful way in Ireland (Foley and Murphy 2015). For both of these reasons the instruments measuring burnout which were uncovered were not used in the survey for this project. None of the research instruments uncovered were designed for use specifically with teachers or Irish people, therefore it was important to use an instrument that had evidence of being cross-culturally stable and suitable for use with teachers, only instruments previously used with teachers and in a number of different cultures and jurisdictions were considered for use.

Many of the instruments used the presence of combinations of particular job stressors or an evaluation of the work environment to assign a stress score to the individual
completing the instrument. Thus participants are then given a stress score based on the nature of the work environment. This was not suitable for this project. Sections A and B of the survey already contained 46 items relating to the Irish post primary teacher work environment informed from the first qualitative phase of the project. Therefore the survey needed in this project was one which got participants to subjectively indicate there psychological stress levels. Statistical tests could then be run to establish if combinations of the work environment variables identified in phase 1 of the project could account for variance in participants stress levels, thus speaking to the overall aim of the project.

6 instruments were considered in greater detail for their suitability: the perceived stress scale (Cohen et al. 1983), the stress diagnostic survey (Ivancevich and Matteson 1984), the daily stress inventory (Brantley et al. 1987), the perceived stress questionnaire (Levenstein et al. 1993), the stress in general scale (Stanton et al. 2001), and the stressometer (Vohra et al. 2019).

The stressometer (SOM) is a 55 item instrument which measures participants stress in 5 areas: circumstances, domestic life, professional life, human nature and clinical symptoms (Vohra et al. 2019). The scale to date has been validated with 100 Indian participants. The scale demonstrated high Cronbach alpha reliability (.935) (Vohra et al. 2019). The scale has also been shown to have correlation coefficients greater than .8 with the perceived stress scale, the stress overload scale and the depression-anxiety-stress scale (ibid). While the scale is designed based on the latest stress theory, it has not been used with teachers and its cross-cultural stability has not been established.

The stress in general scale is a 15 item scale containing the 7 item pressure subscale and 8 item threat subscale (Stanton et al. 2001). The scales were administered to over
4000 participants from an aerospace company during validation, subscale 1 and 2 emerged with Cronbach alpha’s of .83 and .81 respectively (ibid). There is no evidence of other scholars testing the reliability and validity of the scale in other countries or occupations. The validity of the scale with known stress scales was also not reported. These factors resulted in the scale not being used in this research.

The perceived stress questionnaire (PSQ) was designed as a superior alternative to using: “life events”, “chronic difficulties” or “minor hassles scales” to predict the effects of stress on the course of disease (Levenstein et al. 1993). The PSQ is a thirty item scale, it has been shown in systematic reviews with different samples to have Cronbach alpha values >.9 and test retest reliability values >.9 for six months (Kocalevent et al. 2007, Levenstein et al. 1993). The criterion and construct validity of the scale has been shown to be psychometrically acceptable for use in research (Kocalevent et al. 2007). The PSQ was designed specifically for clinical psychosomatic disease progression research which rendered it unfavourable for use in this research (ibid).

The daily stress inventory was designed to provide researchers and clinicians with a psychometrically sound self-report instrument for the daily assessment of minor sources of stress and the individual impact of the minor stressors on the individual (Brantley et al. 1987). The instrument was designed to complement the life event (major hassle) stress research taking place at the time (ibid). The scale consists of a 58 item inventory which allows people to indicate minor events or stressors that have happened in the last 24 hours (ibid) Participants must indicate both the frequency of events that have taken place and the perceived impact of the stress from the event on likert scales (ibid). Cronbach alpha coefficients of .83 and .87 were achieved with a random sample of 433 participants in a residential community for both perceived frequency and impact.
The coefficients for test re-test reliability were only .72 and .41 for frequency and impact respectively (ibid). The scale was using general events to predict stress which was not suitable in this research as specific teaching workplace stressors had already been identified that were to be explored in terms of perceptions of stress.

The stress diagnostic survey is a 60 item scale designed for employees to report perceived job related stress. (Ivancevich and Matteson 1984). A stress profile for participants is generated based on their perceptions of macro (organisational) factors and micro (job) related factors (ibid). Similarly to the previously discussed scale, the nature of this scale meant that it would not sit coherently in the survey being administered in this research. 46 questions were already in the questionnaire being designed that related to the teachers work environment—administering an additional survey generating a stress profile based on perceptions of general work environment factors would result in similar questions being repeated.

2.5.2 Chosen psychometric instrument: the Perceived Stress Scale (PSS)

The Perceived Stress Scale (PSS) was designed to measure the degree to which situations in one’s life are appraised as stressful; it is suggested by the authors to use the instrument as an outcome measure of global perceived stress levels (Cohen et al. 1983). The scale was designed in response to the lack of development of psychometrically valid instruments for measuring individuals perceptions of their stress in line with the dominant Transactional Theory of stress (Lazarus et al. 1974, Cohen et al. 1983).
The PSS was designed to explore if participants taking the survey found their lives unpredictable, uncontrollable and overloading (ibid). The PSS was designed for use with those of at least high school (USA) education, the items are described as easy to understand, general in nature and relatively free of content specific information to any sub population group (ibid). There are three versions of the scale, the 14 item, 10 item and 4 item. In a systematic review, the 14 item and 10 item scales have been shown to have good psychometric properties while the 4 item has not shown acceptable psychometric values (Lee 2012).

In the systematic review of the PSS, Lee (2012) found that the 14 item and 10 item PSS achieved Cronbach alpha values of >.70 in all 23 cases where it was measured. Test retest reliability was measured in 7 studies, in 6 of the 7 cases coefficient values of >.7 were achieved (ibid); Cohen et al. (1983) noted that because appraised stress is influenced by daily hassles, life events and current coping resources which can change over time, test retest reliability would not be high after 6 weeks; In the case where the value was <.7, the retest took place after a 6 week period. Examination of the factorial validities of the 14 and 10 item PSS scales indicated that a two factor structure predominated—the two factor structure accounted for less than 50% of the variance in the 14 and 10 item scales (Lee 2012). The scale has consistently demonstrated a satisfactory correlation with depression and anxiety (ibid). Cohen et al. (1983) suggested that the PSS is a better predictor of health outcomes then the previously designed life event scales because it is the level of apprised stress rather than the objective occurrence of stressful events that determines an individual’s stress.

The PSS 14 item perceived stress scale was chosen as the instrument for measuring teachers stress in this research for a number of reasons: The scale was created based on the principles of Transactional Stress Theory (Cohen et al. 1983). The scale is suitable
for use with individuals with a high school education (ibid). All teachers in Ireland have Level 8 degrees which means they are well above the educational standards recommended for the instrument. The psychometric validity and reliability of the scale in different cultures and occupations have been established (Lee 2012). All three versions of the scale have been used with teachers previously. The scale gives a global measure of an individual’s stress; the aim of the research was to explore the influence of school demographic and environmental variables on post primary teachers’ perceived stress.

2.5.3 Perceived stress scores in various jurisdictions

The following section explores previously reported scores from the 14 item PSS in different countries around the world. Data relating to other occupations and teachers in other countries will be shared. This can be used for comparisons following completion of the current research project.

Lesage et al. (2012) found that in France for 501 participants from the general workforce, the average PSS score using the 14 item version was 21.2 with a SD of 7.6. Leung et al. (2010) conducted research with 1800 participants from the general workforce in Hong Kong taking part in a cardiac intervention programme. As part of the project the participants completed the 14 item PSS, the mean score for the 1634 men was 22.3 with an SD of 5.7, while the mean score for the females was 23.6 with a SD of 6.0.

In Greece Andreou et al. (2011) conducted research also using the 14 item PSS scale, they gathered their data in hospital wards, public services and Universities in 4
locations, they had a total sample size of 941 participants, the mean score for 371 males was 23.48 with SD of 7.77, the mean score for 570 females was 25.64 with a SD of 7.89.

Cohen et al. (1983) found a mean score of 23.18 with SD of 7.31 for 332 freshmen college students from a variety of disciplines in the United States. Ramírez and Hernández (2007) conducted research with 365 psychology students, the students had a mean PSS score of 21.9 with SD 7.03 and a range of 3-46 with median value of 21.

Pruessner et al. (1999) conducted research with Canadian teachers with the 14 item perceived stress scale and found for 66 teachers, the mean score was 26.3, the median 25 and the SD was 6.95, scores ranged from 8-52, while the teachers in this study came from a number of different schools, the authors did not share the number of schools. From a UK sample of 95 post primary and University teachers (unknown number of schools and Universities), Jepson and Forrest (2006) found that the mean score for perceived stress was 26.3 with a SD of 9.02, the range for the data was not given. Almadi et al. (2012) conducted research with 101 teachers and 25 technical staff in three schools in Zarka, Jordan, the results were that the staff in the schools had a mean PSS score of 26.3 with a SD of 8.2.

Having established the Transactional Theory of Stress as an appropriate theory for describing the stress process (Lazarus 1993b), the Job Demands Resources theory (JD-R) (Bakker and Demerouti 2016) as an appropriate model for exploring how ones work influences their stress and the Perceived Stress Scale (PSS) (Cohen et al. 1983) as a suitable instrument for measuring stress, the next step was to explore the literature relating to environmental/contextual factors and demographical variables that are associated with stress.
2.6 Contextual/Environmental work related factors influencing stress: demands and resources

Research has consistently indicated that personality variables and contextual factors in one’s environment (demands and resources) are more predictive of stress and burnout than demographic variables in the teaching profession (Billingsley and Cross 1992). However, the findings comparing personality and contextual variables have been inconclusive regarding which area is more predictive of stress and burnout when compared (Kokkinos 2007). Kokkinos and Davazoglou (2005) suggest that personality related variables were more predictive; on the other hand both Zellars et al. (2000) and Burisch (2002) suggest that contextual factors are more predictive of stress and burnout then personality factors. In summary, the only conclusion that one can draw is that both personality factors and contextual factors play a key role in the appraisal of stress and the development of burnout in teachers (Kokkinos 2007). For this research project the emphasis was placed on the contextual and environmental factors which influence teachers stress rather than personality. This is because of the stable nature of an individual’s personality over time, meaning changes in this area may not be as easy to make as changes to an individual’s work environment. This study did not make changes to the teacher’s environment but the findings may inform future interventions which may alter a teacher’s environment and measure outcomes in terms of perceived stress.

2.6.1 Resources antecedents of work engagement and organizational commitment

Whereas job demands are the most important contextual/environmental predictors of stress and burnout, job resources are the most important contextual/environmental
predictors of work engagement (Bakker et al. 2014, Schaufeli and Bakker 2004, Christian et al. 2011, Mäkikangas et al. 2013). In fact Bakker et al. (2014) suggest that resources are the exclusive environmental predictors of work engagement. Bakker and Demerouti (2016) suggest that resources can be categorized as: physical, psychological, social or organisational aspects of the job. Job resources have been shown to have a consistently negative relationship with burnout specifically the disengagement element (Bakker et al. 2014). Research indicates that job resources prevent the development of negative attitudes along with buffering the relationship between job demands and burnout (Bakker et al. 2014). Even when the demands of the job are identified as high, once there are perceived high resources, this buffers the effects of the demands and maintains engagement levels (Hakanen et al. 2005).

The findings in schools have been similar with job resources acting as buffers against job demands and helping teachers to stay engaged in their work particularly when the demands such as student misbehaviour are high, thus preventing stress (Bakker et al. 2007).

2.6.1.1 Autonomy

A number of studies and meta-analysis have shown that professional autonomy acts as a buffering agent against stressful job demands (Van der Doef and Maes 1999, Christian et al. 2011). A study by Skaalvik and Skaalvik (2014) indicated that for job autonomy to buffer the effects of job demands, it must include the employee having both: independence from other workers when carrying out other tasks, also the employee must have a certain amount of decision latitude in terms of the way they conduct their job. The mechanism through which autonomy buffers the stressful effects of demands
is by providing more opportunities for staff to develop coping resources (Jenkins 1991, Karasek 1998). On the other hand for teachers working within systems where there is high accountability and low decision making autonomy, they may perceive their job as more stressful (Shernoff et al. 2011, Santavirta et al. 2007). Lackritz (2004) suggested that autonomy reduces strain and burnout as it furnishes the educator with control in establishing and following their day to day priorities. Studies with teachers indicates that autonomy may result in higher engagement levels, increased job satisfaction and lower levels of burnout (Skaalvik and Skaalvik 2009, Skaalvik and Skaalvik 2014). Work with migrant Irish teachers working in England suggests that they find the loss of autonomy promotes a more stressful work environment (Skerritt 2018).

2.6.1.2 Social support

Richards (2012) suggested that social support is one of the most important coping mechanisms available to teachers for dealing with stress. Social support has consistently been shown in meta-analysis to buffer stress and promote work engagement (Christian et al. 2011). Research from the Job-Demands-Control-Support model of stress highlighted the role that support from colleagues can play in getting work done on time, therefore alleviating the impact of work overload on strain (Van der Doef and Maes 1999). Cohen and Wills (1985) first introduced the notion of the buffering process in relation to social support, their research indicated that social support buffers or mitigates the pathological consequences of stressful experiences. Social support has consistently been shown to have negative main effects on levels of perceived job stress (LaRocco et al. 1980, Lee and Ashforth 1996, Nieuwenhuijsen et al. 2010). Social support from management, colleagues and parents has been shown to have a negative relationship with burnout (Leung and Lee 2006, Hakanen et al. 2006).
Teachers who believe they have social support and receive positive feedback on their skills and abilities are less vulnerable to stress and burnout (Russell et al. 1987, Harber et al. 2012). Chaplain (2008) suggested that for teachers who work in an environment where there are behaviour management issues and the teachers are under workload pressures—lack of support is highly predictive of stress. Numerous Irish authors have presented findings which suggest that a lack of support leaves teachers more susceptible to being unable to cope with demands and thus experiencing higher amounts of stress (Fitzgerald 2008, Kerr et al. 2011, Darmody and Smyth 2011). Kerr et al. (2011) explained that teachers in their study felt that supportive colleagues and a supportive principal were the most important protection from occupational stress. More recent research with Irish teachers similarly indicated that they perceive a supportive environment to be an important buffer against stress (Buckley et al. 2017). Other research with Irish teachers indicated that divisions among staff may promote occupational stress (Foley and Murphy 2013).

### 2.6.1.3 Relationships and collaboration with colleagues

Positive relationships between teachers and their students is correlated with lower stress levels for teachers (Gagnon et al. 2019). Darmody and Smyth (2011) highlighted that positive relationships between teachers and principals in Irish primary schools were associated with lower teacher stress. Similarly research with secondary school teachers in Ireland suggests that unity among staff and management in a school is an important buffer against stress (Kerr et al. 2011, Foley and Murphy 2013). Fisher (2011) has argued that collaboration, but specifically informal peer collaboration was a useful strategy for coping with stress when it comes to teachers in the USA. Friedman (2000) supports this view suggesting that peer collaborative networks aid teachers by
furnishing them with resources to cope with stressful demands of the job. Research has shown that for teachers positive relationships with colleagues, parents and students have negative effects on burnout (Skaalvik and Skaalvik 2015). In line with this view, Prilleltensky et al. (2016) suggests loss of interpersonal relationships with students, parents, colleagues and management can be a risk factor in terms of teacher stress and burnout.

2.6.1.4 Self-efficacy

According to Bandura (1997) self-efficacy effects how people think, feel and act. People with low levels of self-efficacy have shown to be more prone to depression, anxiety, helplessness, pessimistic thoughts about their accomplishments and development (Schwarzer and Hallum 2008). On the other hand individuals with high self-efficacy are more likely to engage in more challenging tasks, demonstrate quality decision making, have higher academic achievement and higher levels of motivation (ibid). Researchers have argued that high self-efficacy in teachers promotes successful adaption to stressful demands, which in turn prevents the emergence of the burnout condition (Caprara et al. 2003, Skaalvik and Skaalvik 2007). Schwarzer and Hallum (2008) suggests that this is because high self-efficacy furnishes teachers with optimistic beliefs about their competence to handle and deal with daily hassles and challenges in constructive ways which in turn has positive outcomes in terms of motivation. Breeding and Whitworth (1999) presented research which demonstrated that one of the primary concerns of novice teachers was that they had a fear of being viewed as incompetent. This view was in line with that of Hargreaves and Fullan (2012) whose research suggested that feeling anxious, lonely and inadequate are common feelings felt by new teachers. Some researchers have argued that traditionally the school environment does
little to counteract these feelings (Herman and Reinke 2014). Research has also shown that lack of opportunity in schools for teachers to share their concerns can lead to feelings of helplessness especially in novice teachers (Smith 2004). Research with Irish post primary teachers has previously indicated that self-efficacy is associated with the personal accomplishment component of burnout (Foley and Murphy 2015).

2.6.1.5 Leadership/management practices

Research has long shown that management style of school principals can affect teacher well-being (Dworkin 1987). Meta-analysis has shown that positive relationships with leaders have positive implications for perceived stress and work engagement (Christian et al. 2011) Research by Väänänen et al. (2003) found that when leaders show their staff appreciation and support, it puts demands placed on the staff in another perspective—their research indicated that appreciation and support from the leaders aided workers in coping with demands and facilitated performance. Research in Irish secondary schools has found that where teachers perceive that management are not treating staff fairly and equally, increased occupational stress for teachers may be promoted (Foley and Murphy 2013).

Similar to social support from colleagues, support from management and leaders in educational environments has been shown to be a significant buffer against the negative effects of stressful demands (Ingersoll 2001). Findings from a study with Finnish teachers working in second level schools indicates that supervisors support can act as a buffering agent against demanding interactions with students and keeps teachers engaged in their work (Bakker et al. 2007). Teachers in Ireland have identified
supportive management as being an important buffer to occupational stress (Kerr et al. 2011).

Transformational leadership has been identified in meta-analysis as a motivating and buffering agent with regards to stress and burnout (Christian et al. 2011). Lackritz (2004) research indicates that management in schools and educational facilities have an important role to play in fostering a positive community where: interpersonal supportive relationships develop, core values are identified which align with the identity of the community and finally fairness, openness and transparency are practised and encouraged by management/leadership.

2.6.1.6 Constructive feedback

Recent meta-analysis have shown that constructive feedback buffers the effects of stressors (Christian et al. 2011). Performance feedback has been shown to positively affect the relationship between work – home interference and exhaustion, this is because good feedback reduces the tendency to worry or think about work related issues at home (Demerouti et al. 2004, Bakker and Geurts 2004). Appraisal of employees work also has the effect of signalling to them to continue in the current direction, this can also be a motivating factor (Hackman and Oldham 1980). On the other hand when workers do not receive regular feedback, this can result in higher levels of cynicism (Bakker et al. 2014). Researchers have suggested that teachers who receive positive feedback on their skills and abilities are less vulnerable to stress and burnout (Russell et al. 1987).
2.6.1.7 Professional development

When workers have insufficient opportunities for professional development, they report higher levels of cynicism (Bakker et al. 2014). Research has shown that when teachers regularly engage in professional development, it can enhance their feelings of professional competence, thus reducing stress (Bergeron 2008). Fisher (2011) also suggests that professional development training has been shown to have positive implications for teachers stress levels. Cwikla (2002) suggested that while many teachers see professional development training as worthwhile to their growth, equally many teachers don’t see professional development activities as being worth their while to engage with. Fisher (2011) argued that professional development activates must be seen by teachers as useful contributions to their teaching in order for the teachers to engage.

2.6.1.8 Job security, promotion and salaries

Lackritz (2004) suggested that when teachers feel that there is an insufficient reward structure in place—often accompanied by a feeling of having to do more for less, this can promote stress and burnout. Researchers have also suggested that lack of job security for newer members of staff within schools has the potential to contribute to teachers stress—on the other hand the lack of promotion opportunities for more established members of staff may contribute to stress (Chan et al. 2000, Tennant 2001). Foley and Murphy (2013) have also identified precarious employment issues for new teachers as a source of stress. Lack of CID for NQTs has been associated with the disengagement and accomplishment components of burnout (Foley and Murphy 2015). Findings from the American teacher follow up survey indicated that poor salaries was one of the combination of reasons that teachers left the profession (Fisher 2011).
Interestingly, Hanushek et al. (2004) suggest that while poor salaries are frequently identified as a reason for leaving the profession, increases in salaries have only been shown to marginally affect teacher attrition. Ingersoll (2001) also presented findings which suggest that teachers having good salaries are a resource that may buffer the impacts of stressful demands.

2.6.1.9 Free time

Fitzgerald (2008) also reported lack of time for meeting demands of the profession in the Irish context as a commonly mentioned cause of stress. International literature has also reported that the combination of excessive workload and little time for rest and recovery (time pressure) as being a key contributing factor to teacher stress (Skaalvik and Skaalvik 2011). A number of studies have also pointed out that time pressure measured with different instruments has been shown to be a significant predictor of teachers’ stress, emotional exhaustion and burnout (Hakanen et al. 2006, Kokkinos 2007, Lee and Ashforth 1996, Skaalvik and Skaalvik 2011). Blase (1986) suggested that a teacher’s perception of time available to cope with physical and emotional demands of the job may be the most neglected aspect of teacher stress.

2.6.1.10 Organisation

Geving (2007) found that teachers who reported being unprepared for class or unorganized scored significantly higher on the perceived stress scale. Adams (1999) argued that for teachers of practical subjects being unprepared was even more likely to have the potential to induce stress. Research with Irish teachers has suggested that
perceptions around organisation are associated with the disengagement and accomplishment components of burnout (Foley and Murphy 2015).

2.6.2 Demands: antecedents of stress and burnout

Lee and Ashforth (1996) believed that the results of their meta-analysis indicated that job demands rather than lack of job resources were the most important environmental predictors of burnout. Demerouti et al. (2001) suggest that job demands can be classified into three areas: physical, emotional and cognitive. The relationship between job demands (self-reported and observed) and health related outcomes has been well established (Lee and Ashforth 1996, Bakker and Demerouti 2007, Demerouti et al. 2001). Meta-analysis and reviews of the literature have consistently shown links between physical demands and exhaustion which can then lead to burnout (Halbesleben 2010, Alarcon 2011, Bakker et al. 2014). A number of reviews and meta-analysis have shown that emotional demands can lead to physical exhaustion and subsequently onto burnout (Halbesleben 2010, Alarcon 2011, Bakker et al. 2014).

2.6.2.1 Rumination

Teachers who ruminate about negative experiences from their work day may be more inclined to perceive their job as stressful (Cropley et al. 2006). A study with over 400 teachers in Slovenia found that rumination was a significant predictor of both stress and burnout (Košir et al. 2015). Research with graduate students has shown that co-rumination (excessive negative talk among colleagues/peers) suppresses the buffering effects of social support on stress and burnout (Boren 2013). Based on their findings, Boren (2013) suggests that the content of socially supportive interactions is very
important when social support is being used to intervene in stressful situations. Social interactions may actually be to the detriment of individuals where the interactions involve co-ruminative messages because ruminative messages tend to focus on problems and can even escalate small problems into larger ones (Boren 2013).

### 2.6.2.2 Expectations

Teachers have the expectations of students, parents and management to contend with in their daily jobs. Research by Robertson (2006) with principals and novice teachers suggests that when parents have high expectations for their children which differ from those of the teachers, it can be a source of conflict which can promote teacher stress. Holmes (2005) suggests that sometimes the differing opinions of teachers and parents regarding the academic ability of their children can result in parents being aggressive or irate with teachers. Prilleltensky et al. (2016) suggests that some parents will have unreasonable expectations of teachers solving: academic, interpersonal and social problems without their support. Further research has highlighted that in some cases the expectations of principals and teachers in terms of acceptable workload can be different to the point of tension (Brock and Grady 1996).

### 2.6.2.3 Isolation

Hargreaves and Fullan (2012) suggested that for novice teachers one of the most prevalent risk factors is feeling isolated. Anxious, lonely and inadequate are common feelings among novice teachers (ibid). Some researchers suggest the natural school environment offers little opportunity for teachers to form camaraderie relationships with their colleagues to counter these feelings of isolation that may arise (Herman and
Reinke 2014, Holmes 2005). Smith (2004) suggested that a lack of opportunity to share concerns with fellow teachers can often lead to helplessness especially in novice teachers.

2.6.2.4 Discipline problems

Student discipline has been consistently identified as one of the main job demands reported by teachers in Ireland, the UK and internationally (Ingersoll 2001, Fitzgerald 2008, Darmody and Smyth 2011, Kerr et al. 2011, Foley and Murphy 2013). Discipline issues emerged as one of the three primary causes of stress with trainee teachers in the UK (Chaplain 2008). Discipline issues regularly emerge as the primary perceived stressor qualified teachers experience (Shernoff et al. 2011, Geving 2007).

Geving (2007) found 10 categories of demanding student behaviours that correlated with Cohen et al. (1983)’s Perceived Stress Scale: (1) mistreating school property, (2) hostility towards other students, (3) coming to class unprepared, (4) hostility towards the teacher, (5) not being attentive in class, (6) lack of effort in class, (7) hyperactivity, (8) showing lack of interest in learning, (9) noisiness and (10) breaking school rules.

Studies have also shown that for novice or newly qualified teachers—they struggle with the complexity of classroom management because of their lack of classroom practice (Dicke et al. 2015). Prilleltensky et al. (2016) suggests that the lack of classroom practice effects the manner in which teachers perceive the severity of student misbehaviour. Discipline issues have also been consistently related to teacher burnout (Hakanen et al. 2006, Kokkinos 2007, Skaalvik and Skaalvik 2011).
2.6.2.5 Excessive workload

Excessive workload or work pressure has been shown in a number of reviews and meta-analysis to be a demand which promotes stress and burnout in organisations and schools (Lee and Ashforth 1996, Alarcon 2011, Bakker et al. 2014, Motowidlo et al. 1986, Tennant 2001). Numerous studies have shown that excessive workload is a key demand in terms of promoting stress and burnout in the teaching profession (O’Connor and Clarke 1990, Punch and Tuettemann 1990, Tang and Yeung 1999, Dick and Wagner 2001).

Chaplain (2008) suggested that excessive workload demands were one of the three primary causes of stress with trainee teachers in the United Kingdom. In the Irish teaching landscape teachers also mention excessive workload demands as a primary cause of stress (Fitzgerald 2008, Kerr et al. 2011). Lackritz (2004) suggests that excessive workload becomes an issue for third level educators when: it is too intense, too complex or time is lacking for the educator. New teachers are often expected to be able to master excessive numbers of tasks even though they have not yet acquired successful task management skills (Brown 2005). Studies have indicated that teachers perceived that excessive workloads are often the result of performance pressure from management or parents (Lee and Ashforth 1996, Chan et al. 2000).

2.6.2.6 Role ambiguity and role conflict

Role ambiguity or conflict has been shown in a number of reviews and meta-analysis to be a demand which promotes stress and burnout in organisations (Lee and Ashforth 1996, Alarcon 2011). Shirom et al. (2009) argued that the multiple roles of the teacher are so loosely defined that additional responsibilities and job elements are often added
without consideration for whether they can be realistically handled by the teacher. Brown (2005) indicated that for new teachers learning to deal with the paperwork associated with the job—tasks such as bus monitoring, hallway duty, bathroom duty, cafeteria duty among others made their job more challenging. Adams (1999) supports the previously mentioned research relating to role ambiguity suggesting that absence of clear information about the roles one must perform can lend to the experience of stress. In terms of role conflict Adams (1999) suggests that stress may occur when a teacher is attempting to deal with two or more work demands that occur simultaneously or alternatively when dealing with demands which are incompatible with each other. Research by Kerr et al. (2011) with Irish teachers revealed that some found it challenging simultaneously managing their pedagogical and pastoral roles; this was linked with difficulties managing professional and personal boundaries with students. Similarly Buckley et al. (2017) suggested that the multiple roles of Irish teachers resulted in some of them having identity uncertainty which promoted occupational stress.

2.6.2.7 Curriculum changes

Past research has shown that reform movements within teacher education can result in increased teacher stress (Corcoran 1989). Fitzgerald (2008) suggested that findings in the Irish context indicate that teachers felt that in some circumstances the demands of changes to the curriculum can promote stress when the appropriate resources are not in place to cope with the change. The previously mentioned findings in the Irish context are supported by Blase (1986) who suggested that for teachers where they perceive that where their situation requires significant emotional, attitudinal, behavioural adjustments without appropriate resources or coping strategies, stress may result. Blase
(1986) quotes the work of Holmes and Rahe (1967) who suggested that serious life changes can promote stress, he also quotes the work of Lazarus (1966) who suggested that within the transactional framework change results from an imbalance within the person environment relationship which causes the stress response in some cases.

### 2.6.2.8 Inspections and accountability

Fitzgerald (2008) reported that teachers in the Irish context generally perceive inspections as stressful experiences. The findings are supported by international research which also suggests that teachers can find inspections to be stressful experiences (Brimblecombe et al. 1995). Research has suggested that for trainee teachers inspections can be a particularly stressful element of their teaching practice (Head 1996). The grading element of inspections for trainee teachers has been identified as a key factor in making the experience stressful—this has led to some authors questioning the role of teacher grading’s for inspections (Fidler et al. 1998).

Sorenson (2007) argued that in general increased accountability standards are promoting higher stress levels in education. de Wolf and Janssens (2007) suggests that while control mechanisms such as inspections and increased accountability strategies have generally positive implications in terms of teaching and learning, findings also suggest control mechanism can also promote increased stress along with strategic behaviour such as: gaming, window dressing and teaching to the test which negatively affect teaching and learning within schools. de Wolf and Janssens (2007) argues that the majority of education researchers would argue against the use of academic league tables as an accountability mechanism. Skerritt (2018) worked with migrant Irish
teachers based in England and suggests that the increased workload associated with the high stakes accountability framework results in teachers experiencing stressful states.

2.6.2.9 Work – home interference

Work home interference also referred to as work home conflict occurs when role pressures from home and work are in conflict with one another (Demerouti et al. 2004). Work home interference and exhaustion have been shown in research to be predictive of each other (Demerouti et al. 2004). When work home interference is high this can result in workers taking unresolved work issues home and ruminating on them promoting a cycle of stress which may result in burnout (Ganster and Rosen 2013, Bakker et al. 2014). Where work home interference is a regular demand experienced by the individual, this can also lead to negative implications to individuals physiological and psychological well-being (Bakker and Geurts 2004).

2.6.2.10 Demanding student personal or family issues

Kerr et al. (2011) reported that many teachers find it stressful maintaining professional boundaries when dealing with challenging student personal circumstances and family issues. This can result in acute stress for the teachers dealing with the situation (ibid). Lee and Ashforth (1996) suggested that emotional challenging events may promote stress where the coping strategies to deal with them are not in place.
2.7 Demographic variables and stress

The relationship between demographic variables, stress and burnout have been inconsistent (Lackritz 2004). Okeke et al. (2015) suggest that the evidence for the relationship between stress, burnout and demographic variables such as: race, age, marital status, gender, qualifications, and location of school remains very scanty. While research has consistently reported that stress and burnout predicts lower levels of organisational commitment and health related issues, data indicates that demographic variables such as age, gender, marital status and educational level did not have a moderating effect in many instances (Matin et al. 2012).

2.7.1 Age

Lackritz (2004) suggests that age has shown an inconsistent relationship with stress and burnout levels of teachers. In one study younger teachers (under 30) emerged with significantly higher levels of emotional exhaustion and depersonalisation when compared with older counterparts (over 51). However in the same study older teachers (over 30) emerged as having higher levels of stress when compared with younger counter parts (under 30) (Antoniou et al. 2006). Williams and Dikes (2015) reported that older teachers scored significantly higher in burnout scores. While some researchers have found significant negative correlations between age and some dimensions of burnout (Sarros and Sarros 1992, Whitehead et al. 2000), others have found significant positive correlations (Evers et al. 2002, Jacobsson et al. 2001) and finally some have found no significant correlations between age and burnout (Hastings and Bham 2003, Rosenblatt 2001, Rashidzadeh 2002). Darmody and Smyth (2011)
found that primary teachers and principals over 40 had higher stress levels than their younger counterparts in the Irish context. In all the above studies where significant differences were found, effect sizes were small.

### 2.7.2 Sex

The findings relating to the effects of an individual’s sex on stress and burnout have been mixed and inconsistent (Lackritz 2004). Kokkinos (2007) presented findings which suggest that male teachers (married and unmarried) were significantly less emotionally exhausted than female teachers (married and unmarried). Other studies have also shown that women tend to report higher levels of emotional exhaustion than their male counterparts (Antoniou et al. 2006, Williams and Dikes 2015). Antoniou et al. (2006) stated that females reported higher degrees of stress from interactions with colleagues and students, challenges getting students to progress and finally from their workload when compared with males. Ravichandran and Rajendran (2007) also state that females report significantly higher levels of stress than their male counterparts. They also reported that females are significantly more inclined to report stress from work overload than their male counterparts (ibid). Richard and Krieshok (1989) found in their research that females had significantly higher strain scores than their male counterparts. Whitehead et al. (2000) also found that female teachers scored significantly lower on the personal accomplishment element of burnout. Research with Irish primary school principals found there was no difference in stress levels in the context of gender (Darmody and Smyth 2011).

In contrast to the above findings, other research reported that male teachers had significantly higher scores in emotional exhaustion. (Sarros and Sarros 1992, Bibou-
Furthermore, research has shown that males are more inclined to score higher on depersonalisation and could do with building good work social networks to combat the effects (Williams and Dikes 2015, Sarros and Sarros 1992). This finding was replicated with an Irish sample of post primary teachers (Foley and Murphy 2015). In the same sample it was also reported that female teachers scored higher in terms of personal accomplishment. In contrast to all of the above research, the following studies came to the conclusion that the effects of gender on stress and burnout measure were negligible. (Tuetttemann and Punch 1992, Hastings and Bham 2003, Jacobsson et al. 2001, Evers et al. 2002, Rosenblatt 2001).

2.7.3 Number of years teaching

Kokkinos (2007) research indicates that teachers with less than 10 years of teaching experience scored significantly lower in the area of personal accomplishment than their older counter parts. Williams and Dikes (2015) reported similar findings suggesting that number of years teaching is negatively associated with burnout. Evers et al. (2002) found lower number of years teaching was positively related to emotional exhaustion. Aftab and Khatoon (2012) also suggest that number of years teaching is associated with occupational stress—with the earlier years being the most stressful, specifically the group with 6-10 years’ experience; they also suggested that the 0-5 year group showed the least amount of stress as they may be enjoying their new vocation prior to the demands of their job and home life combining to promote stress. On the other hand certain researchers have found no relationship between number of years teaching and burnout (Hastings and Bham 2003, Zabel and Kay Zabel 2001).
2.7.4 Marital status

The relationship between marital status and teacher stress has been reported in academia. Stress has emerged to be higher for those who are widowed, divorced or separated (Froeschle and Crews 2010). Stress has also been shown to be higher when comparing un-married teachers with married teachers stress levels (Aftab and Khatoon 2012). Other research conducted in India has suggested that in contrast to the above findings—married working women have significantly higher stress levels then un-married working women, in this specific study the explanation for the finding was that the women had extra traditional responsibilities assigned to them (wives, mothers and homemakers)(Parveen 2009). Aftab and Khatoon (2012) found that there was no significant correlation between marital status and stress for secondary school teachers.
2.8 Summary of the pertinent/relevant literature

Stress is the experienced condition or feeling when an individual appraises that the demands of their situation exceeds their resources; a cognitively mediated transaction occurs between an individual and their environment (Lazarus 1993b). Appraisal underpins the transaction process and is influenced by factors such as: individual problem solving, culture and personality (Lazarus 2000).

The Job Demands-Resources theory of stress was selected as the most appropriate theory to help contextualise this research (Bakker and Demerouti 2016). The theory suggests that working conditions can be classified into two broad categories: job demands and job resources (Bakker and Demerouti 2014). Job demands are associated with stress and burnout while job resources are associated with organizational commitment (Bakker and Demerouti 2016). Job resources have been shown to buffer the effects of job demands (Xanthopoulou et al. 2007). The Job Demands-Resources theory can be used to make predictions relating to work stress and burnout (Bakker et al. 2014).

The Perceived Stress Scale was identified as the psychometrically validated instrument that was most suitable for measuring stress for this project (Cohen et al. 1983). The average 14 item PSS scores for teaching samples in Canada, the UK and Jordan was 26.3, these were the highest scores reported using the PSS when comparing professions.

Research relating to contextual and environmental factors is consistent in suggesting that they are predictive of stress and burnout (Zellars et al. 2000, Burisch 2002). Job demands previously identified which are associated with stress and burnout in the teaching profession include: rumination, expectations, isolation, discipline, excessive workload, role ambiguity, curriculum changes, inspections, work-home conflicts and
demanding student personal issues. Job resources previously identified which are associated with buffering the effects of stressors include: autonomy, support, relationships and collaboration, self-efficacy, leadership, constructive feedback, professional development, job security and free time.

Data relating to the relationship between demographic variables and stress is inconsistent and scanty, where there are findings relevant to teaching (age, sex, number of years teaching and marital status) the effect sizes are very small to negligible (Lackritz 2004, Okeke et al. 2015). Previous research in Ireland has indicated that teachers working in community/comprehensive schools scored significantly lower in terms of the personal accomplishment component of burnout when compared with their counterparts working in voluntary schools (Foley and Murphy 2015). Findings with the same post primary sample of teachers found males scored significantly higher in terms of the depersonalisation component of burnout, while females scored significantly higher in terms of personal accomplishment (ibid). The effect sizes in terms of all three results were reported as small.
2.9 Research objectives

The literature review satisfactorily answered the research questions that were set at the start of the research project. A suitable work stress model was identified, a psychometrically sound and applicable instrument was identified for measuring perceived stress. Key environmental demands and resources associated with stress were identified. Weak and conflicting findings relating to demographic factors were reported. The following objectives directly informed by these findings were designed to focus and advance the research project and inform methodological decisions.

Aim: To explore the influence of Irish post primary teachers’ profession on their perceived stress.

Objectives

1. To explore the relationship between teaching demographic variables and Irish post primary teachers’ perceived stress.
2. To investigate the job demands and resources of Irish post primary teachers’ and any potential relationship with teachers’ perceived stress.
3. To examine the utility of the Job Demands-Resources Theory within the Irish post primary teaching context.
3. Methodology

3.1 Introduction

This chapter of the thesis will outline the mixed methods approach used to address the research objectives shared at the end of the previous chapter. Firstly, my critical realist philosophical assumptions will be discussed. Followed by an overview of the exploratory sequential mixed methods design (Creswell et al. 2003, Johnson et al. 2007, Lingard et al. 2008). The Phase 1 qualitative data collection and analysis methods will then be outlined. The Phase 2 quantitative data collection and analysis methods will be discussed and finally the ethical considerations and potential limitations of the methods will be considered.

3.2 Philosophical foundations

Social scientists have differing positions on the manner in which social phenomena should be studied. Onwuegbuzie and Leech (2005) explain that throughout the 20th century social science researchers have debated their philosophical assumptions which inform their methodological approach to research. Some researchers have even gone as far as suggesting that they cannot offer guidance on the correct philosophy to underpin social research as no one has yet found a way to prove unequivocally the correct position in terms of the nature of reality (ontology) (Connell and Nord 1996, Hughes and Sharrock 1997). While I agree that I cannot prove the very nature of human stress without question, I decided that it was important to outline my ontological and
epistemological assumptions to help readers understand my approach and rationale behind this research study.

Olson (2013) argued that questions relating to whether there is a knowable reality or multiple realities of which only contextual knowledge can be acquired are simply questions of faith for researchers of the social sciences. To that end authors such as Connell and Nord (1996) promote the agnostics-interests framework which suggests that researchers suspend judgements relating to ontology and epistemology and accept that individuals simply differ based on their interests. Eastman and Bailey (1996) suggested that as philosophy is based on questions of faith, it should be parked in a similar way to how one may park religious faith and their work. Some researchers argue that allowing philosophical principles to dictate the research methodology is a foundationalist habit of thought that can negatively affect the rigour of a research method (Seale 2002). While the above points have merits, I feel that philosophical assumptions do matter in the sense that they provide a context to readers and promote debate and critical discourse on phenomena and associated findings.

Some within the pragmatist movement similarly argue that philosophical assumptions about reality and knowledge should just be ignored and the researcher should just focus on “what works” to answer research questions (Onwuegbuzie and Leech 2005). Pragmatists promote reorienting philosophy away from the abstract metaphysical, instead emphasising the understanding of human experience as the goal of enquiry (ibid). Dewey and other pragmatists believed that research inquiry should focus on the experience in question rather than the ontological arguments relating to the existence of a mind independent or socially constructed reality (ibid). I question how one can endeavour to understand human experience when they ignore the very nature of the reality that underpins that existence.
Holden and Lynch (2004) question that if a researcher assumes that ontology and epistemology are irrelevant, then how can they ensure that their methods are suitable for uncovering appropriate knowledge about the problem in question. Denzin (2012) also criticises the idea of building social science on a “what works” pragmatism; explaining that philosophical paradigms matter. My views are in line with Denzin and I have conducted this project with the assumption that one’s ontological assumptions about reality inform ones epistemology around the nature of the knowledge that can be uncovered about a phenomena which then informs the methodology one employs.
3.3 Critical Realism

My philosophical assumptions relating to ontology, epistemology, human nature and in turn methodology are in line with that of post positivist critical realism as defined by Bhaskar (2013). Critical realists argue similarly to positivists that there is a single mind independent social reality of which structural truths can be uncovered (Healy and Perry 2000). My assumption is that there are structural truths (generative mechanisms) which can be uncovered and can help us understand teacher stress in Ireland specifically relating to job demands and job resources. Critical realists also suggest that while there is a single independent social reality, it is not wholly discoverable or knowable in most instances by humans, the human perception of that reality is often different from the actual reality influenced by factors such as prior conditioning and context (Bisman 2002). The purpose of my research design was to help bring to focus a close to true reflection of the key school based demands and resources that influence teachers’ stress.

Critical realist philosophy suggests that interpretations of reality have a certain “plasticity” (Churchland 1986). Critical realists, like subjectivists, believe in a relativistic epistemology in that individuals and groups will have interpretations of reality influenced by their knowledge, culture and context and place in time (Bhaskar 2013). Because of this assumption I hold it was important that I went to a number of different types of schools to get the opinions, views and attitudes from a variety of sources and compared the data to find common truth.

Critical realists strive to uncover the “generative mechanisms” (observable and non-observable structures which generate events) which operate under the surface of the social world using both qualitative and quantitative methods (Bhaskar 2013). I have reflected this in the mixed method sequential exploratory design which I employed.
In summary like other critical realists I assume that there is an objective reality which exists independent of the human mind (Oliver 2011), the understanding and discovery of this reality (teacher stress) and the structural knowledge (job demands and job resources) that can be known about it is the purpose of my research design (ibid) As our descriptions of reality are mediated through filters such as language, meaning making and social context (ibid), I first conducted a qualitative phase in a number of different environments to help understand teachers beliefs relating to their stress in different contexts.

Critical realism is not associated specifically with qualitative, quantitative or mixed methods research, methods are chosen based on their appropriateness as instruments for getting the best interpretation of the structural knowledge relating to the phenomena (Krauss 2005). I followed the qualitative element of this project with a quantitative element to assess if my findings were generalizable to a larger population of teachers.
3.4 Research design: exploratory sequential mixed methods

In order to answer the research objectives outlined at the end of the literature review in accordance with the philosophy articulated in the previous section, it was decided to use a mixed method exploratory sequential design (Creswell et al. 2003). Creswell et al. (2003) explained that the design is characterized by an initial phase of qualitative data collection and analysis followed by a phase of quantitative data collection and analysis. The findings of both phases are then integrated together (ibid). Creswell et al. (2003) suggests that at the most basic level, the purpose of this design is to use quantitative data and results to assist in the interpretation of qualitative findings. The method is most suitable for testing elements of an emergent theory or framework resulting from a qualitative phase allowing researchers to generalise their findings to different samples (Creswell et al. 2003).

The benefits of mixed methods have been discussed by other authors. Brannen (2005) believes that combining qualitative and quantitative research methods when appropriate will result in at least one of four outcomes; corroboration, elaboration, complementarity or contradiction. Corroboration is a form of between method triangulation where the qualitative and quantitative methods derive the same results strengthening the findings. Elaboration is when the qualitative data provides meaning to the generalised findings of quantitative data. Complementarity takes place when the results of qualitative and quantitative data differ in some respects but there are still similarities which generate useful insights and finally where the findings of both data types are incompatible, a contradiction takes place.

Similarly Mayoh and Onwuegbuzie (2015) discuss five reasons in favour of combining qualitative and quantitative research methods: 1.) triangulation, to increase the validity
of data and minimise bias, 2.) complementary, to enhance the strengths and minimise the weaknesses of individual methods, 3.) development, where one method may enhance the strength of the findings of the other, 4.) initiation, to allow for data analysis from different perspectives, 5.) expansion, to increase the overall scope of research.

The mixed methods approach resulted in the project having two distinct phases:

Phase 1 consisted of a qualitative element whereby post primary teachers were interviewed in groups to identify potential job demands and resources in the Irish context (factors they believed had the potential to promote or buffer their experience of stress). This promoted rich dialogue between the teachers which highlighted job demands/resources specific to the Irish context and their specific schools which may have gone unnoticed in a large quantitative survey.

Phase 2 consisted of administering surveys to a large sample of Irish post primary teachers; the survey had three elements: 1. The perceived stress scale by Cohen et al. (1983) discussed in the literature review, 2. questions informed by the job demands and resources identified in the first phase of the research through the participating teachers discourse, and 3, demographic data relating to the schools specifically: the sex of the student population, the number of students, the number of teachers working within the school, boarding or non-boarding status of students, fee paying status of the school, location of the school, DEIS status of the school, religious status of the school, spoken language of the school and finally the school classification (i.e. voluntary or ETB).

The data was then analysed to explore if school demographics, job demands and job resources were associated with perceived stress scores. The quantitative element of the research identified relationships between factors, and the perceived stress that may have gone unnoticed with the smaller samples in Phase 1, the qualitative focus groups. The
large sample of teachers in the quantitative element of the research suggest that the findings may be generalizable to Irish post primary teachers. The mixing of methods detailed aligns with the critical realist philosophy encompassing objectivist ontology and relativistic epistemology underpinning the research (Bhaskar 2013, Krauss 2005). Together the two phase research project provided rich findings that addressed the research objectives outlined at the beginning of the chapter.
3.5 Phase 1: Qualitative

The qualitative methodology chosen to gather and analyse the data in Phase 1 was grounded theory (Glaser and Strauss 1967, Strauss and Corbin 1994, Bryant and Charmaz 2007, Corbin et al. 2014). A critical realist philosophy and grounded theory methodology have been identified and suggested as a congruent research approach in various studies (Oliver 2011). Grounded theory has also been identified as an appropriate method of collection and analysis of data in mixed methods projects (Lingard et al. 2008). The work of Johnson et al. (2010) has influenced the design of this research project. Johnson et al. (2010) conceptualised a mixed methods version of grounded theory (MM-GT). They suggest that:

“Grounded theory can be tailored to work well in any of the 3 major forms of mixed methods research (i.e., qualitative dominant, equal status, and quantitative dominant). In equal-status MM research, MM-GT works well in connecting theory generation with theory testing, linking theory and practice, and linking general/nomological description/explanation with idiographic understandings of the human world. (p. 65)”

3.5.1 Grounded theory overview

Grounded theory was introduced in 1967 as a general methodology for use in quantitative and qualitative studies for developing and testing theory that is grounded in data that is systematically gathered and analysed (Glaser and Strauss 1967, Glaser and Strauss 1965). The authors suggest that the method can be used to investigate existing theories in different contexts (Strauss and Corbin 1994). One of the key theories underpinning this research identified in the literature review is the flexible job
demands-resources theory of stress and burnout (Bakker and Demerouti 2014, Lumsden 1981). Phase 1 of the study explored the job demands and job resources that Irish teachers believe may affect their perceived stress levels, the emergent data and theoretical framework was explored for its congruency with the J-DR model and its key findings.

Providing a concrete definitive account of grounded theory has been described as difficult by Bryman (2012) as a result of the main authors, Glaser and Strauss (1965) developing the method along different paths after the initial publication. Glaser felt that the approach being promoted by Strauss was too prescriptive and had lost some of the flexibility of the original approach (ibid). The data in this research was analysed using the approach promoted by Strauss (Strauss and Corbin 1990, Strauss and Corbin 1994). The reasons for using the Straussian approach were: 1. Glaser did not want authors to read literature and potentially form ideas or connections prior to data gathering (Lynlee 2015), 2. Glaser also fundamentally rejected the prescriptive coding procedure outlined by Strauss, 3. Specifically the axial coding phase which he felt was too forceful (Lynlee 2015). Constructivist grounded theory (Bryant and Charmaz 2007) was not used for this project due to its philosophical underpinnings which lead to arguing the incompatibility of qualitative and quantitative data and their alignment with specific philosophical traditions. This view is discussed in a critique of the constructivist method by Glaser (2002) the original author of the method.

The latest edition of Straus and Corbin’s book underpinned the grounded theory method used for this project in Phase 1 (Corbin et al. 2014). The principles of that method are as follows: 1. Research analysis and data collection are interrelated, concepts derived from initial coding influence subsequent data collection, 2. Data can be collected by a variety of means, most frequently interviews and observations, 3. The coding process
is known as constant comparison, initial pieces of data are grouped together as concepts, concepts are grouped together to form categories, categories are grouped together around core variables, 4. The theory is developed based on the categories and core variables which emerge during the research rather than from existing theory or prior to the research, 5. Data gathering stops when the point of theoretical saturation has been reached.

3.5.2 Participants and sampling

School and teacher recruitment was a purposeful random process. A list of all registered post primary schools in the Republic of Ireland was obtained from the Department of Education and Skills website. From this, a randomised list of the schools was created in MS Excel. In sequential order, school principals were then contacted and provided with the information relating to the research. A request was made to recruit teachers in the school for the research. Only schools within 100km of the University of Limerick were contacted. This was to eliminate high travel expenses. As the research progressed some schools were skipped and not contacted if they didn’t differ in a meaningful, contextual way from schools that had already participated in the research. Examination of the school breakdown demonstrates the diversity of schools which took part in the research.

While quantitative researchers are concerned with probability sampling, qualitative research is generally concerned with purposeful sampling (Bryman 2012). Bryman (2012) argues that there are two levels of purposive sampling: (i) sampling of context and (ii) sampling of participants. For this study a number of school contextual factors
were deemed potentially relevant: (A) sex of the student population, (B) the number of students within the school (C) the number of teachers within the school, (D) whether students are boarding or non-boarding (E) is the school fee paying or non-fee paying, (F) if the school is in a city, town or rural location, (G) is the school in the Delivering Equality of Opportunity in Schools (DEIS) action plan or not, (H) is the school denominational or multi denominational from a religious perspective, (I) is the school English speaking or Irish speaking or a mixture of both, as is the case where a Gaelscoil is merged with another school, (J) Information from Citizens Information Bureau. C.I.B (2013) indicated there are three main classifications of schools in Ireland: (i) voluntary secondary schools which are privately owned and managed by either religious groups, boards of governors or individuals. The national representative body for these schools is the Joint Managerial Body (JMB). (ii) vocational schools and community colleges who’s national representative body is called Education and Training Boards Ireland (ETBI) and finally (iii) community and comprehensive schools whose national representative body is the Association of Community and Comprehensive Schools (ACCS).

<table>
<thead>
<tr>
<th>School 1</th>
<th>Boys</th>
<th>434</th>
<th>29</th>
<th>Day</th>
<th>No</th>
<th>Town</th>
<th>No</th>
<th>Catholic</th>
<th>English and Irish</th>
<th>JMB</th>
</tr>
</thead>
<tbody>
<tr>
<td>School 2</td>
<td>Mixed</td>
<td>1366</td>
<td>95</td>
<td>Day</td>
<td>No</td>
<td>Town</td>
<td>No</td>
<td>Inter Denominational</td>
<td>English</td>
<td>ETBI</td>
</tr>
<tr>
<td>School 3</td>
<td>Girls</td>
<td>334</td>
<td>22</td>
<td>Day</td>
<td>No</td>
<td>City</td>
<td>No</td>
<td>Catholic</td>
<td>English</td>
<td>JMB</td>
</tr>
<tr>
<td>School 4</td>
<td>Mixed</td>
<td>261</td>
<td>17</td>
<td>Day</td>
<td>No</td>
<td>Town</td>
<td>No</td>
<td>Inter Denominational</td>
<td>English</td>
<td>ACCS</td>
</tr>
<tr>
<td>School 5</td>
<td>Mixed</td>
<td>94</td>
<td>14</td>
<td>Day</td>
<td>No</td>
<td>Rural</td>
<td>No</td>
<td>Inter Denominational</td>
<td>Irish</td>
<td>ETBI</td>
</tr>
<tr>
<td>School 6</td>
<td>Mixed</td>
<td>196</td>
<td>17</td>
<td>Day</td>
<td>No</td>
<td>Town</td>
<td>No</td>
<td>Catholic</td>
<td>English</td>
<td>ACCS</td>
</tr>
<tr>
<td>School 7</td>
<td>Mixed</td>
<td>301</td>
<td>28</td>
<td>Day</td>
<td>No</td>
<td>Town</td>
<td>Yes</td>
<td>Inter Denominational</td>
<td>English</td>
<td>ETBI</td>
</tr>
<tr>
<td>School 8</td>
<td>Mixed</td>
<td>498</td>
<td>33</td>
<td>Mixed</td>
<td>Yes</td>
<td>Rural</td>
<td>No</td>
<td>Catholic</td>
<td>English</td>
<td>JMB</td>
</tr>
</tbody>
</table>
A number of different criteria were captured with respect to the participants such as: (1) gender differences, (2) age differences, (3) various subject areas on the Irish curriculum, (4) the number of years of service and finally (5) whether the teachers were temporary, probationary or had a contract of indefinite duration. In the end 43 teachers took part in the study. The breakdown of the 28 female and 15 male teachers can be seen in the tables below.

### Table 4: Teacher subject areas

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number of teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irish</td>
<td>4</td>
</tr>
<tr>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>Maths</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>2</td>
</tr>
<tr>
<td>Geography</td>
<td>2</td>
</tr>
<tr>
<td>Engineering/Tech/Const</td>
<td>3</td>
</tr>
<tr>
<td>DCG/Tech Graphics</td>
<td>2</td>
</tr>
<tr>
<td>Sciences</td>
<td>3</td>
</tr>
<tr>
<td>Art</td>
<td>1</td>
</tr>
<tr>
<td>Foreign languages</td>
<td>5</td>
</tr>
<tr>
<td>P.E</td>
<td>2</td>
</tr>
<tr>
<td>Business, Economics, Acc</td>
<td>4</td>
</tr>
<tr>
<td>Home Economics</td>
<td>1</td>
</tr>
<tr>
<td>Music</td>
<td>2</td>
</tr>
<tr>
<td>Religious studies</td>
<td>1</td>
</tr>
<tr>
<td>Guidance councillors</td>
<td>4</td>
</tr>
</tbody>
</table>

### Table 5: Teacher employment status

<table>
<thead>
<tr>
<th>Type of employment</th>
<th>Number of teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary</td>
<td>6</td>
</tr>
<tr>
<td>Probationary</td>
<td>16</td>
</tr>
<tr>
<td>Contract of Indefinite duration</td>
<td>21</td>
</tr>
</tbody>
</table>
The specific random purposeful sampling technique used in grounded theory research is known as theoretical sampling (Glaser and Strauss 1967). Glaser and Strauss (1967) argued that the researcher is collecting data to refine and strengthen the emerging theory. This means that the researcher should be collecting, coding and analysing data at the same time unlike conventional methodology. The data gathering is driven by the emerging concepts and categories which make up the new theory (Glaser and Strauss 1965). Strauss and Corbin (1998) suggested that the data gathering should be driven by the grounded theory principle of “constant comparison” which means that the researchers should be gathering data which: (1) densifies current categories and (2) maximizes opportunities to discover variations among concepts. Data gathering stops when theoretical saturation is reached (Glaser and Strauss 1967). Theoretical saturation occurs when no new meaningful insights relating to categories or core variables emerge even when new data is added. The point of theoretical saturation was reached for this

Table 6: Career duration

<table>
<thead>
<tr>
<th>No of years</th>
<th>Number of teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>10</td>
</tr>
<tr>
<td>10-19</td>
<td>12</td>
</tr>
<tr>
<td>20-29</td>
<td>13</td>
</tr>
<tr>
<td>30+</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 7: Teacher age

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>5</td>
</tr>
<tr>
<td>30-39</td>
<td>10</td>
</tr>
<tr>
<td>40-49</td>
<td>13</td>
</tr>
<tr>
<td>50-59</td>
<td>11</td>
</tr>
<tr>
<td>60+</td>
<td>4</td>
</tr>
</tbody>
</table>
study as no new categories emerged from the data of the 7th focus group. An 8th focus group was conducted to ensure that theoretical saturation of the categories had taken place; again no new categories emerged from the data.

### 3.5.3 Focus groups

Focus groups also called group interviews (Bryman 2012) were chosen as the method of gathering data for Phase 1 of the project. It was decided to use focus groups for a number of reasons. Watts and Ebbutt (1987) suggested that where a wide range of responses are desired, a group working together for some time and for a common purpose is most effective. It has also been argued that having multiple participants discussing a phenomena may result in a more reliable approximation of the truth (Arksey and Knight 1999). Secor (2010) suggests that focus groups promote interchange between groups of people in specific contexts highlighting similarities and differences between participant’s experiences of a phenomena. Focus groups may also be more appropriate than individual interviews when participants are not experts in the area being studied or explored in the research (ibid).

A key consideration when using the focus groups is what size to make them. Morgan and Krueger (1998) recommend that groups should be six to ten members, with smaller numbers used when it is anticipated that the participants will have a lot to say about the topic and larger numbers used when participants may not know as much about the phenomena being studied. Peek and Fothergill (2009) suggested that the optimal size may be in the region of 3-5 participants. They found larger groups more taxing to manage and that quieter participants were less likely to speak up. Barbour (2008) suggested a maximum of 8 participants should prevent the aforementioned issues. In
the end it was decided to canvas schools for 6 teachers plus or minus two. In the end 8 focus groups were conducted in schools, due to the complex nature of day to day school business, there was some variation in the sizes of the focus groups. The smallest group was three, there were three groups of four, one group of five, two groups of seven and a group of nine. The sizes of the groups were broadly in line with the recommendations of the previously mentioned researchers.

### 3.5.4 Piloting

Prior to conducting focus groups in schools, a pilot study was conducted in the University of Limerick with a group of 7 post graduate teachers. The purpose of the pilot study was to identify any possible misconceptions that participants may have had regarding: information sheets, consent forms or with the two interview questions that were designed to capture participant’s thoughts on potential job demands and potential job resources.

Other than some small changes, participants were satisfied with the nature of the consent form (appendix 3) and the information sheet (appendix 1). The information sheet explained: the rationale behind the research, what was required of the teachers and it contained information about the Care Call Ireland service which provides a free 24 hour confidential telephone service and a one to one counselling service to any post-primary teacher employed by the Department of Education and Skills. From an ethical perspective it was important that any teacher who felt distressed by the nature of the conversation in the focus groups had a suitable professional organisation to contact if required.
The pilot study and all the focus groups conducted were divided into 2 thirty minute segments. The first part focused on job demands and the second part of the hour focused on job resources. Question 1 was asked at the start and question 2 was asked after 30 minutes.

**Q1:** *If I were to ask you to visualise your day, what are the factors that can cause stress, put a downer on the day, make you question your career choice? Anything that comes to mind?*

**Q2:** *If I were to ask you again to visualise your day, except this time, think of anything that can send you home on a high or in great humour? The things that happen where you say, yes, this is why I love my job.*

Almost immediately a potential lack of clarity in the questions emerged in the pilot study group

*Now......are you on about from the start of your working day to the end of your working day, what stresses.........Obviously stuff that is going on outside the job could be stressing you out as you are doing your job. (Participant PS5)*

For all the following focus groups which participated in this study, the questions were changed in an effort to improve the clarity of what was being asked to ensure participants knew that they were just discussing teaching related factors. The reformatted questions were as follows:

**Q1:** *If I were to ask you to visualise the job of the teacher from the first bell of the day to the last bell before you head home, what are the factors that can cause stress, put a*
downer on the day, make you question your career choice? Anything that comes to mind?

Q2: If I were to ask you again to visualise the job of the teacher from the first bell of the day to the last bell, except this time think of anything that can send you home on a high or in great humour? The things that happen in your job where you say, yes, this is why I love my job

The pilot study participants also suggested that job resources (positives) should be discussed second so that people would leave the interviews after a positive conversation rather than a negative one.

*I think definitely finish positive. (Participant PS6)*

*It’s defiantly better to be finishing your day on the positive. (Participant PS7)*

### 3.5.5 Memoing

Strauss and Corbin (1994) suggest that the use of memos and diagrams shows the internal dialogue, in essence the actual analysis of the data. Maxwell (1992) believed that memos can convert thought into a form that allows examination and further manipulation. For each of my categories I created memos on Nvivo which was easily done as it is built into the functionality of the software. These memos and constantly evolving diagrams of the grounded theory framework provided the backdrop for many critical conversations with my supervisors Dr Raymond Lynch and Dr Niall Seery. I also used my fellow PhD students as critical friends who helped me develop the categories and core variables of the emergent theoretical framework. Shown on the next page is an example of the memo created for the category which developed into
Expectations. Through analysis it became evident in the research that some teachers felt that unrealistic expectations were a cause of stress for the conscientious. The memo shows that different forms of high or unrealistic expectations came from 3 sources: parents, students and school management.

Figure 4: Memo relating to the expectations core category which emerged from the grounded theory
3.5.6 Grounded theory coding strategy

The specific coding strategy used in this research drew on the grounded theory approach promoted by Strauss and Corbin (1990), (Corbin et al. 2014). It involved three distinct phases called: open coding, axial coding and selective coding (Strauss and Corbin 1990). During the open coding phase, 319 unique concepts emerged as possible factors influencing post primary teachers stress, (see next page). For many of the concepts as they emerged from the data, memos were created to ensure; 1) that the concepts had a clear and defined meaning and 2) that all the researchers working on the project had a shared meaning for the concepts. Glaser and Strauss (1967) also suggested that there is value in memoing notes, comments or ideas that come to mind on surprising matters, emerging themes, methodological points, suggestions for further enquiry, hunches and possible hypothesis. The axial coding phase of the research involved comparing, contrasting and merging the developing concepts into categories. Categories are described as a concept which has been elaborated and defined so that it represents a real world phenomenon (Strauss and Corbin 1998). The 319 concepts were eventually combined into 31 categories (see below). The final stage in the analysis of the data and generation of the theoretical framework is the selective coding phase. During this phase the core categories were identified—around which all other variables were connected. For this piece of research; five core categories were identified: 1. Social environment, 2. Professional efficacy, 3. Management culture, 4. Facilitating learning, and 5. Department of Education policy.
Figure 5: Department Policy core variable, categories and concepts relating to NQTs and CID
Figure 6: Coded transcript relating to lack of CID
3.5.7 Credibility and trustworthiness of findings

Corbin et al. (2014) suggest that validity and reliability are not appropriate for assessing grounded theory findings. Instead she suggests that credibility and trustworthiness are more appropriate for evaluating the qualitative methods used (Lincoln and Guba 1985, Guba and Lincoln 1994). Eight procedures for ensuring the trustworthiness and credibility of qualitative methods were used, they are: 1. Prolonged engagement and observation in the field, 2. Triangulation, 3. Peer reviewing and debriefing, 4. Negative case analysis, 5. Clarifying researcher bias, 6. Member checks, 7. Rich thick descriptions, and 8. External Audits (Corbin et al. 2014). These eight procedures will be discussed in sequence.

3.5.7.1 Prolonged engagement and observation in the field

Prolonged engagement according to Lincoln and Guba (1985) is “critical in attending to credibility”. The constant comparison/theoretical sampling procedure used in this phase of the research meant that I was visiting schools and analysing data for 3 months. For instance after the initial pilot focus group with 7 post graduate teachers was completed it took a further 2 weeks to transcribe, analyse and evaluate the findings before visiting the first post primary school and conducting the first interview. Each focus group took place almost 2 weeks after the previous one. It took 8 focus groups in post primary schools before I was satisfied that theoretical saturation had taken place to an appropriate standard.
3.5.7.2 Triangulation

Triangulation concerns the use of more than one method or source of data in the study of the social phenomena (Bryman 2012). Triangulation can take many forms (ibid). Creswell and Miller (2000) suggest that triangulation is a validity procedure where researchers are searching for convergence among multiple and different sources of information to form themes or categories in a study. Denzin (1973) suggested that there are 4 different types of triangulation: across data sources, theories, methods and among different investigators.

The use of random purposeful sampling and constant comparison (Corbin et al. 2014) meant that emerging themes were questioned and challenged by participants in terms of their validity in subsequent focus groups of which there were eight in total. The findings from Phase 1 are also triangulated against the quantitative findings in Phase 2 in the discussion section of the thesis.

3.5.7.3 Peer reviewing and debriefing

Lincoln and Guba (1985) suggest that a peer reviewer is someone who provides support, plays devil’s advocate, challenges the researchers’ assumptions, pushes the researcher to the next step methodologically and asks hard questions about the methods and interpretations. Creswell and Miller (2000) suggest that the individual(s) who act as peer reviewers and debriefers are most suitably individuals who can engage with the researcher over the duration of the study. The feedback from these individuals can be written or oral (ibid). My supervisors Dr Raymond Lynch and Dr Niall Seery acted as my peer reviewers. They continually reflected with me during the research process,
their questioning helped me to analyse my actions on a deeper level in turn asking questions of myself, the participants and the data.

3.5.7.4 Negative case analysis

The search for disconfirming or negative evidence has been described as being closely related to triangulation (Miles and Huberman 1994). Creswell and Miller (2000) suggests that once codes and themes have been established, researchers should explore the data for evidence that is inconsistent with the themes which emerged. Challenging confirmatory bias adds depth and complexity to social research (Kirsch 1999). The discussion section of the thesis explores the differences between the qualitative and quantitative findings in this research project. The discussion will also explore corroboration and contradictions with published research in Ireland and internationally.

3.5.7.5 Clarifying researcher bias

Creswell and Miller (2000) have argued that researchers should make every effort to self-disclose their assumptions, beliefs and biases that may play a role in shaping their research. Hesse-Biber and Piatelli (2012) suggest that reflexivity is a self-critical tool that can help social scientists explore how their personal stories, theoretical positions and cultural and political environments may influence the research process. The following three sections will outline these.
3.5.7.5.1 My personal story

I am a 32 year old heterosexual white male from rural County Tipperary in the Republic of Ireland. I grew up and worked on a dairy farm. I also worked in a pub/nightclub and wedding venue in my teens. I am a fitness/health enthusiast. I am very interested in contemporary construction, technology, education and psychology with a keen interest in positive psychology. I enjoy socialising with my friends and have a large social circle. My mother was a post primary teacher of the subjects Irish, History and Geography. I have a brother who is also a post-primary teacher and who is now a school principal in a DEIS school in County Tipperary. I first trained as an electrician, then returned to the University of Limerick for further study and qualified as a post primary teacher. I am a qualified teacher of the subjects Design and Communication Graphics, Technology and Engineering. I graduated in 2012. I am married and my wife is a primary school teacher. I went to school in an all-boys primary school and all boys secondary school. I endeavoured to be cognisant throughout this project that my upbringing, culture and life to date has given me a certain view of stress and how to cope with it that will be different to others. The teachers in this project will have their own conception of the demands that cause the most stress for teachers, I endeavoured to not allow this to influence the findings of this project.

3.5.7.5.2 My theoretical position

As I am researching the concept of stress using a grounded theoretical analysis it is important that I articulate my theoretical position in terms of stress as it stands prior to gathering the data and engaging in the analysis process. My views align with those of Lazarus who suggests that stress is a reaction to a stressor that emerges out of the person-environment relationship (Lazarus 1966, Lazarus 1993a, Lazarus 2000). The
reaction to the physical or psychological stressor is cognitively apprised by the individual (ibid). The cognitive appraisal is influenced by a complex combination of personal factors (lower and higher order personality factors), behavioural factors (exercise, diet) and environmental factors (resources, demands) (Bakker and Demerouti 2016).

3.5.7.5.3 The cultural and political environment

During data collection a new system of assessing students in the Irish Junior Certificate was being rolled out with teachers receiving professional development from the National Council for Curriculum and Development. The new system which involved teachers assigning 40% of terminal grades to their own students had just been introduced (MacPhail et al. 2017). It followed a rejection of previous plans which would have abolished the state run terminal examinations in favour of teachers assigning 100% of terminal grades to their students (MacPhail et al. 2017). The new reforms were not being warmly received by teachers or unions (MacPhail et al. 2018). This emerged during the focus groups. The country was also emerging from recession during the gathering of data in the schools. The recession resulted in a lot of austerity measures which were felt by teachers in Irish schools (Savage et al. 2015). Cuts were being made to resources and teacher-student ratios were higher than other OECD countries (Kelleher and Weir 2016).

3.5.7.6 Member checks,

Member checking which consists of taking data and interpretations back to participants has been described as being crucial for establishing the credibility of the findings in a
research project (Lincoln and Guba 1985, Guba and Lincoln 1994). The transcripts and a summary of the findings from each focus group were emailed to the participating teachers for their approval. In all cases the participating teachers approved the contents of the documents and did not challenge the findings. Creswell and Miller (2000) suggest that this process moves the validating from the researcher to the hands of the participants, thus enhancing credibility. Fellow PhD students also reviewed the transcripts and summary of findings for each of the focus groups adding an extra critical eye on the analysis which had taken place.

3.5.7.7 Rich thick descriptions

I hope that the inclusion of the transcripts in the appendix and the detailed write up given for Phase 1 of the results helps demonstrate the truthfulness and credibility of both the research process and findings from this study. In the Phase 1 results section of this thesis, only 12 of 31 emergent categories are discussed in great detail. While there are a number of reasons articulated in the results section for this decision, one of the key reasons is that the 12 categories are discussed in great detail with rich accounts of where the variables emerged from. The relevant discourse between the teachers is explored in great detail for each of the categories.

3.5.7.8 External Audits

I engaged in a number of conference presentations during my time on the structured PhD programme which provided me with opportunities to present my research and get feedback from the academic community. The Educational Studies Association of Ireland (ESAI) national conference every year has been the most relevant conference
as it provided opportunities to present in front of Irish academics’, many of whom were from the post-primary community and they posed many insightful questions and suggestions as I progressed through my project. The annual progressions in the University of Limerick however provided the best opportunity to have my research audited by academic’s in a formal setting. It was during these audits that my research project was formally examined by academics.
3.6 Phase 2: Quantitative

Results from Phase 1 of the research highlighted job demand factors, job resource factors and general variables Irish post primary teachers believed had the potential to impact their perceived stress levels. The findings informed the creation of a survey administered in Phase 2, specifically sections 1 and 2. The survey (Appendix 9) contained three sections which are discussed in the following section.

3.6.1 The survey(s)

Section 1 of the survey contained five questions which gathered nominal and ordinal demographic data relating to participant’s age, the subjects they taught, the length of time they have been teaching, the status of the contract they have in the school and whether or not they have a base room for teaching their classes.

Section 2 contained 39 questions which gathered interval data relating to the remaining teaching factors identified in Phase 1 including: professional competency, humour experienced, commitment to preparation and organisation, rumination, value placed on professional development, unrealistic expectations, supports, positive relationships, challenging student issues, feelings of appreciation, discipline challenges, motivation challenges, challenges promoting independent learning, differentiation challenges, time off in the day, collegiality in the school, perceptions of student achievement within the school, perceptions of communication channels within the school, perceptions of overall school atmosphere, perceptions of impact of cuts, perceptions of department inspections, perceptions of administration demands being placed on teachers, perceptions of new Junior Cycle assessment strategy, perceptions of Leaving
Certificate system, public and media perception, structure of teaching terms, lack of promotion and reward opportunities.

Section 3 of the survey contained the Cohen et al. (1983) 14 item perceived stress scale. The scale consists of 14 questions which attempt to measure participants global levels of perceived stress.

In each school the principal or a nominated individual filled in another survey (Appendix 8) which gathered demographic information relating to the sex of the student population, the number of students, the number of teachers working within the school, boarding or non-boarding status of students, fee paying status of the school, location of the school, DEIS status of the school, religious status of the school, spoken language of the school and finally the school classification (i.e. voluntary or ETB). This reduced the size of the general survey administered to the teachers in the schools.

3.6.2 Survey design

The survey (appendix 9) was designed using the practical recommendations provided by Bryman (2015) and Cohen (2018). Every effort has been made to ensure that the instructions are clear and as concise and succinct as possible, (please see the next section on piloting). The demographics questions, the job demands and resources questions and perceived stress scale were divided up into 3 sections to ensure that the survey was as digestible as possible for participants. Participants had to circle rather than write numbers to minimise response time as much as possible. For this research project I wanted to explore if groups of the job resources and demands were predictive of perceived stress; each of the 39 factors were presented in the survey in a rating scale style with a 6 item response format ranging from strongly agree to strongly disagree.
Oppenheim (2000) suggested that researchers should ensure they use a balanced number of positive and negative questions to avoid question response bias. For this reason, the 39 items relating to job demands and job resources have been intermittently phrased positively and negatively. DeVellis (2016) suggest that it is very important that all aspects of surveys are piloted. The following section deals with the piloting of the survey prior to distribution.

3.6.3 Piloting

The questionnaires were then distributed to 7 qualified teachers. They each completed the survey and took notes of areas where they felt there may be confusion or issues for participants in the main study. Most of the feedback was very easy to act upon, however there were some instances where contradictory feedback was received relating to question wording. For this reason I had a meeting with the teacher where the final structure of the questionnaire was agreed upon. The draft questionnaire was then reviewed by my supervisors together in a meeting, further small changes were suggested and implemented. Following this process, 900 surveys were then printed and 880 distributed to participants in schools around the country over the following two weeks.

3.6.4 Participants and sampling

The second phase of the research involved the distribution of surveys to teachers in a randomly selected sample of schools in the Republic of Ireland. A random cluster sampling technique was used (Cohen 2018). A complete list of all schools in the Republic was obtained from the Department of Education and Skills website, this was
imported into Microsoft Excel and a random number generator was then used to order the schools which were then contacted one by one. For Principle Components Analysis (PCA) which was conducted on the Phase 2 data, some researchers suggest that 300 cases are needed (Tabachnick and Fidell 2007), Nunnally (1978) on the other hand suggests that it is not the overall sample size that matters but it is ratio of cases to items when conducting a PCA analysis. Nunnally (1978) recommends a ten to one ratio as a starting point which would be 390 participants in terms of this research assuming that all 39 items load on the emergent factors within the pattern and structure matrix. It was decided to administer 900 surveys assuming that half of them would not be returned.

48 principals agreed to administer the surveys in their schools. In total 880 surveys were posted to 48 schools. 37 of the schools returned 381 surveys. Of the 381 surveys, 35 had too many errors and omissions and had to be removed from the sample leaving 356 suitable surveys for analysing. The descriptive statistics breaking down the nature of the schools and teachers who completed the surveys can be seen in the results section of the thesis. The surveys were all distributed to schools in March 2017 during the same 2 week period. From discussions with PhD student colleagues, my supervisors and lecturers on my structured PhD programme it was suggested that stress levels in schools may be different at different times of the year depending on the happenings at the time in the schools, so it was important to distribute the surveys during the same time period. However many of the surveys were not returned until the following June so the likelihood is that they were not filled in during March. Many principals explained that they would get teachers to fill the surveys at staff meetings or course days.
3.6.5 Statistical tests

The research used a combination of univariate, bivariate and multivariate statistical methods. The univariate statistics were used to descriptively explore the data that emerged from the surveys. The bivariate methods including both independent-samples t-tests and one way between groups analysis of variance (ANOVA) were used to compare the dependent variable (perceived stress scores) with different independent variables. The multivariate methods used in the research included principle component analysis and standard regression. They were used to compare groups of independent variables with the dependent variable (perceived stress).

3.6.5.1 Univariate statistics (descriptives)

One person from each participating school filled in a ten item survey relating to school based factors described in a previous section (Appendix 8). The ordinal and nominal data relating to these factors is descriptively displayed using frequency tables in the results section. Similarly there are 5 teacher based ordinal and nominal factors in the main survey which are descriptively explored using frequency tables in the proceeding section of the results chapter. Next, the 39 interval factors related to the job demands and job resources teachers identified in Phase 1 of the research are explored using a table. The table shows the maximum scores, minimum scores, mean scores and standard deviation for each factor. Finally, a table explores the participating teachers’ results for the perceived stress scale questions.
3.6.5.2 Bivariate statistics

The ordinal and nominal data which emerged from the Phase 2 teacher surveys were explored using bivariate analysis methods namely independent-samples t-tests and one way between groups analysis of variance (ANOVA). ANOVA’s were used to explore factors such as student sex and school pupil numbers as there were more than one group to compare against one another in terms of the dependent variable perceived stress. T-tests were used to analyse factors such as the DEIS status of the schools the teachers worked in and if it correlated with the dependent variable perceived stress. The T-test was used when there were only two possible groups: in the previous case teachers either worked in a DEIS school or they did not.

3.6.5.3 Multivariate statistics

The interval data from the survey (job demands and job resources) was first analysed using principle components analysis, the factors which emerged were then assessed using standard multiple regression to assess their ability to predict the dependent variable perceived stress. PCA revealed the presence of 7 factors, however the regression analysis suggested that only 4 of the factors were significantly predictive of variance in perceived stress.

3.6.6 Normality, validity and reliability

IBM SPSS was used for analysing the quantitative data for this research. The software package contains tests for assessing, normality, validity and reliability of ones data and findings. The following sections will outline the tests that were used for this research.
3.6.6.1 Normality

George (2011) suggests that when values for asymmetry and kurtosis fall between -2 and +2, this is acceptable to prove normal univariate distribution. Tabachnick and Fidell (2007) are stricter suggesting that acceptable ranges for skewness and kurtosis should be below +1.5 and above -1.5.

Skewness and kurtosis values are only one indication of the normality of a data set. Tabachnick and Fidell (2007) also suggest that for larger samples (200+ cases) further statistical and visual testing is required to ensure that the data can indeed be described as normally distributed. The 5% trimmed mean is another statistic which is important to consider, it assesses if extreme scores are affecting the mean and as a result the normal distribution of the data.

The Kolmogorov-Smirnov statistic used for sample sizes of greater than 50 also indicates if the scores for participants are normally distributed. The Sig values greater than .05 mean there is a non-significant result, this suggests that the data is normal (Lilliefors 1967)

Visual inspection of histograms, normal Q-Q plots, detrended normal Q-Q plots and box plots also indicates if ratio data is normally distributed (Pallant 2013). The findings presented in the results section are in line with all the above values indicating that the scores for perceived stress for the sample of 356 teachers is normally distributed.
3.6.6.2 Reliability

As previously reported in section 2.6.2, (Lee 2012), a meta review found the Perceived Stress Scale to have a Cronbach alpha values >.7 in 23 cases where it was measured. For this research project the internal consistency (reliability) of the PSS was also measured using the Cronbach alpha coefficient. It has been reported that Cronbach alpha coefficients should ideally be above .7 (DeVellis 2016). Cronbach alpha values indicate the degree to which items in the scale hang together and are measuring the same construct (ibid). Data from the inter item correlation matrix can be used to assess the reliability of scales also in SPSS when there is fewer than 10 items (Pallant 2013). However as the PSS is a 14 item scale, the Cronbach alpha coefficient was used as the primary measure of internal consistency. A Cronbach alpha coefficient of .86 was recorded, this was well within acceptable limits as were the inter item correlation values on the associated inter item correlation matrix table.

The meta review of the PSS by (Lee 2012) also found that the test retest reliability of the PSS was greater than .7 in six of the seven studies where is was reported. For the study where the value dropped below .7, the re-test took place after 6 weeks (Lee 2012). (Cohen et al. 1983) previously reported that because the appraisal of stress is influenced by life events and current coping factors, he would not expect test-retest reliability to be high after 6 weeks. However test-re-test reliability is not relevant to this study as the data is cross sectional rather than longitudinal.

In principle components analysis, (Pallant 2013) recommends using Pearson’s r to assess the relationships within factors and between factors (reliability) when completing a factor analysis. The recommendation is that all correlations within the factors are above $r = .3$, while no correlations between factors should be above $r = .3$. Inspection of the component correlation matrix shows that none of the identified factors
have correlations with one another exceeding .3, while inspection of the pattern and structure matrixes reveal that all correlations within the emerging factors have correlations exceeding .3.

### 3.6.6.3 Validity

Traditionally there are 4 types of validity that researchers have argued are important when conducting and analysing quantitative research, they are: 1. statistical conclusion validity, 2. internal validity, 3. construct validity and finally 4. external validity (Thomas D Cook and Donald Thomas Campbell 1979, Drost 2011, García-Pérez 2012). Each of these 4 facets of research validity will be discussed in the following section and paragraphs.

García-Pérez (2012) explained that statistical conclusion validity (SCV) relates to: 1. whether the study has enough statistical power to detect an effect if it does exist, 2. whether there is a risk that the study will reveal an effect that does not exist and finally 3. how can the magnitude of the effect be confidently estimated. An important element of SCV is that an appropriate sample size is obtained, normality of the data is established, assumptions relevant to statistical tests are confirmed, and findings are supported by meaningful p values and effect sizes (García-Pérez 2012). All of the previously mentioned requirements for SCV are reported in a detailed manner in the sections relevant to sampling, normality and the tests run on the data, the SCV of this data and the findings are well established with no violations of assumptions. Finally the G Power program was used to establish the statistical power of all significant effects (Faul et al. 2007, Faul et al. 2009).
Internal validity relates to whether the relationships found are causal and have not been impacted by relevant threats (Drost 2011). The history threat is not specifically relevant as surveys were administered to all the schools on the same week, however some of the schools took up to 3 months to return the surveys, events may have occurred that impacted the stress levels of all teachers in the country on a given week but nothing of national significance happened. Instrument change did not occur during the gathering of the data, all participants received the same survey. Selection bias is irrelevant as all schools were randomly contacted to participate in the research. Repeated testing is not an issue in this project as the surveys administered to participants in the project were their only interaction with the research. Differential attrition was not an issue as no participants dropped out of the study. Experimenter biasing of participants responses was not possible as there was no personal interaction with participants who completed the surveys for Phase 2. Resentful demoralization may have occurred in some cases with teachers completing surveys in an exaggerated manner in an effort to emphasise the stressful nature of the job. As changes to perceived stress were not being measured and stress between groups was not being measured, threats such as: ambiguous temporal precedence, confounding, maturation, regression towards the mean, selection-maturation interaction and diffusion were not relevant. In summarising, every effort was made to ensure all pragmatic considerations were made to safeguard that the findings were internally valid.

Construct validity relates to how well a construct is operationalised into a functioning and operating reality (Trochim et al. 2015). Drost (2011) argued that construct validity involves accumulating evidence in six validity types: 1. Face validity, content validity, concurrent validity, predictive validity, convergent validity and divergent validity.
Face validity and content validity together are considered translational validity (Trochim et al. 2015). During the first phase of the project when the qualitative data was being analysed to create a framework that would underpin the questions for the quantitative phase of the project, face validity was used to group concepts together into relevant categories that made the survey questions. This subjective judgement is unavoidable and needed in research projects but must be supported by content validity which is a form of qualitative validity (Drost 2011). The content validity of the final categories that made the questions for the survey in this project was established through the credibility and trustworthiness qualitative criteria discussed in section 3.5.7.
Predictive validity, concurrent validity, convergent and divergent validity together make up criterion related validity (Trochim et al. 2015). Drost (2011) explained that when the validity criterion exists at the same time as the measure then concurrent validity is relevant, alternatively when the validity criterion emerges in the future then predictive validity is relevant. In the case of this project the perceived stress scale was part of the same survey and acted as the concurrent validity measure for the factors which emerged from PCA. A systematic review of the psychometric properties of the 14 item perceived stress scale in different jurisdictions by (Lee 2012) indicated that the scale was found to have sound internal and external validity, specifically the scale was shown to have sound hypothesis validity, criterion validity and factorial validity established in a range of studies. See 2.6.2 for more information relating to the reliability and validity of the PSS.

Convergent and discriminant validity are the second mechanism for supporting the criterion validity aspect of construct validity (Drost 2011). They involve testing for convergence within different manipulations of similar constructs and secondly testing for divergence between manipulations of related but different constructs (Thomas D Cook and Donald Thomas Campbell 1979, Thomas D Cook and Donald T Campbell 1979). The component correlation matrix discussed in section 4.2.4.1 indicated that the 7 factors which emerged from the PCA were distinctly different as the correlations between them were all below the recommended value of .3 (Pallant 2013). On the other hand the pattern and structure matrixes indicated that correlations of items within factors were all above the recommended .3 values as discussed in section 4.2.4.1.

The external validity or generalisability of the results from this research centre on the sampling strategies used in both phases of the project. The first phase of the project used a specific random purposeful sampling technique used in grounded theory research
known as theoretical sampling (Strauss and Corbin 1998), details of the process can be seen in section 3.5.5. Sampling in the second quantitative phase of the project was also a random process with 48 schools accepting 880 surveys, this resulted in 37 schools returning surveys from 381 participants, 25 of the surveys were spoiled leaving 356 suitable for analysis, (see section 3.8.3 for more information). The sample size of the project is significantly large meaning that inferences can be drawn which may be reflective of the Irish post primary teacher population.
3.7 Ethical considerations

Ethical approval for this research was sought from and approved by the Education Health Science Research Committee in the University of Limerick. The research was conducted abiding by Diener et al. (1978) four ethical principles of social research: (1) no harm to participants, (2) informed consent, (3) protection of privacy and (4) non-use of deception.

3.7.1 Informed consent

Howe and Moses (1999) believe that acquiring informed consent from participants is one of the key cornerstones of ethical behaviour in social research. The process of gaining informed consent from participants serves a number of functions: 1. It respects the right of self-determination, 2. It places some of the responsibility on the participant should anything go wrong in the research, finally 3. Participants are afforded the opportunity to weigh up the risks/benefits of taking part in the research (Cohen 2018). Bryman (2015) noted that informed consent is still a hotly debated topic with many researchers still engaging in disguised or covert observation. However Bryman (2015) noted that in most cases where participants are not completely informed about the true nature of the research, the transgressions are minor when compared with (Milgram 1963, Zimbardo 1973). For this project participants were fully informed about the nature of the research. There was no deception involved. For both Phase 1 and 2 of the research, detailed information sheets were given to participants prior to engaging in the research (Appendix 2+6). This insured that participants knew what was being researched, how their identities were being protected, and that taking part in the research was completely voluntary. Participants then signed informed consent forms.
(Appendix 3+7). Participants knew they could leave the study if they wished at any time.

3.7.2 Harm to participants

Bryman (2012) suggested that research that is likely to harm or hurt participants is unacceptable and an alternative means of researching the problem or questions should be developed. Cohen (2018) argued further that research should do no physical, psychological, emotional, professional or personal harm to participants. If there is the potential of harm, even when the chances are slim, this should be catered for by the researcher (ibid). For Phase 1 of the research, participants were discussing factors that they felt had the potential to positively and negatively influence their perceived stress levels. As previously mentioned, during the pilot study focus group, the participants were asked to give feedback and suggested that it would be best to discuss factors that may positively impact perceived stress after discussing the factors that may negatively impact perceived stress. The reason for this suggestion was that participants would leave the focus group following a positive rather than negative conversation. Additionally, in case any of the participants did experience distress during the focus group discussions, information relating to the Care Call Ireland service (appendix 2) was provided to the teachers. Care Call Ireland provide a free confidential counselling service to any post primary teacher employed by the Department of Education and skills.
3.7.3 Protection of privacy

Transgressions of individual’s anonymity and confidentiality are not regarded as acceptable in research of any kind (Bryman 2015). Cohen (2018) is in agreement suggesting that to maintain individuals’ privacy researchers must protect participants’ confidentiality and anonymity; confidentiality relates to not disclosing information relating to participants that may identify the individual or may enable others to trace that individual, Anonymity refers to individuals’ identity’s remaining private unless agreed in the consent forms. On the other hand some researchers have argued that there may be circumstances where these ethical principles relating to privacy should be broken; Howe and Moses (1999) suggest that privacy should not result in abusive teachers being protected and allowed to continue their behaviour. Wiles et al. (2008) similarly suggested that researchers may need to break agreements relating to privacy when it is in the interests of safety or when it relates to potentially criminal activity.

The data in Phase 1 of this research consisted of audio recordings from focus groups and surveys. Recordings and associated transcripts have been stored as a code in a password protected folder on the PIs computer. The files were deleted from the recording device once they were saved to the computer. Phase 2 of the research consisted of questionnaires with a section for a school code and participant code (Appendix 9). The hardcopies of the questionnaires are stored in a locked cabinet in the PIs office. All electronic files relating to the surveys are stored on the PIs computer in a password protected folder. At no time in this study were participant names on any hard copies or electronic files in the investigators possession. School principals or the assigned individual in the school collecting the surveys have a document with individuals’ names and their associated code. In the case of a teacher wanting to
withdraw from the research, they simply provided me with their code, their hard and soft data was then removed from the research and deleted/shredded appropriately.

3.7.4 Non-use of deception

Bryman (2015) has argued that researchers must not misrepresent their research as something other than what it is. When researchers misrepresent the nature of the study to participants, this effectively means that informed consent has not been achieved (Cohen 2018). There was no deception of any kind used on this research project, participants knew what I was researching, that it was for a PhD with the eventual aim of publishing the findings in peer reviewed journals using pseudonyms for each participant and school.
3.8 Limitations

All research, no matter how well thought out, will have limitations in the methodology and this research is no different. Price and Murnan (2004) believed that there is a necessity for social scientists to report potential limitations. Price and Murnan (2004) suggested that there are two major categories of limitations: 1. Threats to internal validity, does the instrument measure what it is supposed to? 2. Threats to external validity, are the results generalizable to the entire population?

For the first phase of the research, a random purposeful sampling strategy was used until theoretical saturation was achieved (Corbin et al. 2014). Criteria deemed potentially important when purposefully selecting schools were: sex of the student population, number of students, number of teachers, boarding status, fee paying status, school location, DEIS status, religious denomination, language spoken, and representative body of the school. While a very good spread of data was achieved, there are some limitations: Only one of the schools was all boys, and one all girls with the rest mixed sex; Only one of the eight schools was a boarding school; the same school was the only fee paying school; Only one of the schools was a DEIS school; no Church of Ireland school is part of the research; Only one Gaelscoil was part of the sample. For the focus groups themselves, school principals and teachers were very accommodating as the research got into the later stages of data collection, as a result the sample of 43 teachers consists of a spread of all the subject areas, however only one teacher from each of the following subject areas took part: home economics, art and religion.

For the second phase of the research, there were also some limitations, of the 356 participants that completed surveys; only 21 worked in an all-male school, only 43 in all female schools, no teachers working in boarding schools completed the survey, no
teachers working in fee paying schools completed the surveys, only 7 teachers working in Gaelscoil completed the survey. The surveys were returned over a number of months and the stress levels within the school may have changed during this time. Finally, an important limitation of the research is the inability to assign cause and effect of perceived stress and identified demands and resources; this is a result of the cross sectional nature of the project. However the data taken in the consideration of previous research and theory can be used to make valuable inferences about stress in the Irish post primary context.
3.9 Conclusion

The methodology for this thesis was designed firstly as a mechanism to address the overall research aim: to explore the influence of Irish post primary teachers’ profession on their perceived stress. The exploratory sequential design was additionally informed by the three objectives previously identified to focus this inquiry:

1. To explore the relationship between teaching demographic variables and Irish post primary teachers’ perceived stress.
2. To investigate the job demands and resources of Irish post primary teachers’ and any potential relationship with teachers’ perceived stress.
3. To examine the utility of the Job Demands-Resources Theory within the Irish post primary teaching context.

This chapter of the thesis has argued that philosophical assumptions and positions matter when it comes to selecting the methods as they facilitate critical debate (Denzin 2012). The paradigm of critical realism provides the foundations for the mixed methods sequential exploratory design of the project (Bhaskar 2013). The paradigm assumes an objectivist ontology and relativistic epistemology (ibid). Critical realists choose methods based on their appropriateness as instruments for getting the best interpretations of the phenomena(s) in question (Krauss 2005). The benefits of using a combination of qualitative and quantitative methods over two distinct phases of data gathering and analysis were discussed (Mayoh and Onwuegbuzie 2015). The philosophical underpinnings of critical realism align with my own philosophical assumptions about the social world and work within the Creswell et al. (2003) exploratory sequential mixed method design employed by this research.
The first phase of the project used focus groups to gather data and analysis was informed by Strausian grounded theory (Glaser and Strauss 1967, Strauss and Corbin 1994, Corbin et al. 2014). Eight focus groups ranging in size from 3 to 9 participants were used to gather the data. Data gathering and analysis occurred simultaneously in a process known as constant comparison until theoretical saturation occurred (Corbin et al. 2014). Eight procedures suggested by Creswell and Miller (2000) were followed to promote the credibility and trustworthiness of the findings. 31 factors emerged with the potential to influence teachers perceived stress levels.

The second phase of the project used surveys that were quantitatively analysed using a combination of bivariate and multivariate statistics (Pallant 2013). The survey contained three sections: section 1 included 5 questions which gathered data relating to the teachers age, their subjects, career duration, contract status and if they have a base room they work from; section 2 of the survey contained 39 positively and negatively phrased questions relating to the stress mediating factors that the teachers identified in Phase 1; lastly, the third section of the survey contained the 14 item Perceived Stress Scale (Cohen et al. 1983). 880 surveys were distributed to a random sample of 47 schools, 381 were returned from 37 schools, 35 surveys had too many errors and had to be removed leaving an effective sample size of 356.

The final section of the chapter detailed the ethical considerations and actions taken for the project. The research was conducted in accordance with Diener et al. (1978) four ethical principles: 1. no harm to participants, 2. informed consent, 3. protection of privacy, and 4. non-use of deception. Finally, potential limitations arising from sampling for Phase 1 and Phase 2 of the research were discussed. All information sheets and surveys can be seen in the appendices.
4. Results / Findings

4.1 Introduction

The following chapter will present the results from both phases of the project. Firstly, the Phase 1 qualitative findings which emerged from the focus groups will be discussed; the grounded theoretical framework of Irish post primary teacher stress which was generated is detailed in this section. Secondly, the Phase 2 quantitative findings which emerged from the surveys will be discussed. The final section will detail the exploratory sequential developments to the theoretical framework following the results of the principle components analysis and standard multiple regression.

4.2 Phase 1: Qualitative

Table 8 and on the following pages provide a breakdown of the results which emerged from the grounded theory analysis of the data for Phase 1 of the research. Each column on Table 8 represents a core variable which emerged from the analysis. Each core variable has associated categories linked to it. There is a letter preceding each of these: (R) means that the category was proposed by the teachers to buffer the impact of stress (job Resource); (D) means that the category was proposed by teachers to be a stressor (job Demand)—an agent which promotes the experience of stress. In each of the columns the categories are ordered based on the number of references teachers made to each category. There are two numbers after the categories in the format (*;**). The first number denotes the number of focus groups during which the respective category was discussed. The second number indicates the total number of references made to the category during the focus groups as coded in the Nvivo software.
Table 8: Grounded theory categories and associated core variables

<table>
<thead>
<tr>
<th>Professional Efficacy (8:156)</th>
<th>Social Environment (8:329)</th>
<th>Facilitating Learning (8:238)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(D,R) Competency* (8:109)</td>
<td>(D) Expectations* (7:93)</td>
<td>(D) Discipline Challenges* (7:73)</td>
</tr>
<tr>
<td>(R) Humour (7:20)</td>
<td>(D,R) Support* (8:72)</td>
<td>(D,R) Student Motivation* (7:67)</td>
</tr>
<tr>
<td>(D,R) Preparation (4:10)</td>
<td>(R) Relationships* (7:58)</td>
<td>(D) Independent Learning Challenges (5:63)</td>
</tr>
<tr>
<td>(D) Ruminartion (3:10)</td>
<td>(D) Difficult Student Issues (5:56)</td>
<td>(D) Differentiation Challenges (4:23)</td>
</tr>
<tr>
<td>(R) Professional Development (2:7)</td>
<td>(R) Appreciation* (8:50)</td>
<td>(D) Practical Subject Challenges (4:12)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Management Culture (8:221)</th>
<th>Department Policy (8:539)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(D,R) Appropriate Breaks* (8:83)</td>
<td>(D) Lack of CID* (6:170)</td>
</tr>
<tr>
<td>(D,R) Collegiality (7:35)</td>
<td>(D) Cuts* (7:133)</td>
</tr>
<tr>
<td>(D) Logistical Challenges (7:34)</td>
<td>(D) Inspections* (8:56)</td>
</tr>
<tr>
<td>(R) Student Achievement (8:29)</td>
<td>(D) Increasing Admin Demands* (7:52)</td>
</tr>
<tr>
<td>(D) Communication Failures (3:16)</td>
<td>(D) New Junior Cycle Assessment (6:46)</td>
</tr>
<tr>
<td>(R) Positive Atmosphere (2:15)</td>
<td>(D) Leaving Certificate System (5:36)</td>
</tr>
<tr>
<td>(R) Staff Celebrations (3:9)</td>
<td>(D) Public and Media Depiction (4:23)</td>
</tr>
<tr>
<td></td>
<td>(D) Start and Finish of Semesters (3:12)</td>
</tr>
<tr>
<td></td>
<td>(D,R) Lack of Promotion and Reward (3:11)</td>
</tr>
</tbody>
</table>

Figure 8 on the following page presents a graphical representation of the theoretical framework which emerged from the iterative grounded theory process detailed by Corbin et al. (2014) in their latest grounded theory methodology book. The framework details the five key work related areas which influence post primary teachers stress in Ireland. Each work related area consists of potential job demands and job resources which can mediate teachers global perceived stress levels. Some of the factors in the centre of the Venn diagrams can be either a demand or resource depending on context or circumstance.
The next section of the results chapter will present 5 tables (Tables 9-13) which explain the nature of the core variables and associated categories which emerged. A short summary of quotations from the participating teachers to support the findings will also be presented. After each table the most significant categories will be discussed in further detail; for the purposes of this study significant categories were defined as those discussed in 6 or more schools with more than 50 references on Nvivo. 12 categories met this criteria, these are the categories marked in Table 8 on the previous page with the * symbols.
<table>
<thead>
<tr>
<th>Competency*</th>
<th>Humour</th>
<th>Preparation</th>
<th>Rumination</th>
<th>Professional Development</th>
</tr>
</thead>
</table>
| When teachers question their professional capability it may **promote perceived stress**  

_P16_ “If you are having problems with someone and someone says I have no problem with them at all, and you are saying—what is it with me”, “you feel a sense of failure”.
| Experiencing humour on the job may **buffer perceived stress**  

(P17) “some days are very funny and I get a good kick out of them. you know—I wouldn’t be doing it if it was all dread and stuff”  

(P2) “when you get to that level you know where you still have—you know—control, but you can have—you know—as you said the bit of banter with them and a bit of crack—knowing that you can bring them back straightaway.”  

(P8) “When a student makes me laugh”.  

(P1) “You have a bit of crack with other teachers” | Not being organised or prepared for class may **promote perceived stress**  

(P33) “Not being prepared would cause me stress”.  

Being organised and prepared may help **buffer perceived stress**.  

(P4) “any good teacher who knows what they are doing will already have their plans in place and everything done, they will know what they are doing every week like”  

(P5) “it is a job of ups and downs though, there is days you come home and just think—god, what—that happened and you bring too much home, I think often teachers bring too much home and it’s very hard because it’s personal;”  

(P3) suggested that when teachers begin their career “you take everything to heart I think—you would be bothered by things” | Ruminating during the day and on evenings after work about negative experiences from the work day may **promote perceived stress**.  

(P8) suggested that professional development is important for: ”stimulating teachers”, encouraging a more “positive attitude” among teachers; it helps teachers “find what they are good at” and finally promotes the “positive well-being” of teachers.  

(P7) suggested that it was important that teachers engage in professional development because “you’re in a job that can be very repetitive—the courses that your teaching can be very repetitive and you can get repetitive | Engaging in professional development activities may have the potential to **buffer perceived stress**.
4.2.1 Competency

The comments made by teachers indicate that feelings relating to their competency can influence perceived stress in two ways. First, when job related events make teachers feel effective at their jobs, this has the potential to buffer their experience of perceived stress. Conversely, when job related experiences cause them to have diminished feelings of effectiveness, this can promote their feelings of perceived stress.

A number of different examples emerged which highlight ways that teachers may question their competence: thus promoting perceived stress. Having problems with students that other teachers in the school do not have problems with, (P16) “If you are having problems with someone and someone says I have no problem with them at all,”, “you feel a sense of failure”. When teachers feel that their lessons are not going well, (P23) “I suppose another thing, well certainly for me…am…unresponsive classes. You prepare a lesson and you think that you’re going to fire them and…….the feedback is very minimal. You know and ah…..then you maybe question you know…you question certain things about your methodology or at the end of the day your vocation”. Teachers mentioned the distressing effects of being unable to control a class, (P17) “I know from my own personal experience starting off teaching, I wasn’t teaching for the first 2 years, it was just complete focus on controlling the class and it’s stressful like”. Teachers admitted that reflecting on a mismanaged situation can cause distress, (P26) “Mismanaged situations, you know something that you reflect on afterwards that you might do differently afterwards”. Some teachers reported the distressing effects of struggling with IT, (P40) “Well for me one of the biggest challenges”, in the past couple of years is technology”, “in relation to the MML that we had, I was stressed to the back of my eyeballs”.

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A number of examples emerged which highlight ways that teachers’ feelings of competence are enhanced, thus potentially buffering perceived stress. Some suggested that when they are able to get their students to work together it makes them feel they are doing a good job. (P8) “It’s very positive the fact that you facilitated that as well. You can walk away from it and say do ya know what...they’re working on their own initiative. They don’t need me and that’s—that is the sign of an excellent teacher as well. “It was evident that some participants felt—it is a positive reflection of their competence as teachers when their students get good grades (P6) “I know it’s not all about getting the grades but suppose at the end of the day it is about getting the grades”. (P35) “When the results come out like..... You look at the results in your class or everyone goes first of all to whatever subject they were teaching and the relief if they have all passed!”. Many of the teachers interviewed also discussed how important it was to them that their students enjoyed their subject and the classes that they taught. (P20) “I think when the kids enjoy the classes, you know—when they enjoy the subject or they seem..... I suppose you get a sense of satisfaction out of teaching”. A number of the comments from teachers indicated that they took satisfaction from knowing they helped a student successfully (P10) “It’s great as well when you have a student who you know is... Had problems and difficulties and struggled a bit for various different reasons......that they end up doing well, you know and hopefully you feel you have had... Played a part in that”. The positive implications of perceiving oneself as being competent at classroom management were discussed (see quote on previous chart).
Table 10: Social Environment
Defined as: the complex network of interactions and communications that take place within schools on a daily basis.

<table>
<thead>
<tr>
<th>Expectations*</th>
<th>Support*</th>
<th>Relationships*</th>
<th>Difficult Student issues</th>
<th>Appreciation*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrealistic expectations from management, parents or students may <strong>promote perceived stress</strong></td>
<td>Not having the support of parents, management, subject department or Department of Education and Skills may <strong>promote perceived stress</strong>.</td>
<td>Having positive relationships with management, colleagues, or students may <strong>buffer perceived stress</strong>.</td>
<td>Regularly dealing with student mental health concerns, self-harm, poverty, family breakdowns and social disadvantage may <strong>promote perceived stress</strong> for some teachers</td>
<td>Feeling appreciated by management, parents and students may <strong>buffer perceived stress</strong></td>
</tr>
<tr>
<td>(P25) suggested that in some cases parents can have such “unrealistic expectations”, they can sometimes make teachers feel “maybe, you feel twas your fault if the student wasn’t delivering, you know”</td>
<td>(P18) “A lot nowadays, parents don’t really support teachers any more like, they would say it is your job—sure you are the teacher”. When teachers feel they have the support of colleagues or management, this may <strong>buffer perceived stress</strong>.</td>
<td>(P39) believed that having a coffee or tea and a laugh with their friends on the staff after school can be like “having a shower after going down the mine it just washes it all off and you go home laughing”.</td>
<td>(P42) suggested that for students dealing with difficult issues, school then becomes “last of their concerns” making the job of the teacher harder.</td>
<td>(P4) suggested that when a student says “thanks a million miss, you did a great job”, that the teachers “really appreciate it and that’s nice like”</td>
</tr>
<tr>
<td>(P35) suggested that in “a lot of schools the stress comes from the management of the school and the stress that they put staff under—unnecessarily in a lot of cases</td>
<td>(P26) explained that for them “you get such satisfaction from you know that relationship you have with the student as person”; (P28) followed this expressing their view that “teaching is built on relationships really—isn’t it”</td>
<td>(P37) “I suppose like a de-stressor there is like your management support. Once you know you have management backup…..management support, you know that everybody is singing from the same hymn sheet and it makes a huge difference”</td>
<td>(P41 suggesting “when you come across a student who is very genuinely appreciative, that is very rewarding”.</td>
<td></td>
</tr>
<tr>
<td>(P26) suggested students “expectation is very high as well—you know talking about the A’s, they think they can achieve that level but maybe not their not even fit for higher level”</td>
<td></td>
<td></td>
<td>(P38) explained “I have had students self-harm and stuff like that in my art class and it’s the stress of making sure that they are safe in the class”;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(P3) suggested “there is nothing like a parent coming in” and saying “thanks very much”, “it makes a big difference”</td>
<td></td>
</tr>
</tbody>
</table>
4.2.2 Expectations

Teachers’ comments indicate that unrealistic expectations from three sources; parents, students, and management had the potential to promote perceived stress in their jobs.

(P14) suggested that sometimes “pressure from parents” to get high grades for their children can be a cause of distress. (P25) suggested that in some cases parents can have such “unrealistic expectations”, they can sometimes make teachers feel “maybe, you feel twas your fault if the student wasn’t delivering, you know”. (P8) explained they had been in situations where they explained to parents about their child “seriously like, he is going to struggle, he is going to fail this”, they wanted the child to go back to pass in the subject “but the parents are going no I’m sorry—he’s getting a grind and he is doing it, end of; the child ends up failing the Junior Certificate and this leads to baggage when they come back in September”. (P41) explained they had experienced similar circumstances but added that “even the students themselves are a bit—can be a bit stressed in that situation”. (P40) believed that these types of situations were distressing on teachers because “the teacher who is in place is bound to make a better call on that subject and there isn’t that kind of respect”. (P39) added to the conversation that these situations with parents demonstrated a continued “de-professionalization of teachers”.

(P26) suggested with most students “expectation is very high as well—you know talking about the A’s, they think they can achieve that level but maybe not, they’re not even fit for higher level”. (P33) felt that in their school some first year students are obsessed with getting A’s, (P33) suggested that students say things such as “I have to get an A, it has to be an A, if it is not an A I have failed”. (P33) suggested that this sort of thinking from students “puts pressure on all of us” referring to the teachers in the school. (P40)
discussed how students have an expectation that “if they are absent, the teacher gives them their homework—they can email them the notes”. (P40) went on to suggest that the high levels of expectations from students stems from being in a “society where everybody expects to be given from every system”. (P42) agreed, developing this concept further by suggesting that “students think that their education is something that we have to give to them and it is not for them to go and get, you have to provide everything and if I was missing yesterday—well, what are you going to do about it?”

(P19) clearly felt this way also saying “there is kind of an expectation of performance—I think—I feel that—we’ll say from management”…..“that we’re all there to preform—do all the bells and whistles for 40 minutes or for 2 classes and then on to the next ones and do the next and so—ya, if you are faced with that, it’s very hard”. (P35) shared this view suggesting that in “a lot of schools the stress comes from the management of the school and the stress that they put staff under—unnecessarily in a lot of cases”. (P39) believed that principals in schools have an important role to play in managing the expectations that are placed on teachers in a school; “I think that the role of the principal especially—because parents tend to trust principles and I think the principal is a huge determining factor around that whole area of what’s expected and what’s permissible, what’s not, what’s unreasonable, what is reasonable, what’s expected, you know”.

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4.2.3 Support

Teachers’ comments suggest that a lack of support from 4 potential sources: parents, school management, subject departments within the school and the Department of Education and Skills has the potential to promote perceived stress for some teachers.

Some teachers openly suggested that they felt parents did not support them in their efforts to educate their children with (P1) explaining “you ring up someone now and you don’t know what you are going to get at the other end of the line……ah……you very seldom get support anyway, that’s one sure thing”. (P18) similarly suggested “A lot nowadays, parents don’t really support that in teachers any more like, they would say it is your job—sure you are the teacher”. (P3) suggested that parents “don’t actively participate in their children’s education”.

(P10) believed that in some cases “teachers often newer teachers aren’t being backed up by management”; (P10) followed this suggesting that sometimes the school management “go in over teacher’s heads making decisions maybe off their own agenda”; (P1) believed that in some schools “sometimes you don’t feel with some principals, that they have the staff’s interests…isn’t their top priority, neither is the students or the parents and then that creates a lot of stress”.

Teachers discussed the negative implications of not having the support of a subject department; (P19) explained “that can be stressful as-well like because you’re on your own—you have no backup or you have no support or in your……and there is no sharing”. Some teachers, most notably English teachers felt that there was a lack of support around the new Junior Certificate English syllabus from the Department of Education. (P23) clearly felt unsupported to deliver the new English syllabus sharing “I mean I have had a course of 2 and a half hours in a morning…am…ah…6 months
ago and that’s all that I have had and I’m starting this new course in September so I find that stressful”.

On the other hand teachers comments suggest that knowing support is available from two sources: colleagues and the school management has the potential to buffer perceived stress.

Colleagues were most frequently mentioned as the most valuable source of support (P27) had the following to say: “it’s just the support you get and the……you can come up to the staffroom pulling your hair out and you will go yeah!—you know”. (P28) added to this suggesting “the support of colleagues in the teaching profession—I don’t know if it is the same in every school, but in this school, the support of the… The friendships…the caring”. (P37) also mentioned how important “peer support” is. (P4) also shared this position suggesting “the key is the staffroom—I think if you have a good staff behind you”. (P43) took solace in the fact that “when we have our inspections and we work as a whole and we get what’s needed to be done”.

The importance of supportive management within the school was discussed. (P1) suggested “If you know that there is someone in the office that you can go to and he will listen to you and he will……you know—there will be a bit of support there”. (P37) felt similar suggesting “I suppose like a de-stressor there is like your management support. Once you know you have management backup…..management support, you know that everybody is singing from the same hymn sheet and it makes a huge difference”.
4.2.4 Relationships

The dialogue between the participating teachers suggests forming positive relationships with either: students, colleagues or the school management may buffer the impact of job related stress. There are more references relating to the positive implications of having positive relationships with pupils then there are for colleagues and management combined.

From the collected data—it is very evident that teachers value forming meaningful relationships with their students inside and outside the classroom. In one of the schools during a conversation (P26) explained that for them “you get such satisfaction from you know that relationship you have with the student as a person”; (P28) followed this expressing their view that “teaching is built on relationships really—isn’t it”. In another school (P9) explained that they enjoyed the way students interacted with them; “they talk to me like I am their aunt or something”; (P13) agreed “yeah, yeah, you make a relationship”. In another school (P22) simply said “getting to know the students—I like that now”. In a similar way during a discussion about favourite aspects of the job (P2) said “the interaction with the kids” also mentioning the importance they place on the “the bit of banter with them and the bit of crack”. Many of the teachers felt that their interactions with the students kept them young; (P9) said “as you get older as well, it’s lovely to have that contact with younger people, you know which may or may not, you keep in touch”; (P2) also suggested students helped with “keeping things youthful and young and whatever”. Teachers also mentioned how they enjoyed getting to know their students outside of the classroom environment; (P18) believed that pupils “would see you more as human being” after going on a school tour with teachers. A similar discussion in another school occurred with (P19) suggesting “you get to see them as
people and they get to see us as different people as well not just the one that comes in and puts stuff up on the board”.

Some teachers also discussed the positive value in having a positive open relationship with the management in a school. (P18) believed that it was important that teachers had a relationship with the management where “you feel that you can say things”; (P18) felt that a sign of a good management-teacher relationship may be when “you can have a bit of a night out, a bit of fun you know and that kind of thing helps a lot”. In another school during a discussion about appropriate teacher-management relationship styles—(P39) suggested that when teachers go to management with a problem or issue—it is important to them that “there is no judgement, there is very little judgement from management”; (P35) added “there is no need for somebody to point out to you that you made a mistake, you see it yourself”; Having positive relationships and friendships with colleagues was discussed in some of the groups; (P1) felt that that one of the things they loved about their job was “colleagues actually, friends you know on the staff”; (P38) believed that having a coffee or tea and a laugh with their friends on the staff after school can be like “having a shower after going down the mine it just washes it all off and you go home laughing”. (P27) said “I find my colleagues are just fantastic, I find coming to work and people I work with is one of the biggest pluses”; (P28) believed that one of the great things about the teaching profession is the “people contact”.
### 4.2.5 Appreciation

The comments from teachers indicate that receiving appreciation from students, parents, school management or past students has the potential to buffer perceived stress for some teachers.

Some teachers suggested that—a simple thank you, from students meant a lot to them. (P3) suggested that when a student says “thanks a million miss, you did a great job”, that they “really appreciate it and that’s nice like”. (P5) suggested that teachers love to hear “thank you so much” and the teachers “really do appreciate it and it does make it worthwhile”. (P27) told a story from the day before the focus group took place explaining “one particular little fellow ran out the door, he says by the way Miss, thanks for not giving up on me”, (P27) continued explaining that “it was totally spontaneous and it was lovely—you know, and just made my day yesterday”. This trend of thought continued in the other schools with (P41) suggesting “when you come across a student who is very genuinely appreciative, that is very rewarding”.

Some teachers also mentioned that they enjoy when a parent thanks them for their hard work. (P18) suggests when parents “expressed a thanks”, “I think that’s a good thing”. In another school (P3) suggested “there is nothing like a parent coming in” and saying “thanks very much”, “it makes a big difference”. In one of the schools a number of the interviewed teachers mentioned the value of appreciation from parents: (P6) explained “I have had phone calls at the start of the year thanking me”, “it was really nice and energising at the start of the year”; (P5) suggested that during parent teacher meetings—they enjoy meeting “parents who are just so thankful and so appreciative” of the hard work they put in; (P7) agreed suggesting “that’s so lovely isn’t it”; (P6) also added “or even that you mightn’t be teaching their child, you might have them for
extracurricular activity and you might get a tap on the shoulder and just a nod of the head and a thanks”.

Appreciation from management also emerged as a possible cause of eustress. (P16) suggested that “appreciation of what you have done” from management was very important because as secondary school teachers “you can’t get paid bonuses”, (P16) also suggested that without appreciation from management “you could feel like an island” “because you could be doing your thing”, “pottering away”, “it happens and finishes and no one has noticed”. (P16) suggested that appreciation “would give me a smile on my face, yeah it’s good, I’m glad that it has been acknowledged”. (P7) also suggested that “appreciation from the senior management is really important just to kind of you know—validate our work”. (P3) suggested that “with a bit of positive reinforcement from your boss”, “you would work a lot harder”, “they wouldn’t have to give you a pay increase (laughing) if they just gave you a bit of positive reinforcement”.

Finally, teachers mentioned how they loved meeting past students; (P37) explained “I love to meet past pupils”, “it doesn’t matter what they are doing once they’re happy”, “You will get a lot of positive feedback from the students”, they will talk about oh this one did that for me. They might never say it directly to the person and sometimes it’s nice to hear that back even the second or third time”. (P19) had similar viewpoints adding “it’s great to have a chat with them and see you know how they are getting on and you know it’s not like oh....... (All laughing) here she comes hide. No it’s nice to meet them”.
Table 11: Facilitating Learning

Defined as: phenomena which teachers experience during the teaching and learning process with their students during class time.

<table>
<thead>
<tr>
<th>Discipline Challenges*</th>
<th>Student Motivation*</th>
<th>Independent Learning Challenges</th>
<th>Differentiation Challenges</th>
<th>Practical Subject Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regularly having to deal with discipline challenges may <strong>promote perceived stress</strong></td>
<td>Working with motivated interested students may <strong>buffer perceived stress</strong> (P39) suggested that they enjoyed their job the most on the “day that you can go into class and you have students in front of you who are eager to learn and who work with you”. Working with students who are generally unmotivated to learn may <strong>promote perceived stress</strong> (P32) “You know this, I can’t do it, you know, you do it for me, that kind of thing, I find that very stressful, when they won’t even try, lack of trying”</td>
<td>The challenge of getting students to engage in project work and independent learning may <strong>promote perceived stress</strong> in some classes (P11) suggested when trying to “promote independent learning” and “giving responsibility to the students” its “all well and good but I mean, I think most of us know when we do try and pass on whatever amount of responsibility to the students, if it is project work, you know doing presentations, organising, guest speakers, anything like that, that am... You know a lot of the time, they are not able for it and it just causes stress for ourselves”</td>
<td>The challenge of trying to cater for mixed abilities and special needs in some classes may <strong>promote perceived stress</strong> (P43) “Sometimes within the group there is going to be extremes!”, “we do our best to try to cater for everybody and that’s... You are striving all the time to make sure everybody is on the same page and I think sometimes that can add a little bit to the stress”</td>
<td>Teaching practical subjects in some schools may <strong>promote perceived stress</strong> (P40) “teachers are target practice sometimes for people” and that “in terms of, in practical subjects” teachers would sometimes have “maybe the fear of litigation”</td>
</tr>
<tr>
<td>(P7) suggested “ya like discipline would be a stressor. If there is a discipline issue even in the morning sometimes at 9 o clock that can kind of throw your day” (P6) suggested “continually not having homework done and I think that it kind of puts you on the back foot when you’re continually dealing with it”</td>
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<tr>
<td>(P34) explained “the worst thing was this persistent interruption in class, not listening, shouting at you, and showing no respect”,</td>
<td></td>
<td></td>
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</tbody>
</table>

(P32) “Everyone gets shoved into” practical subjects, “if they are not academic, they get shoved into it and sometimes practical subjects don’t suit kids and I find that quite frustrating”.
4.2.6 Discipline challenges

Teachers’ dialogue indicates that discipline issues may be the primary cause of perceived stress when teaching classes.

Discipline issues in a general sense was mentioned in most groups early in the discussions. (P3) “I suppose discipline issues causes stress, shur it would be a grand old job if you didn’t have to deal with that”; (P7) “ya like discipline would be a stressor. If there is a discipline issue even in the morning sometimes at 9 o’clock that can kind of throw your day”; (P17) “discipline”, “yeah I think that would be the main thing”.

The discussions generally led to teachers mentioning specific discipline concerns of theirs that may be a cause of distress. Students’ lack of boundaries or classroom etiquette was one example; (P41) suggested that “students don’t realise that there is boundaries, that there is a difference between classroom etiquette and every other aspect of life”; (P40) added that “I think the students are coming in with a lack of boundaries in all aspects of their lives”.

Not having homework done emerged as a cause of distress mentioned in a number of the schools. (P6) suggested “continually not having homework done and I think that it kind of puts you on the back foot when you’re continually dealing with it”. In another school (P16) similarly suggested “ones who haven’t done their homework is a stress”. (P41) suggested that “the main thing that would stress me out in a class is people not attempting to do homework”.

Some teachers mentioned student disrespect or challenging their authority in the classroom. (P22) explained “a student being disrespectful. That’s one thing that would get me. I’m fairly laid back.....that’s the one thing, someone being disrespectful to you—that would drive me mad”. (P16) explained they find it distressing dealing with
“people who would challenge your position as a teacher—authority I suppose in class....in front of the......other students”. (P34) explained “the worst thing was this persistent interruption in class, not listening, shouting at you, and showing no respect”.

Some teachers felt that the majority of the discipline issues that caused them stress were from a small minority of students in their classes. (P5) “There was one or two students that I found challenging and I had to try so hard to not let them ruin the classroom environment”; (P7) added to this conversation “there is a couple of students who can be so time consuming, you know just a really small minority”. (P43) suggested that in most classes in their school there are “the 4 or 5 people that might make it a little harder”. (P41) added to this that “a lot of time the ones that are distracted and having conversations are the ones that really need to listen and that can add to the stress”.

(P17) openly discussed the challenges they had with discipline in their classes “I wasn’t teaching for the 1st 2 years, it was just complete control and it’s stressful like”. (P18) openly shared their fears about social media “you would be afraid of your life... Like you could be feckin videoed do you know that kind of thing. “I would die a death if someone taped me and put it up on Facebook”. (P35) suggested that unnecessary rules are also adding to teachers stresses “these rules put stress on us not on...the kids are not one bit stressed at all. The idea was to get them to comply, they don’t comply but we start losing the plot ourselves over it”.
4.2.7 Student motivation

A number of points raised by teachers indicates that teaching un-motivated students may promote perceived stress. On the other hand, comments from teachers indicates that working with motivated interested students may buffer perceived stress.

Students unwilling to take responsibility for their learning was shared as an example of a stressor: (P42) suggested that “there is no concept of I have to take responsibility for catching up with what I missed, getting what I didn’t take down or whatever and there is none of that”; (P29) explained that when teaching LCA’s the students “tend to lapse back a little bit because they feel you will do it and I will do it”; While describing situations where they had helped students who wouldn’t do their work (P38) suggested teachers need to “get better at saying you know don’t be pointing the finger out there”, “what did you do about it?”. Teachers found dealing with students unwilling to learn stressful. (P42) explained that “sometimes they just, they feel that they can’t so….I am not even going to try in the first place”, (P41) added to this—its “just very easy to give up, I just couldn’t do it you know, it is very easy to opt out and do you know what, it can be quite stressful”.

When discussing issues relating to motivation—some teachers also mentioned students not having homework done as a cause of distress; (P40) shared a comment that they sometimes hear at the start of class from unmotivated students “and what page again of the homework wasn’t done, what page was that homework on again”. Some teachers viewed not having homework done as a motivational issue while others viewed it as a discipline issue, as such it is mentioned here again. Finally, some of the teachers found high absenteeism can add distress to the job. (P38) explained that “absenteeism of students is a big thing for me”, “you are working towards completing a project or
you’re doing it in steps and stages” and “you have Johnny at stage one, Mary at stage 5, Joe at stage 2 and another one at stage 3”. In another school (P40) suggested that it is very challenging to get some of the students to understand that “if you are absent it is your responsibility to get the notes”, the concept of lack of responsibility also emerged in this statement.

Some teachers spoke about the positives of working with a class that are engaged and interested in what the teacher is doing. (P23) suggested that they “still get a buzz out of a good lesson” when “people have been responsive”. (P1) said “it’s great you know you have a class and their listening and interested”. During a discussion with another teacher (P42) suggested that trying to get some students to engage is like pulling a rock up a hill but in the end “when you get that rock to the top though it is lovely, it is such a good feeling”. (P39) suggested that they enjoyed their job the most on the “day that you can go into class and you have students in front of you who are eager to learn and who work with you”. (P8) suggested that when teachers can get students “working on their own initiative” that “it’s very positive the fact that you facilitated that as well”. During discussion about students not taking responsibility (P43) suggested that if their school more clearly defined to students their individual roles and responsibilities “it’s going to make life easier for teachers and make for better outcomes for them”. (P3) suggested that “there is nothing to make you happier than when the whole class comes in with their homework done (all laughing) that’s a special day (laughing) it’s a rare enough occasion”.

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Table 12: Management Culture

Defined as: the leadership styles of the management within schools

<table>
<thead>
<tr>
<th>Appropriate Breaks*</th>
<th>Collegiality</th>
<th>Logistical challenges</th>
<th>Student Achievement</th>
<th>Communication Failures</th>
<th>Positive Atmosphere</th>
<th>Staff Celebrations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not having any time during the school day for unwinding or planning may promote perceived stress</td>
<td>When teachers and management collaborate together this may buffer perceived stress. (P18) “if you have a good team”…. “there is a good sense of a team in the school within the teachers” When teachers and management are working against each other this may promote perceived stress. (P6) “I would find it stressful in a departmental area when it’s always the same people in the larger department that are basically carrying the can or carrying the department”</td>
<td>Logistical challenges such as: not having a base room, not having storage space, having to move large distances between classes may promote perceived stress. (P7) explained not having a base room may be stressful when “You know you are expected to go from one room and you could be going to the opposite side of our school” “you’re traveling a distance”; (P37) felt that not having your own base room is a “stressor because your clock watching, you’re gathering materials and then if you’ve gone to a room and if you’ve gone and you have forgotten something”.</td>
<td>When teachers feel that all students in their school are enabled to develop and feel a sense of achievement, this may buffer perceived stress. (P18) “shut once they all got a pass in everything like that is the best ever”. (P12) suggested “seeing them develop, I think that’s nice, some of them can be shy and you know a little bit socially awkward and you see them opening up” (P3) explained that they enjoy when “the fellows who might get a D but push themselves to get a C like”</td>
<td>When channels of communication in a school are overloaded or breakdown, this may promote perceived stress (P6) “as tutor or year head, it’s very…. it is kinda stressful then when you have been left out of the loop and your…like you might get on very well with that child and you could have had a good input or….or prevented something from happening or prevented him from over reacting (P12) there is so many methods of communication now”, “did you see that on e-portal, did you see that on email and I would be like… no!”, “its information from all sides” (P3) explained that they enjoy when “the fellows who might get a D but push themselves to get a C like”</td>
<td>A positive attitude and culture among school staff may buffer perceived stress. (P37) “Our atmosphere is a de-stressor in itself…..if you are home and things are mental and you come in, there is this, there is a sense of calm”. (P12) “There is a nice atmosphere….its calming…when you come in the front door”</td>
<td>Celebrations which celebrate the hard work of the school staff may buffer perceived stress (P7) we’d a whole school inspection this year and am even just they organised a night out for us and actually thanked us, like continuously for kind of our work coming up to it and am….like I think that it’s important for them to say thank you and thanks for going the extra mile and you know just to celebrate our success as well and encourage us and stuff”</td>
</tr>
</tbody>
</table>
4.2.8 Appropriate breaks

Many of the comments from the teachers indicate that full teaching days without a single free class are very challenging. (P3) explained “you have 9 classes in a day”, “it is very stressful—one after another”, and “you are trying to run from pillar to post and get in and get out”. In a different school (P7) suggested that the “busyness” of the day can be stressful: “you could be on for 9 straight classes” and “your kind of go go go”!

In the next school (P18) had similar views when discussing challenges of planning during days when they have no free classes: “you are supposed to produce these high-quality lessons and like I mean we all do our best you know”, “you do the best you can do but then you could be up all night like getting ready”, “You would be trying to do it (preparation) in school as much as you can because if you have children and stuff at home as well”—“you have to be doing stuff with them”. The trend continued in the next school with (P20) suggesting that it can be tough when you have “8 or 9 classes running up against each other”.

Added to their very busy days some of the teachers explained that they did not like losing their short breaks and lunch time to extra supervision duties which further reduces their time to unwind and in some cases plan lessons; (P38) shared that they found it frustrating: “losing our lunchtimes and break times” (P3) suggested that “you might have supervision during lunch time” and as a result you may only be “left with half an hour” to unwind. In another of the schools (P7) shared that when they are on for “9 straight classes” and “lunchtime supervision” there is no break you are “constantly thinking”; (P9) added to this that because of supervision duties “you might literally be working right through the day from first thing in the morning right through lunch and the way we do it here, you could even possibly use one or two free classes”, “nobody else would put up with it in terms of industrial situations”. In the next school
(P10) explained that because of the full days—where you used to be able to get some work done during the day “now all of that work has to go outside of your school day and the time we spend doing that is not acknowledged”. In the next school (P21) felt that how stressful your day is can depend on “how full your day is” which can be compounded by “supervising at break time”; (P22) added to this that breaks are important “for the teachers themselves just to relax”.

The positive implications of having breaks in the day, while not discussed as much as the negative implications of not having breaks was also discussed. (P7) indicated that “It’s nice to just take... be able to take a time out isn’t it”; in the same school (P5) suggested that they feel as though they have “been able to give more time to the class” on days when they have some time off as they are not rushing and racing. In another of the schools (P35) explained that one of the great things about their staffroom was “there is always the few people with the story” which helps individuals unwind after tough days; in the same school (P38) suggested that “people will often have coffee in the morning before school or stay back and have tea and biscuits and a laugh after school and it’s like having a shower after going down the mine”. (P3) felt that the staffroom offered breaks from the students, it was their safe “haven you know it’s, it’s kind of the safe place in the school where it is only teachers like and you know and it’s messy and untidy” and “it’s somewhere you can just let off a bit of steam”.
Table 13: Department Policy (Table continues on next page)

Defined as: teaching phenomena which are influenced by national departments and organisations within the Republic of Ireland.

<table>
<thead>
<tr>
<th>Lack of CID*</th>
<th>Cuts*</th>
<th>Inspections*</th>
<th>Increasing Admin Demands*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not having a contract of indefinite duration may <strong>promote perceived stress</strong></td>
<td>Cuts due to the recession and their associated implications on teaching and learning may <strong>promote perceived stress</strong></td>
<td>School and teacher inspections may <strong>promote perceived stress</strong></td>
<td>Increasing administration demands being placed on Irish teachers may <strong>promote perceived stress</strong>.</td>
</tr>
<tr>
<td>(P14) “I’m 11 years teaching and I have been in 14 schools and still no sign of any kind of full-time hours or permanency, that is the biggest stressor in my entire life”</td>
<td>(P10) we got absolutely.....our pay packet got decimated a few years back“, “you are doing more work as well for less pay, it is very hard”, “it is very hard as well for a new teacher coming in, they are on a lower pay scale”.</td>
<td>(P23) suggested that inspections are stressful because “you have an outside inspector coming in making judgements on you in a way that is out of context—it’s a sort of snap, 40 minutes and your worth as an educator is being judged, you know and we all sometimes just have bad classes”</td>
<td>(P2) suggested that the administration demands on teachers were “becoming more and more onerous as time goes on” also arguing “there should be something more beneficial to the school done with (Croke park hours) them”, you know if you could spend that time like...you know on a one to one basis with students especially like I’m a French teacher so if you could spend it doing orals or something like that”</td>
</tr>
<tr>
<td>(P12) suggested the Irish system was stressful because “you are on trial for 3 or 4 years” and you could be put off to another school and made try again for 3 or 4 years.</td>
<td>(P8) felt that the good work that teachers do in schools is taking a “huge nose dive because the good will of people like is being pushed” with the cuts that were implemented.</td>
<td>(P19) found inspections stressful because she felt that the process was to do with “box ticking” and that teachers just “put on a show for the day”.</td>
<td>When discussing the paperwork involved in the WSE (P39) said “I would certainly question it’s contribution to learning on behalf of the children, like I know ethically a certain amount of it is desirable, legally a lot of it is necessary, but I mean if we sit back and measure what you are trying to achieve in a school, I don’t know does it achieve very much”</td>
</tr>
<tr>
<td>(P37) said “you see it coming and going, you get some hours here, some hours there, what’s turning up there is the uncertainty of stress”</td>
<td>(P37) A guidance counsellor “the stress for me, if I’m working one on one with a student and I’m in a classroom the next class, that’s very stressful because you can’t....a lot of the time you can’t walk out midway, you can’t just ring a bell and you’re finished with the student if you are in the middle of dealing with a crisis or an issue”.</td>
<td>(P18) suggested that “a lot of them (inspectors) are not on the ground at all and they come along and tell you then, you know, you should have did a song and dance routine for that you know and then you are saying holy mother of God, how many more hours could I put into it”</td>
<td></td>
</tr>
<tr>
<td>(P35) suggested “I mean it’s almost put your life on hold, there are things you can’t do, there are people who want to buy houses, they want to get married, whatever....they want to have a child maybe”</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 13: Department Policy

Defined as: teaching phenomena which are influenced by national departments and organisations within the republic of Ireland.

<table>
<thead>
<tr>
<th>New Junior Cycle Assessment</th>
<th>Leaving Certificate System</th>
<th>Public and Media Depiction</th>
<th>Start and Finish of Semesters</th>
<th>Lack of Promotion and Reward</th>
</tr>
</thead>
<tbody>
<tr>
<td>The nature of the new Junior Certificate assessment practices may <strong>promote perceived stress</strong></td>
<td>The teaching practices promoted by the nature of the Leaving Certificate may <strong>promote perceived stress</strong></td>
<td>The way teachers are depicted by the Irish media and viewed by the general public may <strong>promote perceived stress</strong></td>
<td>The challenge of getting students back into the routine of school at the start of the school year may <strong>promote perceived stress</strong></td>
<td>The lack of promotion and reward opportunities available to Irish teachers may promote perceived stress.</td>
</tr>
<tr>
<td>(P28) “projects will be a significant part of the marks in the new Jr cert, I would foresee that will put pressure, if you have 25 or 30 children in the room and each one has an individual project, the input from the teacher will be significant”</td>
<td>(P22) “I’m basically picking out questions that I presume are going to come up in the exam and I’m teaching them those questions” … “you would be wondering about them going into the exam, like will they all pass the exam….hopefully you have picked the right questions like”</td>
<td>(P10) felt there was “negativity in the media towards teachers” going on to emphasise “it’s very negative” later in the discourse</td>
<td>(P8) I think that the start…..start up can be very stressful for teachers and then its quiet stressful when students come in because they are out of structure for the whole of the summer and to try and get them to am…..restructured I suppose really and back into routine</td>
<td>(P7) suggested “it would be nice to have the promotional structure that they have in most other businesses”</td>
</tr>
<tr>
<td>(P34) felt giving their own students state grades would promote stress ” particularly if you are expected to assess your students in a small local area”</td>
<td>(P28) when commenting on the notes culture of the leaving certificate said “in my earlier years here I wouldn’t have anything like the amount of notes I would be giving now”, “it puts a lot of pressure on teachers”</td>
<td>(P9) added to this that they felt “public perception is terrible” and that this is a “major stressor”</td>
<td>Tiredness and burnout at the end of the school year may <strong>promote perceived stress</strong></td>
<td>When discussing stressors (P35) suggested a contributing factor maybe that teachers don’t have the opportunity’s to receive “bonuses” or “compensation” like seen in other professions</td>
</tr>
<tr>
<td>(P16) concern was having to give “terminal grades” to “people in your community”.</td>
<td></td>
<td>(P27) felt that teachers are “publically wiped” for their summer holidays with (P38) who was not permanent adding “even though you are not being payed for them, that really gets my goat”</td>
<td>(P25) “I suppose coming to the end of a term or something like that now, long term you’d be…you might be a bit tired alright</td>
<td></td>
</tr>
</tbody>
</table>
4.2.9 Lack of Contract of Indefinite Duration (CID)

Many of the comments from the teachers indicate that the uncertainty associated with not having CID promoted stress. (P14) was distressed when saying “I’m 11 years teaching and I have been in 14 schools and still no sign of any kind of full-time hours or permanency, that is the biggest stressor in my entire life”, “your whole life is on hold”, “you cannot go near a bank or a bank manager for a mortgage, you don’t know whether you are going to have children, you don’t know if you can get married, you can’t even…..you can’t change your car”, “it is just atrocious like, it really is, I mean your whole life, and there is plenty of us in every school, your whole life is on hold”. In another school. (P18) felt “for the young people and security of work, I think it’s terrible, you know what I mean, you have no security, you can’t make a plan, you can’t live your life, and then they are expecting these people to commit to this new…..this job with 100% and give……squeeze the life out of them, not give them any pay” I think it is terrible, because you have of all these very good enthusiastic, well educated, top of the range people like who are being treated terribly you know”. (P12) suggested the Irish system was stressful because “you are on trial for 3 or 4 years” and you could be put off to another school and made try again for 3 or 4 years”. (P37) said “you see it coming and going, you get some hours here, some hours there, what’s turning up there is the uncertainty of stress”.

Teachers indicated that the financial strain of not having full time hours or pay during the summer was a cause of stress. (P13) explained “people talk about oh…. Holidays and I think shit like… I’m sorry for my language”, “is the rent going to go through this month, it’s literally like that and it’s, it’s just….it’s the un-fairest system that you can have”. (P24) explained “I don’t know if I will still be teaching in September”, “because in terms of hours I have to decide whether it’s something I can choose to do for the few
hours that I have”, “I hope that the hours fall in a certain part of the week that I can do another bit of work during the week”. (P36) explained “I’m looking forward to the holidays but then you have nothing for three months of the summer, you actually have to find work. (P38) said “I was on 11 hours a week and I wasn’t getting paid in the summer and I wasn’t getting my dole either, I was like is this fair”. (P37) said “I would say even for some it’s making ends meat has become a huge stressor because people have planned lifestyles based on expected salary for x number of years with mortgage output or whatever, do ya know like everybody else. (P25) said “holidays are not much good to people that are not permanent, ok it’s a break but you would be better off working”.

Some comments suggest that in some cases teachers without CID’s are feeling pressurized to engage in unreasonable work practices within schools, (P7) suggested that some people “feel more pressure definitely because of the status of the contract”, “because you feel that you have to be doing all these extra things….impressing” adding that in some cases “there is no end point”. (P6) added to this “because I got my CID last year, I don’t think that I am getting as stressed out as much about extra-curricular activities”. In another of the schools (P14) felt similarly saying “for people in my position of being part time or temporary, you are thinking, oh Jesus what about next year, what about next year, what about next year, have I a job and that’s... That’s a huge stress, you are constantly trying to do things in the school”. (P9) suggested that in their school in some cases females had been asked to “come back early from maternity leaves”, in other cases while “not being asked, feeling god if I am to have it (CID), I got to get back as quick as I can”. (P37) felt that “where there are a lot of young teachers and they are temporary”—“this can promote peer competitiveness”. (P38) felt that this type of competitive environment promoted “back biting” “that is
desperately stressful because it puts people into their room” “they start hiding and they don’t want to be letting anyone see what goes on in there room and they are very private and closed in”. In another school (P19) explained “I take the football and I couldn’t really commit to the basketball at all like” I aint got time to do it and like I’m not on full hours like so I kind of took it on” “that could really stress out a teacher as well”.

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4.2.10 Cuts

The comments from the teachers suggest that cuts to wage packets has caused stress to all teachers, however this is especially the case for newly qualified teachers who since 2012 start on a substantially lower rate than their counterparts who qualified in 2011. (P35) explained “I think a lot of people in the teaching profession would feel they were disproportionately damaged by the recession”. (P10) a well-established teacher said “we got absolutely…..our pay packet got decimated a few years back“, “you are doing more work as well for less pay, it is very hard”, (P10) also felt “it is very hard as well for a new teacher coming in, they are on a lower pay scale, and they may be on very few hours”. (P25) similarly suggested “for the young teachers coming in”, “they are on very small money”, and that “creates a kind of a friction on the staff because they kind of think why should I…..this person is on full hours….”, (P20) felt that “there was a huge difference between the people who came out in 2011 and who came out in 2012. It was thousands of a difference like it was huge”, (P20) felt that NQTs would “barely survive” on the salary after the cuts experienced. (P18) suggested that due to the cuts to salary “as a single teacher, even if you had a permanent job like it’s very difficult to... If you were single, to live on do you know like, it’s difficult like”, “it’s very underpaid”.

Comments indicate that issues arising from timetabling decisions forced upon schools by the cuts have promoted stress for teachers in various ways. (P35) a Vice-Principal suggested “the effect of cutting staff is that you have to amalgamate classes”, “timetabling is tighter and as a result you get very unsatisfactory things”, “you have more students particularly disruptive ones in classes”, “all things being equal every subject should be distributed equally throughout the week and the day but the reality is” this does not happen. Some of the teachers were unhappy that their timetabled
planning time could be lost on any given day due to a colleague’s unforeseen absence according to new recessionary policy. (P3) felt that this policy resulted in “the sense of unknowing in the morning”, “will I be off or wont I”, (P3) said that when this planning time on the timetable is taken “you are left with very little time”, “there is no thought of you know….the amount of copies you have to correct and trying to get it done”. In another of the schools (P9) explained that the combination of covering colleagues absences and “extra supervision and substitution, you might literally be working right through the day from first thing in the morning right through lunch”. (P10) added “where you used to be able to get some work done during the day like…. Now all of that work has to go outside, really has to go outside of your school day and the time we spend doing that is not acknowledged in anyway, definitely monetarily anyway and you know like this we can now.. I spent 8 hours this weekend correcting tests and homework, that is a full day’s work, so... Which I don’t get paid for and which doesn’t get acknowledged”.

Guidance counsellors were very critical of the way in which the cutbacks effected their profession. (P13) argued that since the recession “I have to fight for what I believe is a service we need, it’s just that with management and yeah within management in schools, because it varies wildly for the career guidance, it’s you know, if they don’t believe in it, it ain’t gonna happen, and I don’t think that’s right”. (P37) described the challenges associated with being a guidance counsellor back in a full time teaching role due to the recession “the stress for me if I’m working one on one with a student and I’m in a classroom the next class, that’s very stressful because you can’t....a lot of the time you can’t walk out midway, you can’t just ring a bell and you’re finished with the student if you are in the middle of dealing with a crisis or an issue”. (P1), a guidance counsellor in a school with just over 300 students angrily described the challenges
associated with trying to get students psychologically assessed in their school “you can get 1 and a half students assessed per year.........1 and a half now.......how do you exercise....that's gas isn’t it, there you go and then social services are a disaster, they are over stretched as well, but to try and get someone in if you know a student has a problem, they are just not there (the resources) and what do you do then you know”.
4.2.11 Inspections

A number of teachers mentioned incidental or drive by inspections specifically as a potential cause of stress. (P15) acknowledged that “any kind of inspection” is an “awful stress” and “horrible” but that “drive by inspections” were particularly stressful. (P18) also found “incidental inspections” “hugely stressful”. (P4) mentioned “drive by inspections” as being stressful. During conversation (P37) mentioned “drive by’s” as stressful, (P35) also agreed saying an “inspector appearing” was a “stressor”. (P41) also described “those drive by inspections” as “stressful”. (P4) also mentioned “drive by inspections, I suppose, we are just not that used to them”. Some teachers identified the whole school inspections as stressful. (P7) suggested that the experience of the “WSE” was “stressful” but that there was “a great feel good factor” after it was finished. (P20) also described the experience of the WSE as “most stressful” (P37) and (P35) also specifically identified the WSE as a stressful experience for some teachers. (P40) said that she was “stressed to the back of my eyeballs” due to a whole school inspection. (P9) was critical of the planning that was done for inspections suggesting “This whole planning for inspections thing, that’s a bit to me….that you have lost some of the individuality of teaching which I think is a stress as well, it’s all a bit robotic”, “It definitely affects your style of teaching and it can be to the detriment. (P40) was also stressed by the planning required for the WSE suggesting it was “horrendous”.

(P18) suggested that “a lot of them (inspectors) are not on the ground at all and they come along and tell you then, you know, you should have did a song and dance routine for that you know and then you are saying holy mother of God, how many more hours could I put into it”. (P28) suggested that teachers find inspections stressful because inspectors can sometimes fuss over mundane issues—“they are fussing about whether you wrote something on the side of the board or some minute thing that does not reflect”
the “immeasurable” job that teachers do. (P28) suggested that in schools teachers are “mammies, psychiatrists, psychologists, counsellors, nurses, doctors, supervisors, our role is so huge”.

(P37) also suggested that the inspection process can be underpinned by “semantics” suggesting inspectors worry about things like “did you write that up on the board, did you take down the date on it”. (P35) questioned “what are they measuring” adding “they seem to have a set of tick boxes”.

(P23) suggested that inspections are stressful because “you have an outside inspector coming in making judgements on you in a way that it’s out of context—it’s a sort of snap”, 40 minutes and your worth as an educator is being judged, you know and we all sometimes just have bad classes”.

(P24) felt that in some cases a teachers’ success with an inspector is out of their control as it can sometimes be “down to the pupils as well—you don’t know what class you might have”.

(P19) found inspections stressful because she felt that the process was to do with “box ticking” and that teachers just “put on a show for the day”. (P19) described the WSE as being “fake” and suggested that “extra circus-ey stuff” takes place for the week, finally adding that she could not see the value in the process “for us or for the students” emphasising “what real value is in it”.

(P38) questioned the importance inspectors place on “aims and objectives” when dealing with students that can go “haywire”. All teachers in the focus group laughed and nodded in agreement to this statement. At a later point in the focus group (P38) explained “the inspector wants to come in and see, do they, do you have homework from them, you might have very difficult students who won’t come in with rubber,
topper, pencil, they don’t know where their bag is, they stayed at dad’s house last night, they stayed at their aunties the other night, their shoes are at mammy’s, you know and they are asking about homework.”
4.2.12 Increasing administration demands

Some of the comments from teachers indicate that because their time in the day for planning lessons is already limited—it can be stressful when extra administration demands cut into this. (P18) explained that students expect “high quality lessons” and in a situation where a teacher has two days back to back with a high number of lessons (8-9 lessons) which is more common since the extra supervision came in—“you could be up all night like getting ready for it” adding this is difficult when you have “children and stuff at home”. (P18) finished suggesting “the time factor is unbelievable, you don’t get enough of it” in the day. (P10) felt that the extra supervision that teachers have to do since the recession means that she now can’t “get some work done during the day like”.

Some of the teachers felt that that their time spent engaging in new administration demands was an ineffective use of their time. (P2) who suggested that the administration demands on teachers were “becoming more and more onerous as time goes on” also arguing “there should be something more beneficial to the school done with (Croke park hours) them”, (P3) followed suggesting “you have all these 33 hours….what would you be talking about nothing really, do ya know what I mean, (P3) went on to argue that “you know if you could spend that time like...you know on a one to one basis with students especially like I’m a French teacher so if you could spend it doing orals or something like that” it would be more beneficial. (P19) described the meetings taking place in their school as a result of the extra Croke Park hours as being stressful because they were “talking about talking” which resulted in all members of the focus group laughing and nodding in agreement.
Added to this some of the teachers felt that the increasing administration demands were more about box ticking and optics then promoting quality teaching and learning. (P2) described some of the workshops being done in their school as part of the Croke Park hours as “it is just box ticking”, later in the focus group suggesting “it’s the optics like.....we see the cars parked outside (local community)”. (P14) felt that the time lost preparing for whole school inspections was all about “box ticking”. (P9) felt that not alone was the “severe planning” for the WSE about box ticking but that it also “can be to the detriment” of one’s “individual” teaching style as a form of “robotic” teaching is the result. (P18) felt that teachers generally put on “a song and dance routine” for inspectors. (P19) was in agreement suggesting the WSE was just “box ticking and am…..we all put on a show for the day”.

Some of the teacher’s comments specifically indicate that the increasing administrational demands are stressful because they distract them from focusing on their students. (P34) suggested that during the WSE “you are spending your time filling in pages rather than teaching your students”. (P18) suggested that their “is definitely more work to do now” for teachers in terms of “paperwork and filling in things and that has nothing to do with the student” (P19) said that “the WSE is more. It’s kinda fake. I don’t really see...like what....like you know... like really... really for us or the students, what real value is in it”. When discussing the paperwork involved in the WSE (P39) said “I would certainly question it’s contribution to learning on behalf of the children, like I know ethically a certain amount of it is desirable, legally a lot of it is necessary, but I mean if we sit back and measure what you are trying to achieve in a school, I don’t know does it achieve very much”.

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4.3 Phase 2: Quantitative

4.3.1 Brief overview of survey data

The second phase of the research involved the distribution of surveys to 880 teachers in 48 schools. 37 of the schools returned 381 surveys. Of the 381 surveys, 35 had too many errors and omissions and had to be removed from the sample leaving 356 satisfactory surveys to be analysed. The data gathered in the Phase 2 surveys was a combination of nominal, ordinal, interval and ratio data.

The Principal, Vice-Principal or an administrator in each school completed a questionnaire with questions relating to the nature of the school, (see section 3.6.1 or appendix 8 for more details). The main survey which was distributed to the teachers contained 3 sections. Section 1 contained questions which gathered nominal and ordinal data from the participants in relation to a number of personal demographic factors. Section 2 contained 39 questions which gathered interval data relating to the teaching related job demands and resources identified in phase 1 of the research in the focus groups. The final section of the survey contained the 14 item perceived stress scale (Cohen et al. 1983).
4.3.2 Descriptive statistics

The following section will descriptively explore the data obtained from the surveys in four sections:

1. School demographic variables.
2. Teacher demographic variables.
3. Teacher job demands and job resources variables
4. Perceived stress scale variables

4.3.2.1 School demographic variables

The Principal or administrator in each school completed a short questionnaire (Appendix 8) which contained 10 questions. The questions captured data in relation to 10 school based variables in each of the participating teachers’ schools: The nature of the participating teachers’ schools can be explored using the ten tables which follow:

- Table 14: School Student Sex
  - Summarizes participants working in male, female or mixed sex schools.
- Table 15: School Student Numbers
  - Summarizes participants working in different size schools based on student numbers.
- Table 16: School Teacher Numbers
  - Summarizes participants working in different size schools based on teacher numbers.
- Table 17: School Boarding Status
  - Summarizes participants working in boarding and non-boarding schools.
- Table 18: School Fee Status
• Summarizes participants working in fee paying and non-fee paying schools.

  • Table 19: School Location
    • Summarizes participants based on school location.

  • Table 20: School DEIS Status
    • Summarizes participants working in DEIS and non-DEIS schools.

  • Table 21: School Religious Status
    • Summarizes participants based on the religious status of their school.

  • Table 22: School Language
    • Summarizes participants based on those working in Irish speaking and English speaking schools.

  • Table 23: School Classification
    • Summarises participants working in Voluntary secondary schools, vocational or community colleges, finally community or comprehensive schools.
### Table 14: School student sex

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<th>Frequency</th>
<th>Percent</th>
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### Table 15: School Student Numbers

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<td>12</td>
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</tr>
<tr>
<td>1100-1199</td>
<td>14</td>
<td>3.9</td>
</tr>
<tr>
<td>1200+</td>
<td>17</td>
<td>4.8</td>
</tr>
<tr>
<td>Total</td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 16: School Teacher Numbers

<table>
<thead>
<tr>
<th>Range</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>45</td>
<td>12.6</td>
</tr>
<tr>
<td>20-29</td>
<td>62</td>
<td>17.4</td>
</tr>
<tr>
<td>30-39</td>
<td>106</td>
<td>29.8</td>
</tr>
<tr>
<td>40-49</td>
<td>78</td>
<td>21.9</td>
</tr>
<tr>
<td>50-59</td>
<td>6</td>
<td>1.7</td>
</tr>
<tr>
<td>60+</td>
<td>59</td>
<td>16.6</td>
</tr>
<tr>
<td>Total</td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 17: School Boarding Status

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Non-boarding students</td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>
### Table 18: School Fee Status

<table>
<thead>
<tr>
<th>Fee Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Non-fee paying</td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 19: School Location

<table>
<thead>
<tr>
<th>Location</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Urban (City)</td>
<td>71</td>
<td>19.9</td>
</tr>
<tr>
<td>2 Urban (Town)</td>
<td>203</td>
<td>57</td>
</tr>
<tr>
<td>3 Suburban (City)</td>
<td>6</td>
<td>1.7</td>
</tr>
<tr>
<td>4 Suburban (Town)</td>
<td>20</td>
<td>5.6</td>
</tr>
<tr>
<td>5 Rural</td>
<td>56</td>
<td>15.7</td>
</tr>
<tr>
<td>Total</td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 20: School DEIS Status

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEIS School</td>
<td>93</td>
<td>26.1</td>
</tr>
<tr>
<td>Non DEIS School</td>
<td>263</td>
<td>73.9</td>
</tr>
<tr>
<td>Total</td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 21: School Religious Status

<table>
<thead>
<tr>
<th>Religious Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Denominational (i.e. Catholic)</td>
<td>102</td>
<td>28.7</td>
</tr>
<tr>
<td>2 Inter-denominational (i.e. Catholic and Protestant)</td>
<td>243</td>
<td>68.3</td>
</tr>
<tr>
<td>3 Multi-denominational (educate for all religions)</td>
<td>11</td>
<td>3.1</td>
</tr>
<tr>
<td>Total</td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>
### Table 22: School Language

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Irish speaking</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>2 English Speaking</td>
<td>349</td>
<td>98</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 23: School Classification

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Voluntary Secondary School</td>
<td>93</td>
<td>26.1</td>
</tr>
<tr>
<td>2 Vocational school or Community college</td>
<td>160</td>
<td>44.9</td>
</tr>
<tr>
<td>3 Community or Comprehensive school</td>
<td>103</td>
<td>28.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>

### 4.3.2.2 Teacher demographic variables

The first section of the survey completed by the participating teachers had five questions which gathered data in terms of the participants age, career duration, employment status, whether the participant had their own base room for teaching or used a variety of rooms, and finally their employment status. The five tables below explore the nature of the participating teachers in terms of these variables:

- **Table 24: Teacher Age**: summarizes participants into different age categories.
- **Table 25: Career Duration**: summarizes participants into groups based on career duration.
- **Table 26: Employment status**: summarizes participants into groups based on employment status.
- **Table 27: Base Room status**: groups participants into those with and without their own room.
- **Table 28: Subject Areas**: summarizes subject areas participants work in.
Table 24: Teacher Age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 20-24</td>
<td>36</td>
<td>10.1</td>
</tr>
<tr>
<td>2 25-29</td>
<td>91</td>
<td>25.6</td>
</tr>
<tr>
<td>3 30-34</td>
<td>61</td>
<td>17.1</td>
</tr>
<tr>
<td>4 35-39</td>
<td>48</td>
<td>13.5</td>
</tr>
<tr>
<td>5 40-44</td>
<td>41</td>
<td>11.5</td>
</tr>
<tr>
<td>6 45-49</td>
<td>36</td>
<td>10.1</td>
</tr>
<tr>
<td>7 50-54</td>
<td>13</td>
<td>3.7</td>
</tr>
<tr>
<td>8 55-59</td>
<td>22</td>
<td>6.2</td>
</tr>
<tr>
<td>9 60-64</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td>Total</td>
<td>352</td>
<td>98.9</td>
</tr>
<tr>
<td>Missing</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 25: Career Duration

<table>
<thead>
<tr>
<th>Duration</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 0-4 years</td>
<td>93</td>
<td>26.1</td>
</tr>
<tr>
<td>2 5-9 years</td>
<td>84</td>
<td>23.6</td>
</tr>
<tr>
<td>3 10-14 years</td>
<td>46</td>
<td>12.9</td>
</tr>
<tr>
<td>4 15-19 years</td>
<td>50</td>
<td>14</td>
</tr>
<tr>
<td>5 20-24 years</td>
<td>33</td>
<td>9.3</td>
</tr>
<tr>
<td>6 25-29 years</td>
<td>18</td>
<td>5.1</td>
</tr>
<tr>
<td>7 30-34 years</td>
<td>14</td>
<td>3.9</td>
</tr>
<tr>
<td>8 35-39 years</td>
<td>13</td>
<td>3.7</td>
</tr>
<tr>
<td>Total</td>
<td>351</td>
<td>98.6</td>
</tr>
<tr>
<td>Missing</td>
<td>5</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 26: Employment Status

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 casual part-time (subbing)</td>
<td>21</td>
<td>5.9</td>
</tr>
<tr>
<td>2 Non-casual part-time (temporary cover)</td>
<td>36</td>
<td>10.1</td>
</tr>
<tr>
<td>3 Contract of probationary employment</td>
<td>64</td>
<td>18</td>
</tr>
<tr>
<td>4 Contract of indefinite duration</td>
<td>230</td>
<td>64.6</td>
</tr>
<tr>
<td>Total</td>
<td>351</td>
<td>98.6</td>
</tr>
<tr>
<td>Missing</td>
<td>5</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>
### Table 27: Base Room Status

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a base room</td>
<td>174</td>
<td>48.9</td>
</tr>
<tr>
<td>I use a number of rooms</td>
<td>176</td>
<td>49.4</td>
</tr>
<tr>
<td>Total</td>
<td>350</td>
<td>98.3</td>
</tr>
<tr>
<td>Missing</td>
<td>6</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>356</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 28: Subject Areas

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irish</td>
<td>31</td>
</tr>
<tr>
<td>English</td>
<td>76</td>
</tr>
<tr>
<td>Maths</td>
<td>72</td>
</tr>
<tr>
<td>History</td>
<td>59</td>
</tr>
<tr>
<td>Geography</td>
<td>45</td>
</tr>
<tr>
<td>Engineering/Technology/Construction</td>
<td>44</td>
</tr>
<tr>
<td>DCG/Tech Graph</td>
<td>36</td>
</tr>
<tr>
<td>Sciences</td>
<td>48</td>
</tr>
<tr>
<td>Art</td>
<td>8</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>32</td>
</tr>
<tr>
<td>Physical Education</td>
<td>27</td>
</tr>
<tr>
<td>Business/Accounting/Economics</td>
<td>37</td>
</tr>
<tr>
<td>Home Economics</td>
<td>20</td>
</tr>
<tr>
<td>Music</td>
<td>12</td>
</tr>
<tr>
<td>Religion</td>
<td>36</td>
</tr>
</tbody>
</table>
4.3.2.3 Teacher job demands and job resources variables

The second section of the teacher survey contained 39 questions which were informed by the theoretical framework which emerged in the first phase of the research; the questions were all related to phenomena which teachers suggested would promote or buffer teachers perceived stress. Teachers had to read a statement and provide a response ranging from strongly disagree to strongly agree; their responses ranged from 1-6 on a scale. The 39 questions are shown below:

1. I am professionally competent at my job.
2. I have fun during the work day.
3. In the evenings I think about negative experiences from my work day.
4. I am always prepared and organized for class.
5. I value professional development workshops as a means of furthering my professional practice.
6. I feel that students can have unrealistic high expectations of me.
7. I feel that management can have unrealistic high expectations of me.
8. I feel that parents can have unrealistic high expectations of me.
9. I do not have the support of my colleagues.
10. I do not have the support of parents.
11. I have the support of management.
12. I have positive relationships with my colleagues.
13. I have positive relationships with my students.
14. I do not have positive relationships with the parents of my students.
15. I have a positive relationship with the school management.
16. I have to deal with difficult personal and family related issues of students.
17. The school management shows me appreciation for my hard work.
18. Parents show me appreciation for my hard work.
19. Students do not show me appreciation for my hard work.
20. I get positive feedback from management on my teaching.
21. I do not get positive feedback from students on my teaching.
22. I get positive feedback from parents on my teaching.
23. I don’t have to deal with challenging discipline issues.
24. I find it easy to motivate my students to learn in my classes.
25. I find it easy to get students in my classes to engage in independent learning and project work.
26. It is very difficult to differentiate for the individual learning needs of all the students in my classes.
27. I get to sit down and enjoy my breaks during the day, they are not interrupted.
28. I collaborate on and share resources with other teachers in my subject area.
29. The teaching and learning experience provided to students in this school makes all students feel happy and successful.
30. I think that information is communicated between staff and the management effectively in this school.
31. There is a real positive vibe or atmosphere in this school.
32. Cuts due to the recession have impacted teaching resources in my subject area.
33. I find departmental inspections stressful.
34. The administration demands of teaching are not stressful.
35. I find the idea of assessing my own students for the Junior Certificate stressful.
36. The race for points in the leaving certificate negatively affects the teaching and learning that takes place in my classroom.
37. It annoys me the way that teachers are depicted on the news and in papers by the media.

38. I am frustrated by the current lack of promotion and reward opportunities available to practicing post primary teachers.

39. I find that I get extra tired and burned out near the end of the longer teaching terms.

Strongly agree or high scores in some of the questions reflect a positive answer from the participant while for other questions high scores may reflect a negative answer for the participant depending on the phrasing of the question. In the table presented below the negatively phrased question scores have been reversed so that some comparisons can be made. Based on the grounded theory which emerged from the focus group findings in Phase 1 of the research—the table can be interpreted as follows for an individual: High scores for any of the variables will buffer an individual’s overall perceived stress experienced while low scores indicate the variable in question may promote higher levels of perceived stress on the individual. The mean scores for all the participants can be seen in the table below.
Table 29: Job demands and job resources variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Competency</td>
<td>5.61</td>
<td>0.733</td>
</tr>
<tr>
<td>12: Positive relationships (Colleagues)</td>
<td>5.45</td>
<td>0.816</td>
</tr>
<tr>
<td>13: Positive relationships (Students)</td>
<td>5.4</td>
<td>0.731</td>
</tr>
<tr>
<td>15: Positive relationships (Management)</td>
<td>5.21</td>
<td>1.029</td>
</tr>
<tr>
<td>9: Support (Colleagues)</td>
<td>5.21</td>
<td>1.227</td>
</tr>
<tr>
<td>4: Prepared and organised</td>
<td>4.98</td>
<td>0.937</td>
</tr>
<tr>
<td>11: Support (Management)</td>
<td>4.93</td>
<td>1.305</td>
</tr>
<tr>
<td>2: Fun</td>
<td>4.92</td>
<td>0.957</td>
</tr>
<tr>
<td>28: Collaboration and sharing</td>
<td>4.89</td>
<td>1.136</td>
</tr>
<tr>
<td>14: Relationships (Parents)</td>
<td>4.88</td>
<td>1.244</td>
</tr>
<tr>
<td>5: Professional Development</td>
<td>4.75</td>
<td>1.246</td>
</tr>
<tr>
<td>31: Positive school atmosphere</td>
<td>4.62</td>
<td>1.296</td>
</tr>
<tr>
<td>10: Support (Parents)</td>
<td>4.46</td>
<td>1.27</td>
</tr>
<tr>
<td>17: Appreciation (Management)</td>
<td>4.37</td>
<td>1.327</td>
</tr>
<tr>
<td>29: Student happiness and success</td>
<td>4.31</td>
<td>1.22</td>
</tr>
<tr>
<td>30: Management communication to Staff</td>
<td>4.1</td>
<td>1.426</td>
</tr>
<tr>
<td>24: Student motivation ease</td>
<td>3.89</td>
<td>1.357</td>
</tr>
<tr>
<td>21: Positive feedback (students)</td>
<td>3.88</td>
<td>1.376</td>
</tr>
<tr>
<td>20: Positive feedback (management)</td>
<td>3.73</td>
<td>1.39</td>
</tr>
<tr>
<td>7: Expectations (Management)</td>
<td>3.69</td>
<td>1.459</td>
</tr>
<tr>
<td>25: Independent learning</td>
<td>3.67</td>
<td>1.316</td>
</tr>
<tr>
<td>18: Appreciation (Parents)</td>
<td>3.66</td>
<td>1.291</td>
</tr>
<tr>
<td>19: Appreciation (Students)</td>
<td>3.64</td>
<td>1.332</td>
</tr>
<tr>
<td>22: Positive feedback (parents)</td>
<td>3.61</td>
<td>1.352</td>
</tr>
<tr>
<td>3: Rumination</td>
<td>3.37</td>
<td>1.557</td>
</tr>
<tr>
<td>6: Unrealistic expectations (students)</td>
<td>3.2</td>
<td>1.454</td>
</tr>
<tr>
<td>8: Unrealistic expectations (parents)</td>
<td>3.07</td>
<td>1.459</td>
</tr>
<tr>
<td>16: Dealing with student personal issues</td>
<td>2.91</td>
<td>1.541</td>
</tr>
<tr>
<td>23: Discipline challenges</td>
<td>2.79</td>
<td>1.665</td>
</tr>
<tr>
<td>27: Time outs and breaks</td>
<td>2.79</td>
<td>1.61</td>
</tr>
<tr>
<td>36: LC Points Race</td>
<td>2.61</td>
<td>1.382</td>
</tr>
<tr>
<td>26: Differentiation challenges</td>
<td>2.61</td>
<td>1.356</td>
</tr>
<tr>
<td>34: Administration demands</td>
<td>2.43</td>
<td>1.431</td>
</tr>
<tr>
<td>32: Cuts to resources</td>
<td>2.38</td>
<td>1.436</td>
</tr>
<tr>
<td>33: Inspections</td>
<td>2.04</td>
<td>1.255</td>
</tr>
<tr>
<td>35: JC Assessment</td>
<td>1.9</td>
<td>1.43</td>
</tr>
<tr>
<td>38: Lack of promotion</td>
<td>1.87</td>
<td>1.193</td>
</tr>
<tr>
<td>39: Tired at the end of longer term</td>
<td>1.79</td>
<td>1.148</td>
</tr>
<tr>
<td>37: Media Depiction</td>
<td>1.65</td>
<td>1.083</td>
</tr>
</tbody>
</table>
4.3.2.4 Perceived stress scale (ratio data)

The third section of the survey completed by the teachers contained the perceived stress scale. The scale consists of 14 questions. The questions are each rated by the participants from 0-4. The questions are then added up to give a score between 0 and 56. It should be noted that the questions related to the table below can be viewed in Appendix 9.

<table>
<thead>
<tr>
<th>Table 30: Perceived stress scale variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>1: Upset</td>
</tr>
<tr>
<td>2: Control</td>
</tr>
<tr>
<td>3: Nervous</td>
</tr>
<tr>
<td>4: Not Coping</td>
</tr>
<tr>
<td>5: Anger</td>
</tr>
<tr>
<td>6: Thinking</td>
</tr>
<tr>
<td>7: Difficulties Piling Up</td>
</tr>
<tr>
<td>8: Problems</td>
</tr>
<tr>
<td>9: Coping</td>
</tr>
<tr>
<td>10: Confidence</td>
</tr>
<tr>
<td>11: My Way</td>
</tr>
<tr>
<td>12: Control Time</td>
</tr>
<tr>
<td>13: On Top Of Things</td>
</tr>
<tr>
<td>14: Irritations</td>
</tr>
</tbody>
</table>

The table below presents the data relating to the participants overall scores for perceived stress.

<table>
<thead>
<tr>
<th>Table 31: Perceived stress scale descriptives</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Total Perceived Stress</td>
</tr>
</tbody>
</table>
4.3.2.5 Assessing the normality of the perceived stress scale ratio data

George (2011) suggests that when values for asymmetry and kurtosis between -2 and +2 exist, this is acceptable to prove normal univariate distribution. Tabachnick and Fidell (2007) are stricter suggesting that acceptable ranges for skewness and kurtosis are below +1.5 and above -1.5. Either way the values above are still well within the specified values.

Skewness and kurtosis values are only one indication of the normality of a data set. Tabachnick and Fidell (2007) also suggest that for larger samples (200+ cases) further statistical and visual testing is required to ensure that the data can indeed be described as normally distributed. The 5% trimmed mean (= 22.77) is identical to the standard mean given in the previous table. Therefore the extreme scores are not having a negative effect on the mean for the data set. The Kolmogorov-Smirnov statistic used for sample sizes of greater than 50 indicates that the scores for the participants are normally distributed. The Sig value of .075 greater than .05 means there is a non-significant result, this suggests that the data is normal. Visual inspection of the histogram, normal Q-Q plot, detrended normal Q-Q plot and box plot indicate that the participant’s scores for perceived stress are normally distributed.

4.3.2.6 Assessing the reliability of the perceived stress scale ratio data

Similar to previously reported findings the internal consistency of the perceived stress scale is very good with a Cronbach Alpha of (.857) for the 14 item scale. Further inspection of the data using an inter-item correlation matrix also indicates that the scale is reliable.
4.3.3 Bivariate statistics

The next section of the thesis will focus on comparing groups within the data set based on their perceived stress scores.

4.3.3.1 School factors

4.3.3.1.1 School student sex

A one way between groups analysis of variance was conducted to explore the impact of student sex on the perceived stress levels of teachers as measured by the Cohen et al. (1983) perceived stress scale. Participants were divided into three groups according to the sex of the student population in their school (Group 1: Male students; Group 2: Female students; Group 3: Mixed sex students). There was a statistically significant difference at the p<.05 level in perceived stress scores for the three groups: $F(2, 353) = 4.1$, $p = .017$. The effect size calculated using eta squared was .022, (2.2% variance). Cohen (1988) would consider this a small effect size. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for teachers working in the mixed sex school ($M = 22.32$, $SD = 7.700$) was significantly lower than the mean score of those working in the female sex schools ($M = 25.95$, $SD = 8.027$). Further analysis using the G Power program indicated that a statistical power of .71 was achieved. This is below the .80 recommended value by (Cohen 1988). The mean perceived stress score of those working in male sex schools was not significantly different from the mean score for the female or mixed sex schools.
4.3.3.1.2 School student numbers

A one-way between-groups analysis of variance was conducted to explore the impact of student numbers in a school on teachers perceived stress levels. Participants were divided into three groups (Group 1: 0-399 students; Group 2: 400-799 students; Group 3: 800-1200+ students). There was a statistically significant difference at the p<.005 level in perceived stress scores for the three groups: F (2, 353) = 7.24, p = .001. The effect size calculated using eta squared was .039. Cohen (1988) would consider this a small effect size. Analysis using the G Power software indicated that a statistical power of .92 was achieved, .80 being the gold standard set by (Cohen 1988). Post-hoc comparisons using the Tukey HSD test indicated that significant differences exist between the mean scores for teachers working in the schools with 0-399 students (M = 24.20, SD = 8.182) and those teachers working in the schools with 400-799 students (M = 21.06, SD = 7.815). The tests also showed that a significant difference exists between teachers working in the schools with 400-799 students (M = 21.06, SD = 7.815) and those teachers working in schools with 800-1200+ students ((M = 24.17, SD = 7.124). There was no significant difference between the mean scores of group 1 and group 3.

4.3.3.1.3 School teacher numbers

A one-way between-groups analysis of variance was conducted to explore if the number of teachers in a school impacts perceived stress levels of the teachers. Participants were divided into three groups (Group1: 0-19 Teacher school; Group 2: 20-39 Teacher school; 40-60 Teacher school). There was a statistically significant difference at the p<.05 level in perceived stress scores for the three groups: F (2, 353) = 3.17, p = .043.
The effect size calculated using eta squared was .017. Cohen (1988) would consider this a small effect size. Post-hoc comparisons using the Tukey HSD test indicated that no significant differences existed between the three groups. The apparent contradiction may be due to the increased sensitivity of the ANOVA. There are also issues regarding the normality of perceived stress scores for the 40-60 teacher group. This may also be affecting the tests. Further testing using the G Power program indicated that a statistical power of .60 was only achieved, .80 being the gold standard set by (Cohen 1988).

4.3.3.1.4 School location

A one-way between-groups analysis of variance was conducted to explore the impact of school location on teachers perceived stress levels. Participants were divided into three groups according to the location of their school (Group 1: City School; Group 2: Town School; Group 3: Rural school). The results indicate that no significant differences existed between the means scores of perceived stress of the three groups: F (2, 353) = .017, p = .983.

4.3.3.1.5 School DEIS status

An independent-samples t-test was conducted to explore if the DEIS status of a school may impact the perceived stress levels of teachers working in the school. Participants were divided into two groups (Group 1: DEIS school; Group 2: Non DEIS School). The results indicate that no significant difference existed between the mean scores of the teachers working in DEIS schools (M = 23.42, SD = 8.85) and Non DEIS schools (M = 22.46, SD = 7.55; t (354) = .931, p = .353).
4.3.3.1.6 School religious status

A one-way analysis of variance was conducted to explore if the religious status of the participants’ schools had any impact on their perceived stress levels. Participants were divided into three groups (Group 1: Denominational schools; Group 2: Inter-Denominational schools; Group 3: Multi-Denominational schools). There were only 11 teachers in Group 3. Tests indicated that there was no statistical difference between the means of the three groups: $F(2, 353) = 2.001, p = .137$.

4.3.3.1.7 School language

An independent-samples t-test was conducted to explore if the primary language spoken in an Irish school may impact teachers perceived stress levels. Participants were divided into two groups (Group 1: English speaking school; Group 2: Irish speaking school). Only 7 participants identified as working in an Irish speaking school. Results indicate that no significant differences exist between those working in an Irish speaking school ($M = 22.43, SD = 9.12$) and those working in English speaking schools ($M = 22.72, SD = 7.90$; $t(354) = .095, p = .924$).

4.3.3.1.8 School classification

A one-way between-groups analysis of variance was conducted to explore if the national classification (governing body) of the schools impacts the perceived stress levels of the teachers working in the schools. Participants were divided into three groups (Group 1: Voluntary secondary schools; Group 2: Vocational schools or community colleges; Group 3: Community or comprehensive schools). There was a statistically significant difference at the $p < .05$ level in perceived stress scores for the
three groups: $F(2, 353) = 3.04, p = .049$. The effect size calculated using eta squared was .016. Cohen (1988) would consider this a small effect size. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for teachers working in Voluntary schools (Group 1) ($M = 24.16, SD = 7.378$) were significantly different to those working in (Group 3) Community or Comprehensive schools ($M = 21.42, SD = 7.217$). Statistical power analysis using the G Power program indicated that a statistical power of .59 was only achieved, this was below the .80 standard set by (Cohen 1988). Group 2 did not differ significantly from the other two groups.

4.3.3.2 Teacher factors

4.3.3.2.1 Teacher age

A one-way between-groups analysis of variance was conducted to explore the impact of teacher’s age on perceived stress scores. Participants were divided into 4 groups according to their age (Group 1: 20-29; Group 2: 30-39; Group 3: 40-49; Group 4: 50-65+). No statistical differences between the mean scores of perceived stress existed; $F(3, 347) = 1.845, p = .139$.

4.3.3.2.2 Career duration

A one-way between-groups analysis of variance was conducted to explore the impact of career duration on teachers perceived stress scores. Participants were divided into 4 groups based on the duration of their careers (Group 1: 0-9 years; Group 2: 10-19 years;
Group 3: 20-29 years; Group 4: 30+ years). No statistical difference between the means scores for perceived stress existed in this data set: F (3, 347) = .086, p = .968.

4.3.3.2.3 Employment status

A one-way between-groups analysis of variance was conducted to explore the impact of employment status on participants’ perceived stress. Participants were divided into 4 groups based on their employment status (Group 1: Casual part time; Group 2: Non-casual part time; Group 3: Contract of probationary employment; Group 4: Contract of Indefinite duration). Testing indicated that no significant difference between the means of the 4 groups existed in the dataset: F (3, 347) = .279, p = .840.

4.3.3.2.4 Base room status

An independent-samples t-test was conducted to compare the perceived stress scores of participants who had their own base room and participants who did not have their own base room. There was no significant difference in mean perceived stress scores between teachers who had their own base room (M = 22.55, SD = 7.77) and teachers who had to use a number of rooms in their days work (M = 22.98, SD = 7.99; t (348) = .512, p = .609).

4.3.3.2.5 Teacher subject area

Independent samples t-tests were conducted for each subject area comparing the mean perceived stress score with the mean perceived stress of the remaining teachers in the
sample. No statistically significant differences were found. Also the normality of some of the smaller groups regarding the spread of perceived stress scores was an issue.

<table>
<thead>
<tr>
<th>Subject</th>
<th>N</th>
<th>Mean</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion</td>
<td>36</td>
<td>24.06</td>
<td>7.27</td>
</tr>
<tr>
<td>Art</td>
<td>8</td>
<td>24</td>
<td>4.899</td>
</tr>
<tr>
<td>English</td>
<td>76</td>
<td>23.89</td>
<td>7.848</td>
</tr>
<tr>
<td>Physical Education</td>
<td>27</td>
<td>23.81</td>
<td>8.793</td>
</tr>
<tr>
<td>History</td>
<td>59</td>
<td>23.24</td>
<td>7.183</td>
</tr>
<tr>
<td>Irish</td>
<td>31</td>
<td>23.23</td>
<td>8.024</td>
</tr>
<tr>
<td>Home Economics</td>
<td>20</td>
<td>23.15</td>
<td>8.506</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>32</td>
<td>22.94</td>
<td>7.808</td>
</tr>
<tr>
<td>Maths</td>
<td>72</td>
<td>22.46</td>
<td>8.871</td>
</tr>
<tr>
<td>DCG/Tech Graphic</td>
<td>36</td>
<td>22.22</td>
<td>7.361</td>
</tr>
<tr>
<td>Music</td>
<td>12</td>
<td>22.17</td>
<td>6.873</td>
</tr>
<tr>
<td>Geography</td>
<td>45</td>
<td>21.89</td>
<td>8.272</td>
</tr>
<tr>
<td>Eng/Tech/Const</td>
<td>44</td>
<td>21.73</td>
<td>7.528</td>
</tr>
<tr>
<td>Buis/Acc/Economics</td>
<td>37</td>
<td>21.62</td>
<td>10.04</td>
</tr>
<tr>
<td>Sciences</td>
<td>48</td>
<td>21.44</td>
<td>8.032</td>
</tr>
</tbody>
</table>
4.3.4 Multivariate statistics

4.3.4.1 Principle components analysis

The 39 interval teacher based variables in the survey were subjected to principle components analysis (PCA) using SPSS version 22. Prior to preforming the PCA, the suitability of the data for factor analysis was assessed. Inspection of a correlation matrix for the 39 variables revealed the presence of many coefficients of .3 and above indicating the suitability of the data for PCA analysis (Tabachnick and Fidell 2007). The Kaiser-Meyer-Olkin value was .79, exceeding the recommended value of .6 (Kaiser 1970, Kaiser 1974) and Bartlett’s test of Sphericity (Bartlett 1954) reached statistical significance supporting the factorability of the correlation matrix.

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</th>
<th>.790</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>4079.897</td>
</tr>
<tr>
<td>df</td>
<td>741</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000</td>
</tr>
</tbody>
</table>

Tabachnick and Fidell (2007) suggest that when researchers use PCA they should use the combination of Kaiser’s criterion, scree tests and parallel analysis to ensure that one is selecting the simplest number of factors while still explaining as much variance in the data as possible.

Kaisers Criterion (The Eigenvalue rule) revealed the presence of 12 components with eigenvalues exceeding 1, explaining 15.8%, 9.3%, 6.1%, 4.5%, 4.2%, 3.7%, 3.6%, 3.1%, 3.0%, 2.9%, 2.8%, and 2.6% of the variance respectively. It should be noted that
the Kaiser criterion of 1 has been criticised for resulting in the presence of too many factors in some cases, this is why it is essential to use three methods of determining the number of factors (Beavers et al. 2013, Pallant 2013).

An inspection of the scree plot below revealed an elbow after 3 factors. There is also the presence of small elbows after the 5th and 7th factors.
A parallel analysis was also run, this supported the results of the Cattell (1966) scree test as it showed 7 components with eigenvalues exceeding the corresponding criterion values for a randomly generated data matrix of the same size (39 variables by 356 respondents). Where the three methods of identifying the number of factors differ statisticians suggest going with the results of the parallel analysis as it is the most accurate (Zwick and Velicer 1986) (Hubbard and Allen 1987, Costello and Osborne 2005, Pallant 2013). In this case the parallel analysis was supported by the results of the scree test.
Table 35: Parallel Analysis

<table>
<thead>
<tr>
<th>Number of Variables</th>
<th>39</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Participants</td>
<td>356</td>
</tr>
<tr>
<td>Number of Replications</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eigenvalue</th>
<th>Random Eigenvalue</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.6863</td>
<td>0.0540</td>
</tr>
<tr>
<td>2</td>
<td>1.6089</td>
<td>0.0320</td>
</tr>
<tr>
<td>3</td>
<td>1.5464</td>
<td>0.0324</td>
</tr>
<tr>
<td>4</td>
<td>1.4933</td>
<td>0.0264</td>
</tr>
<tr>
<td>5</td>
<td>1.4468</td>
<td>0.0250</td>
</tr>
<tr>
<td>6</td>
<td>1.4030</td>
<td>0.0228</td>
</tr>
<tr>
<td>7</td>
<td>1.3641</td>
<td>0.0232</td>
</tr>
<tr>
<td>8</td>
<td>1.3246</td>
<td>0.0201</td>
</tr>
<tr>
<td>9</td>
<td>1.2933</td>
<td>0.0210</td>
</tr>
<tr>
<td>10</td>
<td>1.2574</td>
<td>0.0217</td>
</tr>
<tr>
<td>11</td>
<td>1.2248</td>
<td>0.0210</td>
</tr>
<tr>
<td>12</td>
<td>1.1946</td>
<td>0.0176</td>
</tr>
<tr>
<td>13</td>
<td>1.1613</td>
<td>0.0166</td>
</tr>
</tbody>
</table>

The 7 component solution explained a total of 47.18% of the variance. The components individually explained 15.8%, 9.3%, 6.1%, 4.5%, 4.2%, 3.7%, and 3.6% of the variance respectively.

To aid in the interpretation of these 7 components oblimin rotation was performed. The rotated solution revealed using SPSS consisted of a logical structure (Thurstone 1947). However, three of the variables: cuts to resources; time outs and breaks; and professional development were removed from the data set due to their low correlation values (below .3) in both the pattern matrix and structure matrix. The final 7 factor, 36 variable structure which emerged from the PCA can be explored on the following pages using the pattern matrix and structure matrix. Correlations in both matrixes with values greater than .3 have been highlighted to make it easier to see the factors and their associated variables.
The component correlation matrix for the 7 components revealed the presence of weak correlations between the components with all correlation values below the .3 value recommended by (Pallant 2013).

Table 36 Component Correlation Matrix

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>-0.089</td>
<td>0.085</td>
<td>-0.217</td>
<td>-0.147</td>
<td>0.148</td>
<td>-0.136</td>
</tr>
<tr>
<td>2</td>
<td>-0.089</td>
<td>1</td>
<td>-0.171</td>
<td>-0.061</td>
<td>0.048</td>
<td>-0.023</td>
<td>0.289</td>
</tr>
<tr>
<td>3</td>
<td>0.085</td>
<td>-0.171</td>
<td>1</td>
<td>-0.067</td>
<td>-0.124</td>
<td>0.051</td>
<td>-0.132</td>
</tr>
<tr>
<td>4</td>
<td>-0.217</td>
<td>-0.061</td>
<td>-0.067</td>
<td>1</td>
<td>0.147</td>
<td>-0.098</td>
<td>-0.014</td>
</tr>
<tr>
<td>5</td>
<td>-0.147</td>
<td>0.048</td>
<td>-0.124</td>
<td>0.147</td>
<td>1</td>
<td>-0.068</td>
<td>0.071</td>
</tr>
<tr>
<td>6</td>
<td>0.148</td>
<td>-0.023</td>
<td>0.051</td>
<td>-0.098</td>
<td>-0.068</td>
<td>1</td>
<td>-0.112</td>
</tr>
<tr>
<td>7</td>
<td>-0.136</td>
<td>0.289</td>
<td>-0.132</td>
<td>-0.014</td>
<td>0.071</td>
<td>-0.112</td>
<td>1</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
Table 37 Pattern and structure (P/S) matrix: demands and resources

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>I think that information is communicated between staff and the management effectively in this school</td>
<td><strong>.780 / .794</strong></td>
<td>-.119 / -.212</td>
<td>.161 / .243</td>
<td>-.023 / -.185</td>
<td>.021 / -.118</td>
<td>-.081 / .047</td>
<td>-.003 / -.154</td>
</tr>
<tr>
<td>17</td>
<td>The school management shows me appreciation for my hard work.</td>
<td><strong>.749 / .778</strong></td>
<td>.018 / -.085</td>
<td>-.079 / .023</td>
<td>.020 / -.164</td>
<td>-.224 / -.326</td>
<td>-.061 / .074</td>
<td>-.135 / -.230</td>
</tr>
<tr>
<td>11</td>
<td>I have the support of management.</td>
<td><strong>.690 / .699</strong></td>
<td>.163 / .074</td>
<td>-.086 / -.025</td>
<td>.000 / -.166</td>
<td>-.109 / -.200</td>
<td>-.020 / .096</td>
<td>-.130 / -.171</td>
</tr>
<tr>
<td>15</td>
<td>I have a positive relationship with the school management.</td>
<td><strong>.670 / .692</strong></td>
<td>.173 / .100</td>
<td>-.073 / .022</td>
<td>.003 / -.173</td>
<td>-.039 / -.138</td>
<td>.201 / .302</td>
<td>-.066 / -.122</td>
</tr>
<tr>
<td>31</td>
<td>There is a real positive vibe or atmosphere in this school.</td>
<td><strong>.629 / .687</strong></td>
<td>-.121 / -.193</td>
<td>.130 / .207</td>
<td>-.143 / -.275</td>
<td>.139 / -.009</td>
<td>.151 / .261</td>
<td>-.019 / -.161</td>
</tr>
<tr>
<td>20</td>
<td>I get positive feedback from management on my teaching.</td>
<td><strong>.623 / .620</strong></td>
<td>.015 / -.038</td>
<td>-.107 / -.026</td>
<td>.062 / -.101</td>
<td>-.385 / -.438</td>
<td>-.233 / -.127</td>
<td>.004 / -.064</td>
</tr>
<tr>
<td>29</td>
<td>The teaching and learning experience provided to students in this school makes all students feel happy and successful</td>
<td><strong>.466 / .525</strong></td>
<td>-.089 / -.128</td>
<td>.202 / .259</td>
<td>-.137 / -.262</td>
<td>-.013 / -.131</td>
<td>.119 / .202</td>
<td>.113 / -.015</td>
</tr>
<tr>
<td>37</td>
<td>It annoys me the way that teachers are depicted on the news and in papers by the media.</td>
<td>.008 / -.012</td>
<td><strong>.682 / .675</strong></td>
<td>.144 / .032</td>
<td>-.201 / -.242</td>
<td>.057 / .044</td>
<td>-.037 / -.030</td>
<td>.010 / .198</td>
</tr>
<tr>
<td>39</td>
<td>I find that I get extra tired and burnt out near the end of the longer teaching terms.</td>
<td>-.099 / -.143</td>
<td><strong>.637 / .674</strong></td>
<td>-.027 / -.139</td>
<td>-.116 / -.136</td>
<td>-.096 / -.052</td>
<td>-.107 / -.127</td>
<td>.063 / .271</td>
</tr>
<tr>
<td>38</td>
<td>I am frustrated by the current lack of promotion and reward opportunities available to practicing post primary teachers.</td>
<td>-.080 / -.110</td>
<td><strong>.616 / .622</strong></td>
<td>.058 / -.047</td>
<td>-.147 / -.163</td>
<td>-.012 / .007</td>
<td>-.098 / -.105</td>
<td>-.006 / -.187</td>
</tr>
<tr>
<td>33</td>
<td>I find departmental inspections stressful</td>
<td>.091 / -.007</td>
<td><strong>.595 / .586</strong></td>
<td>-.037 / -.150</td>
<td>.099 / .066</td>
<td>.111 / .146</td>
<td>-.044 / -.060</td>
<td>-.023 / .153</td>
</tr>
</tbody>
</table>

182
<p>| | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>It is very difficult to differentiate for the</td>
<td>.001 / -.081</td>
<td>.521 / .524</td>
<td>-.043 / -.149</td>
<td>.295 / .239</td>
<td>.045 / .101</td>
<td>.328 / .274</td>
<td>.067 / .186</td>
</tr>
<tr>
<td></td>
<td>individual learning needs of all the</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>students in my classes.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>I find the idea of assessing my own</td>
<td>.074 / -.002</td>
<td>.505 / .537</td>
<td>-.014 / -.124</td>
<td>.013 / -.020</td>
<td>.132 / .154</td>
<td>.051 / .026</td>
<td>.113 / .255</td>
</tr>
<tr>
<td></td>
<td>students for the Junior Certificate stressful</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>The race for points in the leaving</td>
<td>.060 / .001</td>
<td>.366 / .388</td>
<td>-.067 / -.135</td>
<td>.047 / .014</td>
<td>-.028 / .003</td>
<td>-.037 / -.051</td>
<td>.069 / .177</td>
</tr>
<tr>
<td></td>
<td>certificate negatively affects the teaching</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>and learning that takes place in my</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>classroom.</td>
<td></td>
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<tr>
<td>34</td>
<td>The administration demands of teaching</td>
<td>.091 / .074</td>
<td>-.305 / -.362</td>
<td>.127 / .168</td>
<td>.140 / .163</td>
<td>.131 / .110</td>
<td>-.124 / -.109</td>
<td>-.095 / -.191</td>
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<td></td>
<td>are not stressful</td>
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<tr>
<td>24</td>
<td>I find it easy to motivate my students to</td>
<td>.017 / .138</td>
<td>-.018 / -.163</td>
<td>.775 / .815</td>
<td>-.139 / -.215</td>
<td>-.195 / -.313</td>
<td>-.071 / -.002</td>
<td>-.040 / -.154</td>
</tr>
<tr>
<td></td>
<td>learn in my classes</td>
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<tr>
<td>23</td>
<td>I don’t have to deal with challenging</td>
<td>-.017 / .034</td>
<td>.117 / .026</td>
<td>.746 / .726</td>
<td>.094 / .032</td>
<td>.021 / -.060</td>
<td>.117 / .143</td>
<td>-.031 / -.106</td>
</tr>
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<td></td>
<td>discipline issues.</td>
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<tr>
<td></td>
<td>I find it easy to get students in my classes</td>
<td>-.015 / .086</td>
<td>-.140 / -.249</td>
<td>.734 / .775</td>
<td>-.115 / -.168</td>
<td>-.186 / -.286</td>
<td>-.130 / -.073</td>
<td>.049 / -.083</td>
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<td></td>
<td>to engage in independent learning and</td>
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<td>project work.</td>
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</tr>
<tr>
<td>1</td>
<td>I am professionally competent at my job.</td>
<td>-.109 / .037</td>
<td>.131 / .159</td>
<td>-.020 / .006</td>
<td>.716 / -.690</td>
<td>.018 / -.067</td>
<td>-.054 / -.007</td>
<td>-.109 / -.036</td>
</tr>
<tr>
<td>12</td>
<td>1. I have positive relationships with my</td>
<td>.246 / .384</td>
<td>.020 / .038</td>
<td>-.087 / -.027</td>
<td>.567 / -.624</td>
<td>.091 / -.034</td>
<td>.228 / .312</td>
<td>-.030 / -.057</td>
</tr>
<tr>
<td></td>
<td>colleagues.</td>
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<tr>
<td>4</td>
<td>1. I am always prepared and organized</td>
<td>.063 / .174</td>
<td>.114 / .118</td>
<td>.212 / .225</td>
<td>.562 / -.585</td>
<td>.032 / -.074</td>
<td>-.069 / -.002</td>
<td>.027 / .041</td>
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<td>for class.</td>
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<tr>
<td>13</td>
<td>1. I have positive relationships with my</td>
<td>-.166 / .015</td>
<td>.164 / .178</td>
<td>.051 / .095</td>
<td>-.452 / -.508</td>
<td>-.325 / -.386</td>
<td>.315 / .354</td>
<td>.011 / .022</td>
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<tr>
<td></td>
<td>students.</td>
<td></td>
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<tr>
<td>2</td>
<td>I have fun during the work day.</td>
<td>.101 / .222</td>
<td>-.079 / -.095</td>
<td>-.009 / .066</td>
<td>-.388 / -.421</td>
<td>-.102 / -.185</td>
<td>.019 / .091</td>
<td>-.092 / -.131</td>
</tr>
<tr>
<td>28</td>
<td>I collaborate on and share resources with</td>
<td>.279 / .358</td>
<td>.074 / -.062</td>
<td>.052 / .098</td>
<td>.378 / -.431</td>
<td>.080 / -.025</td>
<td>.051 / .120</td>
<td>.070 / .009</td>
</tr>
<tr>
<td></td>
<td>other teachers in my subject area</td>
<td></td>
<td></td>
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<tr>
<td>21</td>
<td>I do not get positive feedback from</td>
<td>-.008 / -.140</td>
<td>.052 / .105</td>
<td>-.067 / -.174</td>
<td>.032 / .145</td>
<td>.726 / .747</td>
<td>-.026 / -.088</td>
<td>.028 / .107</td>
</tr>
<tr>
<td></td>
<td>students on my teaching.</td>
<td></td>
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<tr>
<td>19</td>
<td>Students do not show me appreciation for</td>
<td>-.040 / -.175</td>
<td>.192 / .232</td>
<td>-.037 / -.157</td>
<td>-.004 / .105</td>
<td>.624 / .654</td>
<td>-.179 / -.232</td>
<td>-.015 / .115</td>
</tr>
<tr>
<td></td>
<td>Statement</td>
<td>Correlation Coefficients</td>
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<tr>
<td>22</td>
<td>I get positive feedback from parents on my teaching</td>
<td>0.107 / 0.174</td>
<td></td>
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<tr>
<td>18</td>
<td>Parents show me appreciation for my hard work.</td>
<td>0.265 / 0.385</td>
<td></td>
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<tr>
<td>10</td>
<td>I do not have the support of parents.</td>
<td>-0.087 / -0.244</td>
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<tr>
<td>14</td>
<td>I do not have positive relationships with the parents of my students.</td>
<td>0.004 / -0.153</td>
<td></td>
<td></td>
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<tr>
<td>16</td>
<td>I have to deal with difficult personal and family related issues of students.</td>
<td>-0.008 / -0.048</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>9</td>
<td>I do not have the support of my colleagues.</td>
<td>-0.360 / -0.438</td>
<td></td>
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<tr>
<td>6</td>
<td>I feel that students can have unrealistic high expectations of me.</td>
<td>0.034 / -0.086</td>
<td></td>
<td></td>
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<tr>
<td>8</td>
<td>I feel that parents can have unrealistic high expectations of me.</td>
<td>0.012 / -0.140</td>
<td></td>
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<tr>
<td>7</td>
<td>I feel that management can have unrealistic high expectations of me.</td>
<td>-0.346 / -0.442</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>In the evenings I think about negative experiences from my work day.</td>
<td>0.081 / 0.004</td>
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</tbody>
</table>
The titles given to the 7 components or factors along with synopsis of their associated items are shown below:

1. **Management Culture**
   - Information communication between staff and management
   - Management appreciation
   - Management support
   - Management relationship
   - School atmosphere
   - Feedback from management
   - School enables all students to feel successful

2. **Department Policy**
   - Media Depiction
   - Tired at the end of long terms
   - Lack of promotion
   - Inspections
   - Challenge of differentiating
   - JC Assessment
   - Points Race
   - Admin demands

3. **Facilitating Learning**
   - I find it easy to motivate students
   - I don’t have to deal with challenging discipline issues
• I find it easy to get students to engage in independent learning

4. Professional Efficacy

• I am competent
• Positive relationships with my colleagues
• I am always prepped and organised
• I have positive relationships with my students
• I have fun
• I collaborate with and share resources with other teachers in my subject area

5. Feedback and Appreciation

• Student feedback
• Student appreciation
• I get positive feedback from parents
• Parents show me appreciation

6. Supportive Environment

• Parents support
• Parent relationships
• Dealing with student personal issues
• Colleague support

7. Perceived Expectations

• Student Expectations
• Parents expectations
• Management expectations
• Rumination
4.3.4.2 Standard multiple regression analysis

Of the three types of regression analysis: standard multiple regression, hierarchical/sequential multiple regression and stepwise multiple regression, it was decided to use standard multiple regression as it was more suitable to enter all independent variables into the equation simultaneously for comparison. There was no theoretical bases for entering the independent variables into the equation in a pre-selected order as per hierarchical/sequential multiple regression, using equations as per stepwise multiple regression to select the order that the independent variables are entered into the equation has seen controversy and repeated criticism in the scientific community so it was decided against its use (Lewis-Beck 1978, Mark and Goldberg 1988, Thompson 2001, Whittingham et al. 2006, Tabachnick and Fidell 2007, Walter and Tiemeier 2009, Pallant 2013).

Standard multiple regression was thus used to assess the ability of the 7 components which emerged from the principle components analysis to predict the teachers perceived stress scores. Preliminary analysis was conducted to ensure that no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity had occurred as per guidelines (Tabachnick and Fidell 2007).

<table>
<thead>
<tr>
<th>Table 38 Regression Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
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<tr>
<td>-------</td>
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<tr>
<td>1</td>
</tr>
</tbody>
</table>

a. Predictors: Perceived Expectations, Professional Efficacy, Facilitating Learning, Supportive Environment, Feedback and Appreciation, Department Policy, Management Culture

b. Dependent Variable: Total Perceived Stress
The R square value of .289 suggests that the 7 component model explains 28.9% of the variance in perceived stress that the teachers reported in the surveys, F (7, 348) = 20.17, p < .001.

However, only 4 of the components were making a statistically significant contribution to the predictive nature of the model. They were: Perceived Expectations (beta = .268, p < .001); Department Policy (beta = .219, p < .001); Professional Efficacy (beta = .203, p < .001); Supportive Environment (beta = .154, p < .005).

The multiple regression was run again with just the four significant factors. The R Square value indicates that the four factor model still predicts 28.5% of the variance in the teachers perceived stress scores even without the other three factors present, F (4, 351) = 34.83, P < .001. Further analysis with the G power program indicates that a statistical power of 1 was achieved.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0.533</td>
<td>0.284</td>
<td>0.276</td>
<td>6.658</td>
</tr>
</tbody>
</table>

a. Predictors: Perceived Expectations, Professional Efficacy, Supportive Environment, Department Policy.

b. Dependent Variable: Total Perceived Stress

Squaring the part correlation values on the coefficient table provides an indication of the contribution of the individual variables to the R square value. Calculations indicated that: The Supportive Environment component makes a unique contribution of 2.1%, the Department Policy component makes unique contribution of 3.6%, the Professional Efficacy component makes a unique contribution of 3.8%, and finally the Perceived Expectations component makes a unique contribution of 5.7%. It should be noted that
the total R Square value for the model does not equal the squared part correlation values added up. This is because the part correlations represent only the unique contributions of each variable with overlap and shared variance between the variables cancelled out.
4.4 Exploratory sequential mixed method design

As the project was following a mixed methods exploratory sequential design (Creswell et al. 2003), it was necessary and prudent to develop the stress framework generated during the first phase of the project. Both frameworks’ are included below for comparison. The framework was adapted from an initial 5 factor model to a 4 factor model following the increased number of participants and scientific analysis of the survey instrument. The PCA analysis suggested a 7 factor structure, however the regression analysis suggested that only 4 of these factors significantly contributors to the predictive nature of the model. There are robust similarities between the frameworks at both time points while also some differences which will be outlined in the following section.

The management culture factor from Phase 1 re-emerged in the PCA but was not significantly contributing to the predictive nature of the regression model so it was removed from the final framework. A variation of the facilitating learning factor from Phase 1 also emerged from the PCA with some different variables, but similar to the management culture factor was not a significant contributor within the regression model and was therefore removed from the framework. A third new factor titled feedback and appreciation emerged from the PCA; it emerged out of the social environment factor from Phase 1, it also did not make a significant contribution within the regression model and was not included in the final framework below.

A variation of the professional efficacy factor from the first phase emerged from the PCA and regression as being predictive of teacher stress; the factor saw the addition of relationships and collegiality variables while dropping the rumination variable. The department policy factor emerged from the PCA and regression as being predictive of
teacher stress, the factor contained all but one of the variables which emerged in the first phase of the project. The social environment factor from the first phase of the project split into two factors with both making meaningful contributions to the predictive nature of the regression model; the factors were perceived expectations and supportive environment. The rumination variable was linked with the expectations variables within the perceived expectations factor. The supportive environment factor consisted of variables relating to relationships and support with colleagues, parents and students.

Figure 8: Phase one graphical representation of the grounded theoretical framework of work related factors which may influence teacher stress
Figure 10: Phase two updated graphical representation of updated framework of work related factors which may influence teacher stress following PCA and regression analysis.
4.5 Summary of the results

The grounded theoretical methodology used in the first phase of the qualitative element of the project achieved theoretical saturation following 7 focus groups, an 8th focus group was conducted to confirm saturation, this brought the total number of participants to 43. The framework which emerged suggested that school based factors that influence post primary teachers perceived stress centred on 5 core factors supported by 31 categories. The core factors were: professional efficacy, social environment, facilitating learning, management culture and department policy.

In the second phase of the project, 37 school principals or nominated individuals completed surveys which gathered 10 items of school demographic data. In these schools 356 teachers completed surveys which also contained 5 items relating to teacher demographics, 39 interval based items created from the qualitative job demands and resources findings in Phase 1, the survey also contained the 14 item psychometrically validated perceived stress scale (Cohen et al. 1983). Findings here indicated that only 3 of the 15 teaching demographic variables: sex of the student population, size of the student population, and the governing body of the schools could account for variance in perceived stress scores of the teachers with weak effect sizes reported.

The 39 job demands and resources items were subjected to principle components analysis. The PCA exploration revealed the presence of 7 higher order factors. Following this a standard multiple regression was conducted to explore the predictive nature of the 7 factors in terms of teachers perceived stress scores. The results indicated that only 4 of the factors: perceived expectations; management policy; supportive environment; and finally professional efficacy were making a statistically significant contribution to the predictive nature of the model; the four factors accounted for 28.5%
of variance in teachers perceived stress scores $F (4, 351) = 34.83 \ p < .001$. Following the PCA analysis and regression, the framework from the first phase of the project was updated to reflect the findings which emerged from the second phase of the project. The original framework and the updated framework can be seen in section 4.3.
5. Discussion

The following chapter examines the findings of the project in terms of previous research in the Irish post primary context and the wider international perspective. Complimentary, contradictory and novel insights will be discussed. As the chapter sections are structured around the research objectives which were formed following the literature search; the aim and objectives are re-stated below for the readers’ ease.

Aim: To explore the influence of Irish post primary teachers’ profession on their perceived stress.

Objectives

To explore the relationship between teaching demographic variables and Irish post primary teachers’ perceived stress.

To investigate the job demands and resources of Irish post primary teachers’ and any potential relationship with teachers’ perceived stress.

To examine the utility of the Job Demands-Resources Theory within the Irish post primary teaching context.
5.1 The relationship between teaching demographics and Irish Post Primary teachers perceived stress levels

5.1.1 Overview of findings

Of the 10 school demographic and 5 teacher demographic variables only three produced significant findings, specifically sex of the student population, number of students and governing body of the school. The results indicated that 2.2% of the variance in perceived stress scores can be accounted for by the sex of the student population with those teachers working in mixed sex schools having significantly lower perceived stress scores than those working in female sex schools. Results also indicated that 3.9% of variance in perceived stress scores can be accounted for by student population in a school. Those working in schools with 400-800 students had significantly lower stress scores then those working in schools with 0-400 students and those working in schools with 800 plus students. Finally, the results indicated that 1.6% of variance in perceived stress scores can be accounted for by the governing body of the school with significant differences between teachers working in voluntary and community/comprehensive schools with the later having significantly lower perceived stress scores.

One of the key findings from the literature search was that teacher demographic variables such as age, sex and marital status had small and often inconsistent relationships with teacher stress (Lackritz 2004, Froeschle and Crews 2010, Matin et al. 2012). The findings from this research corroborate with the international research; there were generally no effects (12/15 cases) and where they were found (3/15 cases), they were classified as small effects and the statistical power was below the recommended .8 in 2/3 cases. This is also in line with previous empirical research.
exploring the relationship between burnout and demographics with Irish post primary teachers (Foley and Murphy 2015). An important point that can be made here is that school and teacher demographic variables do not seem to influence teachers stress levels in the same way that school contextual factors; job demands and job resources do.

5.1.2 Female sex schools

Nevertheless the potential implications of the demographic statistics is that working in a small (<400) or large (>800) girls voluntary secondary school is potentially one of the more stressful environments a teacher in Ireland can find themselves in. Previous research has articulated that high stakes testing such as the Irish Leaving Certificate results in increased stress for students (Banks and Smyth 2015). Girls are consistently outperforming boys academically in high stakes exams (ibid), however the pressure of said academic performance may also be leading to increased stress for female students (ibid). It is not unreasonable to then assume that this is having a knock on effect on teachers in female only schools as a result of stress contagion. The concept of stress contagion between individuals working in the same environment has been well established in the literature (Bolger et al. 1989, Waters et al. 2014, Burgess et al. 2018). However the tentative nature of the findings must be emphasised with a small effect size of .022 eta squared and a statistical power of .71. In addition Foley and Murphy (2015) found no link between student sex and the three components of burnout. Further research is required to establish the validity of this finding in terms of student sex.
5.1.3 Voluntary secondary schools

Similar argumentation can be used to explain the effect relating to voluntary secondary schools. Voluntary secondary schools are privately owned and controlled with the vast majority (95%) Catholic and the remainder Protestant, Jewish and Quaker respectively (Smyth 2008). Just over half of the post primary population attend voluntary secondary schools (ibid). The vocational and community/comprehensive schools have a student composition which has been described as more working class and of lower academic ability (ibid). The relationship between league tables and social class has also been reported internationally and in Ireland (Smyth and Banks 2012). Arguments have been made that education through the medium of high stakes testing and league tables facilitates socio-cultural reproduction (Smyth and Banks 2012). Putatively the increased focus on performance in the Leaving Certificate in voluntary schools may be resulting in increased stress for teachers working in these schools. The students in these schools may be under more stress academically and this is transferred to the teachers through the stress contagion process (Waters et al. 2014). However, similarly to the previous section, the small effect size of .016 eta squared and statistical power of only .59 suggest that the effect is small to negligible. There is potential for further research relating to this finding. Previous research by Foley and Murphy (2015) with teachers in Ireland indicated that teachers working in voluntary schools scored significantly lower in the personal accomplishment element of burnout when compared with their counterparts working in community or comprehensive schools. Further research is required to explore this tentative finding.
5.1.4 Small and large secondary schools

The results relating to school size are difficult to interpret in terms of teacher stress. Teachers working in schools with less than 400 students and those working in schools with greater than 800 students scored significantly higher in perceived stress than their counterparts in schools with 400-800 students. The small effect size was .039 eta squared, the statistical power was .92. This suggests that there may be a sweet spot in terms of school size in Ireland. However no international research was uncovered during the literature search that indicated that school size directly influences teacher stress. Foley and Murphy (2015) found no association between school population and the three components of burnout.

While academic performance within a high stakes testing culture provided a lens to potentially explain teacher stress when considering voluntary and girls secondary schools; systematic reviews comparing school size with student academic performance are mixed and inconsistent, (Leithwood and Jantzi 2009, Gershenson and Langbein 2015). Therefore academic performance is not a potential mediator which can be used to explain the school size finding. There is however a body of evidence that explores the effects of school size on student outcomes that provides potential insights.

Findings have consistently shown that relationships between teachers and students are stronger in smaller schools (Leithwood and Jantzi 2009). Students also feel a greater sense of belongingness in smaller schools (ibid), students are more likely to get involved in extracurricular activities in smaller schools (Gershenson and Langbein 2015). Larger schools main advantage over smaller schools is resourcing and curriculum choice (ibid). One review suggests that schools with populations of economically disadvantaged students should be limited to 600, while schools serving
economically advantaged students should be limited to 1000 students, this is because economically disadvantaged students tend to do worse in larger schools (Leithwood and Jantzi 2009).

The literature search uncovered research which highlighted the positive effects of teacher-student relationships on teacher stress (Skaalvik and Skaalvik 2015, Gagnon et al. 2019). Following the principle components analysis and standard multiple regression which will be discussed in the section to follow, a supportive environment emerged as being a key factor capable of buffering teacher stress in Ireland. Positive relationships was a key variable within the factor. Stressors relating to working in smaller schools also emerged in the first phase of the project with (P19) discussing the implications of being the only teacher of their subject in a school “that can be stressful as-well like because you’re on your own—you have no backup or you have no support or in your......and there is no sharing”. Similarly to the other two demographic findings; the small effect size means no meaningful conclusions can be drawn. However there may be scope for a project analysing school size sweet spot from an economic and well-being perspective in Ireland.

5.1.5 Potential Implications

First and foremost more research is required to establish the validity of the findings particularly the school size findings. The research indicates that there is a tipping point or sweet spot in terms of school population and teacher stress. This may be influenced by an interplay between relationships enhancing as schools get smaller but collaboration opportunities decreasing, resulting in increased professional demands (Leithwood and Jantzi 2009, Gershenson and Langbein 2015). The findings relating to
demographics presented in this project may be unique to the Republic of Ireland as demographic statistics have been inconsistent when compared between jurisdictions, perhaps relating to cultural values or differences (Matin et al. 2012). Our pervading emphasis on the high stakes Leaving Certificate examination saturates teachers’ professional lives (Perryman et al. 2011), and influences their educational values as evidenced by (P6) in Phase 1 who said “I know it’s not all about getting the grades but I suppose at the end of the day it is about getting the grades”. This thinking helps to provide a critical lens to help unpack the results in terms of student sex and governing body of the school. More academically focused girl’s schools and voluntary secondary schools while achieving higher in league tables (Smyth et al. 2011, Smyth and Banks 2012, Banks and Smyth 2015) are in turn potentially more stressful places to work in.

Critics of the governance structures of our schools within a high stakes testing culture have argued that they perpetuate the challenge of lower class families improving their economic status in our society (Smyth and Banks 2012). This research also suggests that schools which differ by social class may also differ in terms of stress levels as a result of academic focus. The debate and discourse around mixed-sex vs single sex education continues and is unresolved for some (Liben 2015). This research adds to the discussion indicating that single sex girls’ schools may be more stressful environments to work in. However, to conclude, it must be emphasised that the effect sizes are small and provide little more than discussion pieces and topics worthy of further research.
5.2 Job demands and Job resources associated with Irish post primary teachers perceived stress levels

5.2.1 Overview of findings

The figure below summarises the findings from this research relating to school environmental factors following the exploratory sequential mixed method design. Four higher order factors consisting of different combinations of job demands and job resources have emerged from a grounded theoretical analysis, principle components analysis and finally a regression analysis as being associated with Irish post primary teachers perceived stress scores (R square = .284). While the direction of the causality cannot be objectively established as a result of the cross sectional nature of the study; inferences can be made based on previous theory and research uncovered in the literature. Each of the four factors will be discussed in the context of existing research. Finally potential implications of these findings for initial teacher educators, educational managers and policy makers will be discussed.

![Diagram](image)

**Figure 10**: Phase two updated graphical representation of updated framework of work related factors which may influence teacher stress following PCA and regression analysis
5.2.2 Perceived expectations

![Diagram of expectations and rumination factor]

**Figure 11**: Graphical representation of expectations and rumination factor

Following both phases of the project, high perceived expectations from students, parents and/or management emerged as the greatest macro level demand within the four factor model, independently accounting for the largest amount of variance in perceived stress: 5.7%. The relationship between high expectations and increased stress regarding teachers has previously been reported internationally (Holmes 2005, Robertson 2006, Prilleltensky et al. 2016). The finding has not been previously reported in the Irish context. (P19) explained an example of how management can perpetuate stress among staff: “there is kind of an expectation of performance—I think—I feel that—we’ll say from management”..... “that we’re all there to preform—do all the bells and whistles for 40 minutes or for 2 classes and then on to the next ones and do the next and so—ya, if you are faced with that, it’s very hard”.

Teachers also shared experiences of parents having unrealistic expectations of teachers and their own children; (P8) explained they had been in situations where they explained to parents regarding their child “seriously like, he is going to struggle, he is going to fail this”, they wanted the child to go back to pass in the subject “but the parents are
going no I’m sorry—he’s getting a grind and he is doing it, end of; the child ends up failing the Junior Certificate and this leads to baggage when they come back in September”. Finally students are also guilty of putting unfair pressure on their teachers also, (P33) suggested that students say things such as “I have to get an A, it has to be an A, if it is not an A I have failed”.

Rumination has previously been shown to contribute to increased stress; the same research has also shown that this effect is exaggerated where the ruminator is working in an environment where they feel high expectations on them (Syrek and Antoni 2014). The findings from this research, particularly the principle components analysis which grouped the rumination variable with the three expectations variables support this, suggesting that there is a potently negative cyclical relationship where one is a ruminator and is perceiving that they have very high expectations on them. (P5) discussed the potent role that rumination can play in a teachers world “it is a job of ups and downs though, there is days you come home and just think—god, what—that happened and you bring too much home, I think often teachers bring too much home and it’s very hard because it’s personal”.

5.2.2.1 Expectations and the “backwash effect”

The findings relating to the expectations factor highlight the ubiquitous influence of the “backwash effect” caused by the high stakes assessment known as the Leaving Certificate (Klein 2016). The primary focus of parents, management and students may be on getting the highest points possible rather than getting a broad education first (ibid). Educational researchers argue for “curriculum driven assessment” to foster richer “student led” experiences—however there is evidence here that “assessment
“driven curriculum” is the norm and focus for some as a result of high stakes testing and is perpetuating some of the expectations based stressors uncovered in the research for teachers (Teo 2015). Researchers in Ireland have previously suggested that the omnipresent culture of performativity in Ireland which perceives knowledge as explicitly measurable is to the detriment of students learning to question, challenge and critically evaluate knowledge (Hennessy and Mannix McNamara 2013). It has also been argued that in cultures of performativity, educational values become represented through quantifiable targets such as grades and points at the expense of richer moral and ethical educational values (Ball 2003). The backwash effect provides a unique and novel lens to examine teacher stress in Ireland.
5.2.3 Professional efficacy

Teachers’ professional efficacy emerged as the most valuable macro level personal job resource at their disposal for buffering the effects of stressors experienced on the job. The factor was individually predictive of 3.8% of variance in perceived stress. It was very evident that the teachers in the research took great pride out of lessons that went well for them. (P20) explained “I think when the kids enjoy the classes, you know—when they enjoy the subject or they seem….. I suppose you get a sense of satisfaction out of teaching”. These findings are in line with previous research where high self-efficacy in teachers has been shown to promote successful adaption to stressful demands; this in turn prevents the emergence of the burnout condition (Caprara et al. 2003, Skaalvik and Skaalvik 2007, Skaalvik and Skaalvik 2017). High self-efficacy in
teachers is also a predictor of work engagement (Skaalvik and Skaalvik 2016). Empirical research by Foley and Murphy (2015) suggested that Irish teacher’s self-efficacy was associated with the personal accomplishment element of burnout. Their research also indicated that collaboration and student relationships were associated with the exhaustion element of burnout (ibid), finally their findings also indicated that organisation was predictive of the depersonalisation element of burnout (ibid). These variables emerged as components of professional efficacy in this research.

Specifically the results of the principle components analysis indicated that teacher’s feelings of professional efficacy in Ireland as it relates to stress are mediated by at least 5 identified variables: 1. their ability to form positive relationships with their colleagues and students, 2. being able to collegially collaborate with colleagues, 3. feeling prepared and organised for their lessons, 4. feeling they are able to competently deliver lessons. Finally 5. having fun on the job. The links between these variables and teacher stress will be discussed in the following paragraphs using existing literature and some of the quotations from Phase one of the research.

Previous research has highlighted when a loss of interpersonal relationships between teachers and their management, colleagues, parents or students occurs, this can negatively impact stress levels (Prilleltensky et al. 2016). (P28) summed this up with their comment on the importance of relationships within teaching simply stating “teaching is built on relationships really—isn’t it”. Peer collaboration networks have been identified as also being negatively associated with teacher stress, particularly informal peer networks (Friedman 2000, Fisher 2011). (P18) suggested that stress in any school can be minimised “if you have a good team”, continuing on to describe the positive teamwork culture in their school “there is a good sense of a team in the school
within the teachers”. Previous qualitative research in Ireland highlighted that positive relationships may act as a buffer against stressors (Buckley et al. 2017).

It has previously been reported that being unorganized or going to class unprepared results in increased stress (Geving 2007). This research supports this finding, this is evident by (P33) who stated simply that “Not being prepared would cause me stress”. Qualitative research with Irish teachers has previously highlighted that organisation may be a buffer against stress (Buckley et al. 2017).

Feeling competent at delivering lessons emerged as the 4th variable. Previous literature has established that novice teachers are most at risk of feeling incompetent and experiencing stress as a result (Breeding and Whitworth 1999, Hargreaves and Fullan 2012). The findings from this project would suggest that feeling incompetent can also effect more senior teachers with (P23) an older gentleman sharing “I suppose another thing, well certainly for me…am…unresponsive classes. You prepare a lesson and you think that you’re going to fire them and…….the feedback is very minimal. You know and ah…..then you maybe question you know…you question certain things about your methodology or at the end of the day your vocation”. The perceived ability to maintain order in the classroom was previously identified in qualitative research with Irish teachers (Buckley et al. 2017).

Finally this research has presented the idea that having fun on the job or experiencing humour is an important buffer against stress. No evidence relating to this emerged from the literature search in terms of teachers. However many of the comments from the teachers indicate that having fun with their colleagues and students is an important buffer against the demands of the job; (P17) “some days are very funny and I get a
good kick out of them........you know—I wouldn’t be doing it if it was all dread and stuff”.

5.2.3.1 Teacher self-efficacy and the “backwash effect”

While the data indicates that teachers have a broad perception of what makes them effective at their job; it is also clear from the Phase 1 data that some teachers place particularly high value on students’ academic performance in terminal exams with (P35) explaining “When the results come out like..... You look at the results in your class or everyone goes first of all to whatever subject they were teaching and the relief if they have all passed!” Previous research with Irish teachers has shown that they adjust their methods as a result of the high stakes testing nature of the Leaving Certificate (Hennessy et al. 2011). This type of teaching has also been conceptualised as “high stakes teaching” (Smith Crocco and Costigan 2006). A logical assumption is that some teachers also adjust their conception of good teaching as a result of the high stakes testing nature of our educational system in addition to tailoring their pedagogical approaches to rote learning. Essentially viewing good teaching as preparing notes and model answers for scoring points in the Leaving Certificate. This could also be described as valuing and/or practicing “assessment driven curriculum” rather than “curriculum driven assessment” (Teo 2015). For teachers resilient to the “backwash effect” there may be a disparity between their values around the purpose of education and the values management, parents and students understandably may have as a result of the high stakes matriculation assessment (Mintrop 2012). This may be a further source of stress as their pedagogy misaligns with “high stakes teaching” rote learning practices. Further research exploring the effects of high stakes testing on teachers’ self-efficacy formation and potential implications for their stress may yield rich insights.
5.2.4 Supportive environment

Another macro level resource that emerged from both phases of the research as being important for teachers in the day to day undertaking of their jobs was a supportive environment, particularly when dealing with difficult student issues. Individually the factor accounted for 2.1% of variance in perceived stress. Previous research internationally and in Ireland has suggested that social support is an important buffering agent against stress for teachers (Kerr et al. 2011, Richards 2012). A meta-analysis suggested that along with buffering the effects of demands on teachers stress, it also promotes work engagement (Christian et al. 2011). As previously mentioned Foley and Murphy (2015) found with Irish post primary teachers that collaboration among staff and positive relationships with students was associated with the exhaustion element of burnout.
(P27) described the role that supportive colleagues play in their career: “it’s just the support you get and the……you can come up to the staffroom pulling your hair out and you will go yeah!—you know.” (P37) also described their perspective relating to management that are supportive: “I suppose like a de-stressor there is like your management support. Once you know you have management backup…..management support, you know that everybody is singing from the same hymn sheet and it makes a huge difference. On the other hand (P18) described how some parents don’t support teachers “A lot nowadays, parents don’t really support that in teachers any more like, they would say it is your job—shur you are the teacher”. (P3) went further suggesting a stressor for teachers was that parents “don’t actively participate in their children’s education”.

Previous research in Ireland found that post primary teachers found it particularly stressful when dealing with difficult student’s personal or family issues (Kerr et al. 2011). The principle components analysis grouped a variable measuring if participants have to deal with such challenging issues within the supportive environment factor. This may indicate that when there is a lack of support among colleagues or within a school, it is particularly troubling when dealing with sensitive pupil issues.

Previous research has suggested that high stakes testing similar to the Leaving Certificate is more conducive to promoting competitive learning environments then co-operative or supportive environments when considering students (Ho 2006). High stakes environments have also been associated with more negative teacher- student relationships (Donlevy 2001). A piece of qualitative research in America highlighted the “divisiveness” that entered the teachers’ school environment as accountability policies and the associated “teaching to the test” pedagogies began permeating their
practice (Smith Crocco and Costigan 2006). This would indicate that high stakes testing practices may not be conducive to promoting supportive environments in schools.

In the first phase of the project, lack of CID or precarious employment status emerged as the most viscerally discussed stressor in the focus groups. The factor was removed from the principle components analysis as correlations indicated that it did not fit any of the higher order factors. However this does not necessarily mean it is not a predictor of stress. In addition previous research with Irish teachers indicated that precarious employment was predictive of the depersonalisation component of burnout (Foley and Murphy 2015). Comments relating to precarious employment indicate that it may also promote competitiveness between staff members at the expense of supportive work environments. (P37) felt that “where there are a lot of young teachers and they are temporary”—“this can promote peer competitiveness”. (P38) added that this type of environment promoted “back biting”, “that is desperately stressful because it puts people into their room”, “they start hiding and they don’t want to be letting anyone see what goes on in their room and they are very private and closed in”.

5.2.4.1 Supportive Environment and the “backwash effect”

High stakes matriculation assessment may be encouraging competitive working environments which challenge efforts to facilitate collaborative supportive environments associated with lower stress levels. Particularly for NQTs without CID who may be under increased pressure to engage in “high stakes teaching” in order to enhance their chances of securing permanent employment. Evidently this in turn encourages them to not collaborate with their colleagues which may have negative personal costs in terms of stress. Further research, particularly with precariously
employed teachers exploring if they are more inclined to engage in “high stakes teaching” and isolation from others in an effort to protect their pedagogical resources from being shared with their competition may offer more insights.
5.2.5 Department policy

The final macro area which emerged from this research as being a significant contributor to variances in post primary teachers’ perceived stress levels was departmental policy within the Irish Educational system. The factor was individually able to account for 3.6% of variance in stress levels. Of concern is the issue that of the eight Job demand and Job resource variables that are contributing to this factor, seven of them were identified as job demands or stressors while only one variable, promotion and reward opportunities emerged as a dual acting variable which had the potential to be seen by teachers as a job resource. Essentially teachers in the research viewed

![Diagram showing department policy factors and variables]

**Figure 14**: Graphical representation of department policy factor and associated variables
department policy and top down decision making in a predominantly negative or cynical light. Previous research has cast a critical eye on some educational policy in Ireland which promotes emphasis on standardisation, accountability and narrowed focus on literacy and numeracy as a result of the Organisation for Economic Cooperation and Developments (OECD) Programme for International Assessment (PISA) (Conway and Murphy 2013, Conway 2013).

Research has shown that inspections are consistently identified as a cause of post primary teacher stress supporting the findings of this research (de Wolf and Janssens 2007). Findings from this research indicate that teachers felt that inspections encouraged practices referred to as “teaching to the test” and “window dressing” which in some cases negatively affect teaching and learning (ibid). (P18) suggested that “a lot of them (inspectors) are not on the ground at all and they come along and tell you then, you know, you should have did a song and dance routine for that you know and then you are saying holy mother of God, how many more hours could I put into it”. (P19) found inspections stressful because she felt that the process was to do with “box ticking” and that teachers just “put on a show for the day”. (P19) described the WSE as being “fake” and suggested that “extra circus-ey stuff” takes place for the week, finally adding that she could not see the value in the process “for us or for the students” emphasising “what real value is in it”.

The data from this research also indicates that increased admin demands being placed on teachers which they feel are not specifically related to the teaching of their subject may be increasing stress levels. This can be related back to findings relating to role ambiguity uncovered in the literature search. When teachers have to cope with two or more demands that seem incompatible with each other this can create stress (Adams 1999). For newer teachers especially it was shown that administration duties outside
the classroom which are not specifically related to teaching their classes can cause increased stress (Brown 2005). When discussing the Croke Park hours (P3) explained “you have all these 33 hours….what would you be talking about nothing really, do ya know what I mean, (P3) went on to argue that “you know if you could spend that time like...you know on a one to one basis with students especially like I’m a French teacher so if you could spend it doing orals or something like that” it would be more beneficial.

Curriculum change has previously been reported as a stressful time for teachers (Corcoran 1989). Participating teachers in this project suggested that changes to the Junior Certificate; particularly in terms of an increased focus on independent learning and new assessment practices are causing stress. (P28) explained “projects will be a significant part of the marks in the new Junior Cert, I would foresee that will put pressure, if you have 25 or 30 children in the room and each one has an individual project, the input from the teacher will be significant”. Teachers’ comments also indicate that they are anxious about giving terminal grades to their students. (P16) raised a concern about giving “terminal grades” to “people in your community”.

The Leaving Certificate was also directly identified by teachers participating in the research, predominantly how the competitive nature of the programme results in teachers teaching to the test and feeling under pressure from parents and students to create model answers for rote learning. (P22) explained “I’m basically picking out questions that I presume are going to come up in the exam and I’m teaching them those questions”...“you would be wondering about them going into the exam, like will they all pass the exam....hopefully you have picked the right questions like”. Similar findings have previously been reported in the Irish context (Hennessy et al. 2011). Again the implications of the “backwash effect” and “high stakes teaching” are evident.
The project has raised the issue that negative depictions of teachers portrayed within the media and often held by the public may be a potential stressor. (P10) felt there was “negativity in the media towards teachers” going on to emphasise “it’s very negative” later in the discourse. (P9) added to this that they felt “public perception is terrible” and that this is a “major stressor” for hard working teachers. (P37) felt that teachers are “publicly wiped” for their summer holidays with (P38) who was not permanent adding “even though you are not being paid for them, that really gets my goat”. Interestingly a recent report by the Irish Teaching Council argued that teaching was one of the top three high trust occupations in the country (Simmie et al. 2019).

Comments from teachers suggest that the start and finish of semesters are bottlenecks for Irish Post primary teachers. (P8) “I think that the start.....start up can be very stressful for teachers and then its quiet stressful when students come in because they are out of structure for the whole of the summer and to try and get them to am.....restructured I suppose really and back into routine”. Similar comments were raised relating to the end of the school semesters; (P25) “I suppose coming to the end of a term or something like that now, long term you’d be...you might be a bit tired alright”. No research emerged from the literature search relating stress to semester structure.

Finally, teachers identified the challenge of differentiating for students within mixed ability classes where teachers feel supports are not in place was a precursor to stress. (P43) explained “Sometimes within the group there is going to be extremes!”, “we do our best to try to cater for everybody and that’s... You are striving all the time to make sure everybody is on the same page and I think sometimes that can add a little bit to the stress”. (P1) felt the problem was a result of lack of resources; “Whereas before you had fellows going to special schools and that sort of thing, it’s all mainstream now”
and “the facilities and resources didn’t come with them”. Previous research has highlighted that where teachers are working in mixed ability classrooms with large differences academically between the stronger and weaker students, this can promote teacher stress (Cornish 2008).

While all the previously mentioned factors are related to job demands that can be linked back to the Department of Education and Skills, only 1 variable emerged as a potential job resource related to the Department, this was promotion and reward opportunities. (P7) suggested “it would be nice to have the promotional structure that they have in most other businesses”. When discussing stressors (P35) suggested a contributing factor maybe that teachers don’t have the opportunities to receive “bonuses” or “compensation” like seen in other professions.

5.2.5.1 Department Policy and the “backwash effect”

The “backwash effect” may be perpetuating the demands associated with the department policy factor also. Specifically the findings indicated that teachers found inspections and increased admin demands frustrating as they did not contribute to their teaching. However, comments indicate that they are referring to teaching associated with preparing students to score high points. (P3) “I’m a French teacher so if you could spend it doing orals or something like that”. Some teachers in the study suggested that the Leaving Certificate promotes practices associated with rote learning that they found stressful, yet some also suggested that changes to the new Junior Cycle aimed at reducing rote learning practices such as independent project work were a new source of stress. Previous qualitative research with Irish teachers has identified role and identity confusion/tension as potential sources of stress for teachers (Kerr et al. 2011,
Buckley et al. 2017). Researchers have previously articulated a conflict between the holistic role of the teacher as a knower, thinker, researcher and change agent with social and moral responsibilities within competitive individualised academic systems (Hall and Schulz 2003). The “backwash effect” from the high stakes matriculation assessment is omnipresent in the Irish Educational system permeating many aspects of teachers’ profession, perhaps even effecting their stress.
5.2.6 Potential Implications

5.2.6.1 Initial Teacher Education Programmes

Higher education institutions have come to recognise the value of developing students’ skills and competencies to succeed in life (Gerstein and Friedman 2016). Focusing on soft skill development rather than content ensures that students will be resilient and productive regardless of the changing nature of their future role (ibid). The NCCA also recognise the value of developing soft skills as reflected by the key skills framework in the new Junior Certificate curriculum which emphasises specifications based on skill development rather than syllabi based on learning content (MacPhail et al. 2018). The 8 key skills include: being literate, communicating, working with others, being creative, managing myself, staying well, managing information and being numerate (ibid). The 4 Cs: communication, collaboration, creativity and critical thinking have been identified by the American Educational Association and other organisations as critical for being resilient and succeeding in education and the workplace (Kuhn 2016, Reeve 2016). A well-developed set of soft skills may help teachers navigate their careers in a work space that is changing all the time, but more importantly within a work space where the values of the curriculum and the values of the matriculation assessment mechanism promote competing approaches to teaching and learning in schools.

In this research when examining the professional efficacy, perceived expectations and supportive environment factors which emerged as predictors of teacher stress, it is evident that soft skills are important components within each of the three factors. Within the professional efficacy factor: organisational, communication and collaboration skills are relevant. Communication and collaboration skills are also
relevant to promote a supportive environment factor. Finally, in terms of managing high perceived expectations from management, parents and students, critical thinking skills may help teachers to consider their professionalism in a broader and richer sense and to appreciate the broader role of curriculum to our society. Effective teachers will need to use their creativity to manage the focused expectations of students, parents and management in terms of academic performativity while catering to their own professionalism by delivering a holistically rich and broad educational experience for their students driven by national curriculum rather than high stakes assessment. Student teachers need opportunities on their teacher education programmes to meaningfully reflect, discuss and present on the implications of working within an education system with inherent value tensions as a result of the “backwash effect” that will challenge their professionalism in some cases.

5.2.6.2 School leaders

School leaders have a role to play in managing parents’ and students’ expectations on teachers. Their responsibility lies in ensuring that as much as possible the guiding philosophy in their schools is developmental and educationally led rather than competitive and market driven (Grummell and Lynch 2016). Contemporary developmental educators promote a philosophy where individual pupils are afforded appropriate opportunities to become fully developed contributing members of society (Shaw 2002). A goal of school managers should be to promote education communities underpinned by a culture of collaboration and support (Patton and Parker 2017). This in turn may act as a mechanism to buffer stress and promote work engagement (Patton and Parker 2017). Developmental educators argue that test performativity should not
be the focus of education (Shaw 2002), yet one would be naïve to assume that test performativity will not be viewed as important where there is a matriculation system for gaining access to Universities.

Strategies that promote both formal and informal peer collaborations should be built into school policy due to the positive implications for teacher stress (Fisher 2011). Mentorship programmes should also be strategically and meaningfully integrated into school policy, particularly to support precariously employed NQT’s, protecting them from the common stressors of the occupation (Friedman 2000). Previous Irish research has recommended the value of promoting collaborative networks and mentorship programmes to combat teacher stress (Buckley et al. 2017). The Droichead Teacher Induction Programme designed to transform NQT’s into competent professionals (Smyth et al. 2016) offers a wonderful vehicle for supporting NQT’s well-being and buffering stressors of the job through mentoring. Teachers are required to engage in 33 hours of school planning and professional development at the discretion of the school management in a policy known as the Croke Park agreement (King and Feeley 2014). The time is sometimes used by schools to facilitate subject department professional collaborations (ibid). There may be space to focus some of this time on supporting teachers’ well-being.

5.2.6.3 Policy Makers

The findings from this project suggest that teachers view department policy in a particularly negative and/or cynical light. Much of the discourse centred on accountability measures that participants felt didn’t help their teaching; however this
may be due to some valuing teaching practices aligned with scoring points in the Leaving Certificate. Standardised testing has been described as a “double edged sword” (Meyer and Paxson 2019). Some argue that standardised assessments are required for transparency, to ensure that learning is taking place and to inform future policy (ibid), on the other hand critics suggest that high stakes testing and associated accountability measures are resulting in a narrowing of teacher professionalism and narrowed curriculum (Conway and Murphy 2013, Simmie et al. 2019). The Citizens Assembly established in 2016 provided an opportunity for a cross section of Irish society to consider political questions on topics such as abortion, marriage equality and climate change (Farrell et al. 2013), it may be time to have a Citizens Assembly to identify common values, goals, virtues and concerns with respect to the Irish Educational system. Such a conversation may help to ameliorate some of the value tensions that have been discussed in the previous sections as a result of the “backwash effect” that in turn may be perpetuating teacher stress.

Previous research has indicated that inspections are stressful for some teachers and encourage practices such as “putting on a show” and “window dressing” (Clapham 2015). These findings were echoed in this research. A reframing of the nature and structure of the current inspection model may have positive implications for teachers stress. If the focus was taken off measuring and instead placed on shared professional development, critical reflection and co-learning between the teacher and “mentor” rather than inspector. However for the teachers primarily driven by points scoring, any inspection model exploring broader educational outcomes will likely result in stress. No research discussing similar ideas emerged in the literature search. Indicating there is space for further research in this area exploring the nature of the inspectors’ role and
implications of altering it as a method of buffering teachers stress. The implications for students would also need to be considered.

Reform movements and curriculum change without appropriate supports in place have been identified as a source of teacher stress (Blase 1986). The Department must ensure that an appropriate variety of supports and professional development avenues are accessible to teachers when new changes are being implemented regarding the curriculum. The findings in this project indicated that the new Junior Certificate curriculum and assessment practices caused teachers stress due to a perceived lack of supports. The findings of this project would also suggest that some of the perceived stress associated with the new Junior Cycle can be linked to value tensions previously discussed.

The only potential job resource that emerged within the department policy factor was promotion and reward opportunities. The reintroduction of the Assistant Principal, AP1 and AP2 posts (leadership posts with monitory increase in Irish Schools) in teaching is a positive step but there must be more ways of celebrating and rewarding teachers and teaching in Ireland. Perhaps there is an opportunity to celebrate excellence in teaching with teaching awards similar to what is seen in Third Level education (Fitzpatrick and Moore 2015). Currently the only promotion in post primary education leads teachers out of the classroom.

Finally, previous research in Ireland has called for the provision of counselling and psychological services for teachers as a national policy (Buckley et al. 2017). The Department of Education offers teachers The Employee Assistance and Wellbeing Programme (EAWP). It is a free phone service which teachers and support staff can avail of and receive up to 6 face to face sessions with a professional service called
Inspire Well-Being (previously Carecall Ireland). This is a positive support for teachers, yet it appears quite passive in the sense that teachers will avail of it when problems such as stress get out of control. Previous empirical research exploring burnout among post primary teachers has suggested that interventions that combine individual and organisational approaches to managing stress may offer the best chance of protecting teachers (Foley and Murphy 2015). Teachers feeling under pressure from high expectations and ruminating about perceived job problems emerged as a key demand in this research. There may be an opportunity here for policy makers to alleviate some of these thoughts and feelings that teachers may be having with mindfulness training. Mindfulness can be taught and practiced in groups and individually (Caulfield 2015). Research with primary school teachers has indicated that training in mindfulness helps manage occupational stress as teachers learn to better regulate their thoughts and emotions (Caulfield 2015). A recent Meta study of 29 studies with 2668 healthy individuals indicated that mindfulness was effective at reducing stress with the non-clinical sample (Khoury et al. 2015). Mindfulness education offers an active positive education approach to promoting well-being in Irish post primary schools.
5.3 The utility of the job demands-resources theory in the Irish post primary context

The JD-R theory provided a useful theoretical framework for exploring the association of Irish post primary teachers work environment/context with their perceived stress levels. Classifying relevant physical, psychological, social and organisational aspects of the job as demands or resources has yielded 4 higher order factors (professional efficacy, supportive environment, high expectations and department policy) which account for 28.5% (R square .284) of variance in teachers perceived stress scores. The emergence of the professional efficacy or teacher self-efficacy factor provides further evidence for it as a relevant personal resource for teachers (Skaalvik and Skaalvik 2007). A supportive environment is consistently identified as a job resource when it comes to teachers (Christian et al. 2011). High expectations from parents, students and management has been reported as a demand within teaching previously (Prilleltensky et al. 2016). Educational policy has not specifically been linked to the JD-R theory previously as a demand. Perhaps this is due to the nature of the job demand title. Developments to the theory saw the authors separating resources into personal and job resources (Xanthopoulou et al. 2007). It may be worth exploring the value of unravelling demands into Job and National-Policy demands. This may help researchers uncover broader political and cultural influences on stress and burnout in various occupations. The “backwash effect” as a result of the high-stake matriculation assessment policy has provided a critical higher order unique lens for analysing and contextualising the findings which emerged in this project. The “backwash effect” is discussed in the following paragraphs.
5.3.1 The “backwash effect”

Put simply, the “backwash effect” or “washback effect” is a colloquial phrase used to capture the essence of the negative implications of third level matriculation mechanisms on students and their teachers. The mechanism used in Ireland is the Leaving Certificate Examination where students’ goal is to score the highest points to gain access to the third level course of their choice. Standardised assessment has been described as a “double edged sword” (Meyer and Paxson 2019). On one hand it provides transparency, objectivity and accountability across the educational system (ibid). On the other hand it results in students selecting subjects for points rather than relevance, teachers ignoring aspects of syllabi deemed not relevant for the exam, wealthier students being
advantaged through the purchase of grinds, increased student stress and ignoring curriculum relating to personal development (Lynch et al. 2013).

For the purposes of this research “backwash effect” has been summarised to comprise 5 higher order implications: 1. It results in values being represented through grades, points and academic performance at the expense of moral and ethical values (Ball 2003). 2. It encourages the belief that knowledge must be explicitly measurable at the expense of learning to question, challenge and critically evaluate information (Hennessy and Mannix McNamara 2013). 3. “Assessment driven curriculum” becomes the norm at the expense of “curriculum driven assessment” (Teo 2015) and teachers begin “teaching to the test” and engaging in “high stakes teaching” and altering their pedagogy (Smith Crocco and Costigan 2006, Hennessy et al. 2011). 4. It promotes peer competitiveness rather than collaboration among students (Ho 2006). 5. Teacher student relationships are negatively affected (Donlevy 2001).

Critics of the Irish education system identify a number of common issues which may be associated with the “backwash effect”. In post primary education the rigid standardisation of the curriculum as a result of terminal examinations, particularly the Leaving Certificate, have been identified as a key factor in stifling the creative well educated teachers working on the ground in classrooms, weakening their autonomy, thus their professionalism (McCabe 2017). It is argued that students suffer too within the system with some researchers suggesting that the consistent emphasis on preparation for the terminal examinations results in a narrowing of the range of learning experiences to which young people are exposed (Smyth and McCoy 2011). The league tables further increase pressure on teachers promoting a competitive culture of exam performativity between schools and teachers vying for students and permanent employment (Perryman et al. 2011). These systems and structures do little to promote
a culture of communication, co-operation and collaboration among teachers (McCabe 2017). In addition, the league tables can result in schools and their teachers coming under unfair scrutiny when they are not seen to perform or excel within the system (Smyth and Banks 2012).

When the J-DR framework was considered within the lens of the “backwash effect”, three prominent themes emerged: 1. Many of the job demands promoting stress uncovered in this research may be perpetuated by the “backwash effect”, 2. The job resources uncovered which may buffer stress may be hindered by the “backwash effect”, 3. Job performance: a key outcome variable of the framework may be narrowly constructed by school managers, parents and teachers in some cases as a result of the “backwash effect”, specifically teaching performance may be underscored by students’ grades as reflected in the Phase 1 findings. Considering teaching job demand and resources in isolation of this macro lens may be too blunt—it is proposed that demands and resources must be considered within the context of an educational system underscored by high stakes testing which results in a “backwash effect” at the expense of the national curriculum.
5.3.2 Implications of the “backwash effect” for teacher stress

The above figure provides a graphical aid for summarising the proposed implications of the “backwash effect” on post primary teachers’ stress. The high stakes matriculation assessment is the tail that wags the curriculum dog (Lange and Meaney 2012). This results in “the backwash effect” (Klein 2016) where: knowledge is reduced to what can be explicitly measured; grades, points and academic performance become the primary
values; high stakes teaching results in altered pedagogy with teaching to the test becoming the main focus; individual competition between students and teachers occurs at the expense of collaboration; teacher- student relationships are negatively affected (Hennessy and Mannix McNamara 2013, Ball 2003, Smith Crocco and Costigan 2006, Hennessy et al. 2011, Ho 2006, Donlevy 2001). Additionally teachers resilient to the backwash may have to contend with students, managers and parents not so resistant. Potential implications for each of the four factors which emerged in this research will be discussed in the following sections.

Expectations and rumination emerged as one of the key macro demands. Management, parents and students putting teachers under pressure to get students to achieve high grades and high points in their subjects was the key message that emerged from the Phase 1 data. Teachers are under pressure to create notes for exam success, and to help students rote learn all at the expense of the holistic delivery of their subject(s) and the broader curriculum which they are trained to deliver (Hennessy et al. 2011). There is a major conflict here for teachers that are passionate about their subject, the curriculum and the role of education in a modern society. Their professionalism is being restricted as a result of the focus on terminal assessment (Wills and Sandholtz 2009). There may be a constant value conflict for some teachers in the day to day undertaking of their vocation.

The other macro level demand uncovered in the research was departmental policy; conflict provides the backdrop to the stress that teachers experience here as a result of the top down “pressure cooker” high stakes policy which for some teachers is philosophically dichotomous with their professionalism and the broader purpose of curriculum (Perryman et al. 2011, Conway and Murphy 2013). Analysis of the data indicated that in some cases it may be the case that teachers found inspections stressful
because they were being assessed in terms of the broader curriculum delivery rather than teaching to the test. Added to this mix, there is no promotion opportunities within the Irish second level system that keep good teachers in the classroom and with the very students who need them. There are no structures for rewarding excellent teaching as is seen in higher level education (Fitzpatrick and Moore 2015).

The macro level job resources uncovered in this research were professional efficacy and a supportive environment. The thesis argues that the competitive nature of our schooling system does little to promote these buffers against teacher stress within school organisations. A competitive environment does little to promote a culture of sharing, collaborating and supporting one another (Wallace 1998). A teachers’ personal feelings relating to their own professional efficacy should be related to their complex living educational theory (Whitehead 2009), however it is clear from this research that many teachers place high value on students’ exam results, potentially narrowing and erroneously judging themselves as teachers. Teachers are working in a very complex tangled space where they are tasked with delivering a broad and balanced education to the young people of Ireland, they must also prepare the same young people for a memory based matriculation exam that their “whole life depends on”!(Banks and Smyth 2015).
6. Conclusion

6.1 Contributions

- At a theoretical level, the project addresses a consistently identified dearth in terms of empirical research relating to post primary teacher stress in Ireland (Kerr et al. 2011, Darmody and Smyth 2011, Foley and Murphy 2015, Buckley et al. 2017). It is the first large scale mixed methods research project exploring post primary teachers perceived stress (psychological stress) in Ireland. The project compliments existing empirical research on post primary teacher burnout by Foley and Murphy (2015). The project also offers a post primary comparative to existing empirical research on primary school teacher stress conducted by Darmody and Smyth (2011) and Morgan and Craith (2015). Previous qualitative research conducted with post primary teachers in Ireland (see section 1.1) focused on identifying stressors, this project intentionally focused equally on identifying job resources that may buffer stress.

- The project makes a number of contributions relating to school demographics that may offer relevant insights to policy makers in terms of school planning. The project corroborates statistically national and international research in terms of generally weak to negligible effects for the association between demographics and teacher stress (Foley and Murphy 2015, Okeke et al. 2015). Findings did indicated that teachers working in community/comprehensive schools were significantly less stressed than their counterparts working in voluntary schools. A small effect size of .016 eta squared was observed, the statistical power only reached .59. This finding compliments a similar finding by Foley and Murphy (2015) who observed that those
working in voluntary schools scored significantly lower than their counterparts working in community/comprehensive schools in terms of the personal accomplishment component of burnout. Additionally, findings from this project revealed that teachers working in mixed sex schools scored significantly lower in perceived stress when compared with those working in all girls schools. A small effect size of .022 eta squared and statistical power of only .71 was detected. Those working in schools with a student population of 400-800 scored significantly lower than those working in schools with less than 400 or greater than 800 students. An effect size of .039 eta squared and statistical power of .92 was detected. The student sex and school size findings were in contradiction to Foley and Murphy’s (2015) findings relating to burnout. The sample size was almost 3 times the size in this project and burnout and perceived stress while related are not the same construct.

- Following a PCA and SMR analysis, 2 higher order demands (expectations and department policy) and 2 higher order resources (teacher self-efficacy and a supportive environment) emerged accounting for 28.5% (R square .284) of the variance in perceived stress scores F (4, 351) = 34.83. P < .001. Analysis also indicated that a statistical power of 1 was achieved. The findings offer valuable insights at the individual, school and initial teacher education levels of the profession in terms of practice. There are also valuable insights relevant to policy makers.

  o Teacher self-efficacy was previously identified as a predictor of the depersonalisation and accomplishment components of burnout (Foley and Murphy 2015). This research provides empirical evidence for the relationship between teacher self-efficacy and perceived stress. The research additionally begins to unpack post primary teacher self-efficacy in
Ireland as it relates to stress. The data highlights a number of potential components of teacher self-efficacy that may be associated with stress: feeling competent at managing and delivering lessons, perceived ability to form positive relationships with students and colleagues, feelings in terms of being able to work collaboratively with colleagues, feeling organised and prepared and finally being able to have fun and experience humour on the job. The findings relating to teacher self-efficacy offer unique insights for individual teachers in terms of specific aspects of their practice to critically reflect on and develop to foster higher levels of self-efficacy, thus potentially buffering their stress. Similarly the findings offer insights for Initial teacher educators in terms of areas of professional practice to develop in student teachers prior to school placement. There is an opportunity for a teacher self-efficacy professional development workshop to buffer stress on the job.

- Qualitative research with Irish post primary teachers has previously identified support as a buffer in terms of teacher stress (Kerr et al. 2011, Foley and Murphy 2013). Positive relationships and collaboration have also been shown to be predictors of the emotional exhaustion component of burnout (Foley and Murphy 2015). This project provides empirical support for the relationship between a supportive environment and lower perceived stress levels. Additionally the qualitative findings provided a unique insight in terms of NQT’s who have yet to achieve CID status. They may resist supportive/collaborative networks in favour of isolation in an effort to protect their pedagogical resources from other NQT’s who are competing for similar roles in the school. This finding emphasises that school managers
who cultivate a practice or culture of support and collaboration are facilitating a buffering effect in terms of teacher stress. At a policy level the research highlights the need for more space in the teacher’s working day for informal and formal collaboration opportunities to potentially buffer stress in addition to having opportunities to develop their professional practice and collaborate with their colleagues.

- Links between expectations and post primary teacher stress have not previously been reported in the Irish context. Empirical evidence for the association between perceived expectations and perceived stress were purported/supported in this project. The qualitative element of the project provides rich insights which help to contextualise the finding. Pressures from students, parents and school managers to achieve high grades and engage in teaching to the test pedagogy underscored this finding. Links between expectations and teacher stress have been reported internationally (Prilleltensky et al. 2016). This finding emphasises the importance of initial teacher education programmes preparing student teachers for parents, students, colleagues and principals who view educational success in terms of academic grades and points scoring, exploring strategies for dealing with individuals in this mind-set and challenging individuals to broaden their outlook in terms of educational success. In terms of policy this finding highlights the need to challenge the pervasive implications of matriculation assessment mechanisms on the broader educational process and curriculum.

- Links between Department of Education policy and post primary teacher stress have not previously been reported in the Irish context. Empirical evidence indicated that teachers’ perceptions of policy were associated with
perceived stress scores. The qualitative element of the project provided rich insights that help to unpack this finding. Of concern was the fact that teachers viewed department policy in a particularly negative light. They were critical of: rising accountability demands that they felt did not contribute to teaching and learning in their classrooms, the inspection process and what inspectors were measuring, the lack of supports to help with the curriculum changes associated with the new Junior Certificate, and pressures associated with the high stakes testing in the Leaving Certificate. The only potential job resource that emerged within the research was promotion and reward opportunities. The reintroduction of the Assistant Principal, AP1 and AP2 posts (leadership posts with monetary increase in Irish Schools) in teaching is a positive step but there must be more ways of celebrating and rewarding teachers and teaching in Ireland. Perhaps there is an opportunity to introduce policy geared at celebrating excellence in teaching with teaching awards similar to what is seen in Third Level education (Fitzpatrick and Moore 2015).

- Finally, the thesis has argued that tensions at the heart and soul of the Irish post primary education system as a result of “the backwash effect” may perpetuate the job demands uncovered and undermine the job resources from buffering teacher stress. The “backwash effect” is conceptualised as the outcome when high stakes matriculation assessment becomes the tail that wags the curriculum dog (Hargreaves 1989, Klein 2016). This thesis articulates five outcomes as a result of this: 1. knowledge being reduced to something that can only be unambiguously defined; 2. grades and points become the primary values at the expense of moral
and ethical values; 3. pedagogy is altered to teach to the test; 4. individualism and competition between students and teachers occurs; 5. teacher-student relationships are negatively affected (Hennessy and Mannix McNamara 2013, Ball 2003, Smith Crocco and Costigan 2006, Hennessy et al. 2011, Ho 2006, Donlevy 2001). Additionally teachers resilient to the backwash may have to contend with students, managers and parents not so resistant. The five point conceptualisation of the “backwash effect” is an important contribution of this project. It provides a valuable framework for exploring a variety of educational issues in addition to teacher stress.

Teaching student teachers on initial teacher education programmes with the distinct conceptualisation discussed, provides a critical analytical tool for future action research they may engage in during the course of their profession.
6.2 Key Recommendations

- This project has provided empirical and qualitative evidence for the association between a supportive environment and lower post primary teacher perceived stress. Previous Irish research has recommended the value of promoting collaborative networks and mentorship programmes to combat teacher stress (Buckley et al. 2017). Informal peer collaborative networks have also been identified as a potential buffer to teacher stress internationally (Fisher 2011).

A key recommendation from this thesis is that the Droichead Teacher Induction Programme offers a potential vehicle for supporting NQT’s (particularly those without CID) well-being and buffering stressors of the job through professional mentoring. The NIPT National Induction Programme for Teachers do not have an active mechanism for sharing research insights which may be relevant to the programme, however the British Journal of Mentoring and Coaching offers a suitable platform to present the findings of this research. Particularly the findings relating to NQTs without CID who may isolate themselves to protect their resources from colleagues, thus losing supportive structures most needed by NQTs. They are a particularly vulnerable cohort in terms of stress based on the findings from the first phase of this research.

Additionally, teachers are required to engage in 33 hours of school planning and professional development at the discretion of the school management in a policy known as the Croke Park agreement. School managers may be able to facilitate teachers with some informal and formal collaborative space during this time encouraging staff members to offer support to each other but particularly to colleagues in need. The National Association of Principles and Deputy Principles NAPD regularly runs conferences and publishes e-zines. Both forms of media offer
suitable spaces for practically sharing the findings of this research in terms of the buffering effects of a collaborative/supportive culture in schools on teacher stress.

- Previous empirical research exploring burnout among post primary teachers has suggested that interventions that combine individual and organisational approaches to managing stress may offer the best chance of protecting teachers (Foley and Murphy 2015). Teachers feeling under pressure from high expectations and ruminating about perceived job problems emerged as a key demand in this research. Mindfulness training may offer a solution to both of the previous points. Research with primary school teachers has indicated that training in mindfulness helps manage occupational stress (Caulfield 2015). A recent meta-analysis of 29 studies with 2668 healthy individuals indicated that mindfulness was effective at reducing stress (Khoury et al. 2015). Mindfulness training offers an active group and individual approach to promoting well-being and reducing stress in Irish post primary schools that is worth exploring. A longitudinal action research project involving students and teachers learning how to practice mindfulness and live in a more mindful way with a suitably qualified practitioner would offer unique insights in this area. A project of this scale will require funding, national organisations such as the Irish Research Council, the Educational Research Centre and Science Foundation Ireland may offer support for a suitable funding application.

- The thesis has argued that the “backwash effect” perpetuates job demands and mitigates job resources which are associated with teacher stress. It is caused by the high stakes matriculation assessment being the tail that wags the curriculum dog (Hargreaves 1989). The implications of this are explored in section 5.3. The Citizens Assembly established in 2016 provided an opportunity for a cross section of Irish society to consider “big” questions on topics such as abortion, marriage
equality and climate change (Farrell et al. 2013), it may be time to have a Citizens Assembly to identify common values, goals, virtues and concerns with respect to the Irish Educational system. Such a conversation may help to ameliorate some of the value tensions that have been discussed in the previous sections as a result of the “backwash effect” that in turn may be perpetuating teacher stress. Much work is needed to drive national interest in having a discussion of this sort. A research meet, webinar, online discussion group or small conference with the theme of “challenging the backwash effect of high stakes matriculation assessment in a time of curriculum reform” may offer useful insights and generate an appetite for a larger scale discussion. Researchers who have written about the backwash effect could be specially invited to speak at the event.
6.3 Future research

A number of avenues of further research relating to post primary teacher stress have emerged from engaging in the project. Job crafting has been identified by the authors of the JD-R as a mechanism that employees use to ameliorate stress in their jobs and promote work engagement (Tims and Bakker 2010). Further research is needed to assess if Irish teachers engage in job crafting practices that buffer their experience of stress.

Internationally autonomy has emerged as an important buffer of teacher stress (Skaalvik and Skaalvik 2014). Yet autonomy has not been identified in this project or indeed the previous projects exploring post primary teacher stress (Kerr et al. 2011, Foley and Murphy 2015, Buckley et al. 2017). However, Irish teachers working in the UK have identified loss of autonomy as a stressor (Skerritt 2018). Interestingly an OECD report in 1991 suggested that Irish post primary teachers had legendary autonomy (Lynch and Mannix 2014). This narrative provides the context for an interesting piece of research.

This project has corroborated with national and international research in terms of the weak to negligible effects for the association between demographics and teacher stress (Lackritz 2004, Froeschle and Crews 2010, Matin et al. 2012, Foley and Murphy 2015). However, the findings from this project compliment a previous finding by Foley and Murphy (2015) who suggested that teachers working in voluntary schools scored significantly lower in terms of the personal accomplishment component of burnout when compared with teachers working in community/comprehensive schools. Findings from this project indicated that teachers working in community/comprehensive schools scored significantly lower in terms of perceived stress scores when compared with
teachers working in voluntary schools. While the effect sizes were small in both projects, it is an interesting finding that warrants further exploration.

The research has highlighted that NQT’s that are precariously employed and do not have CID may be at greater risk of isolation and stress then their permanently employed colleagues. Further research with this vulnerable cohort may provide valuable insights for professional mentors, school managers and policy makers interested in supporting them and encouraging them to get involved in collaborative networks that can offer them support within the school organisation.

Finally, further research exploring the implications of the introduction of mindfulness and meditation training and practice in post primary schools in Ireland may be worth exploring. An action research project with a school exploring the impact on student and teacher experiences may provide rich insights for future national policy.
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Appendix 1: Stage A—Information Sheet

University of Limerick
OLLSCOIL LUIMNIGH

Information sheet for
Teacher stress study (Stage A).

Invitation

Dear Sir/Madam

You are invited to take part in a research study being conducted in the University of Limerick by Brian Devitt, Dr Raymond Lynch and Dr Niall Seery.

What is the research about?

The research aims to conduct an examination of perceived stress levels among Irish teachers in post primary schools. The current stage of the research aims to identify teaching related factors that may contribute both positively and negatively to Irish post primary teachers’ stress levels. The factors identified will be included in a future survey measuring teachers’ perceived stress levels.

What is the purpose of the research?

The findings from the research may help facilitate the creation of a continuous professional development programme to promote teacher well-being and reduce stress levels. The findings may also inform initial teacher education modules covering teacher mental health and well-being.

Who is sponsoring the research?

The research is being funded by the faculty of Education and Health Science in the University of Limerick.

What is the nature of your involvement, should you volunteer to participate in this element of the study?

This element of the study requires 4-6 teachers from your school to take part in a group interview with Brian Devitt discussing and brainstorming the factors which they believe contribute both positively and negatively to teachers’ well-being and stress levels in the Irish Post Primary context.
How long will your participation take?
Participation in the study will take approximately 40mins to 1 hour.

Can you withdraw participation?
Absolutely, participation in the study is voluntary. The teachers who take part in the interviews can withdraw at any stage during the study without having to provide a reason and we will ask no questions.

How will the data be recorded and stored?
During the group interview the discussion will be audio recorded. The recording will then be transcribed for research purposes. The recording and transcript will both be securely stored with only the researchers named above having secure access.

Will your involvement and the involvement of the school be confidential?
The teachers who attend the group interview will be asked to keep everything discussed confidential. Their names and the name of the school will not be on the transcripts and will not appear in any published works. Pseudo names will be used so the school and participants will not be identifiable.

What if there is any distress or discomfort caused to you during the interview?
You will be provided with information about CareCall Ireland. This is a free and confidential service for teachers employed by the department of education. They offer a 24 hour telephone service and counselling service free of charge to teachers.

Who has reviewed the study?
The study has been reviewed and ethically approved by the University of Limerick faculty of Education and Health Science Ethics committee. Ethics No: 2013-11-18, Contact: ehsresearchethics@ul.ie. The research will follow the UL/EHSREC10-RA01 focus group interview procedure.

Any further queries
If you need any further information, you can email me at Brian.Devitt@UL.ie or you can phone me on 061-202359.

If you agree to participate
If you agree to volunteer to participate in the group interview please sign the consent form overleaf.
Thank you for agreeing to take part in the group interview today. We will be discussing issues that may have both positive and negative outcomes for teachers’ stress and well-being levels. These are sensitive issues that may cause discomfort.

There is a free service available for teachers if you feel affected by: any of the issues discussed in the group interview or if you have questions in relation to your own well-being and stress levels.

The service is offered by Carecall Ireland (www.carecallwellbeing.ie). Carecall Ireland provides a free 24 hour confidential telephone service and a 1 to 1 counselling service to any post-primary teacher employed by the Department of Education and Skills.
Appendix 3: Stage A—Informed Consent

Informed Consent form (Stage A)

- I, the undersigned have read and understood the study information sheet provided.
- I have been given the opportunity to ask questions about the study.
- I understand that taking part in the study will include taking part in a group interview with 3-5 other teachers from my school and the interview will be audio recorded.
- I have been given adequate time to consider my decision and I agree to take part in the study.
- I understand that the details of the school or my personal details will not be revealed to people outside the study.
- I understand that my words may be quoted in publications and other research outputs but my name or the name of the school will not be used.
- I agree to assign the copyright I hold to any material related to this project to Brian Devitt, Dr Raymond Lynch and Dr Niall Seery.
- I understand that I can withdraw from the study at any time and I will not be asked any questions about why I no longer want to take part.

Name of Participant: ___________________________________________ Date: ________________

Name of Researcher: ___________________________________________ Date: ________________
Hi, I would like to thank you all for volunteering to take part in this group interview today. The purpose of this research study as outlined in the information sheet provided is to examine the teaching related factors which have the most significant positive and negative affect on post primary teachers’ perceived stress levels. You are here today because of your experience in the post primary sector to discuss and brainstorm teaching related factors which you believe may affect a teacher’s well-being and stress levels.

1. If I were to ask you to visualise the job of the teacher from the first bell of the day to the last bell before you head home, what are the factors that can cause stress, put a downer on the day make you question career choice? Anything that comes to mind?

2. If I were to ask you again to visualise the job of the teacher from the first bell of the day to the last bell, except this time think of anything that can send you home on a high or in great humour? The things that happen you in your job where you say this is why I do this job.
Appendix 5: Stage B—Information Sheet

University of Limerick
OLLSCOIL LUIMNIGH

Information sheet for
Teacher stress study (Stage B).

Invitation
Dear Sir/Madam

You are invited to take part in a research study being conducted in the University of Limerick by Brian Devitt, Dr Raymond Lynch and Dr Niall Seery.

What is the research about?
The research aims to conduct a national examination of perceived stress levels among Irish teachers in post primary schools. The current stage of the research aims to get teachers to complete a confidential questionnaire/survey. The questionnaire will be used to examine the effects that various teaching related factors have on perceived stress levels. The teaching related factors mentioned previously were identified by post primary teachers in an earlier part of the study.

What is the purpose of the research?
The findings from the research may help facilitate the creation of a continuous professional development programme to promote teacher well-being and reduce stress levels. The findings may also inform initial teacher education modules covering teacher mental health and well-being.

Who is sponsoring the research?
The research is funded by the faculty of Education and Health Science in the University of Limerick.

What is the nature of your involvement, should you volunteer to participate in this element of the study?
This element of the study requires you to complete a confidential questionnaire examining the effects of various teaching related factors on stress levels.

How long will my participation take?
The questionnaire will take approximately 30-45 minutes to complete.

**Can I withdraw participation?**

Absolutely, participation in the study is voluntary. If you agree to complete the questionnaire, you can withdraw at any stage during the study without having to provide a reason and we will ask no questions.

**How will the data be recorded and stored?**

The completed hardcopies of the questionnaires will be stored in a safe in the University of Limerick. The answers will be coded using statistical analysis software for research purposes. The electronic and copies of the data will be securely stored also. The hard and soft copies of the questionnaire will only be accessible to the researchers named above.

**Will my involvement and the involvement of the school be confidential?**

Yes your involvement and the involvement of the school will be confidential. Your name or the name of the school will not appear in any published works. A Pseudo name will be used so the school will not be identifiable.

**What if there is any distress or discomfort caused from the questionnaire?**

You will be provided with information about CareCall Ireland. This is a free and confidential service for teachers employed by the department of education. They offer a 24 hour telephone service and counselling service free of charge to teachers.

**Who has reviewed the study?**

The study has been reviewed and ethically approved by the University of Limerick faculty of Education and Health Science Ethics committee. Ethics No: 2013-11-18, Contact: ehsresearchethics@ul.ie

**Any further queries**

If you need any further information, you can email me at Brian.Devitt@UL.ie or you can phone me on 061-202359.

**If you agree to participate**

If you agree to volunteer and participate in the study by completing the questionnaire, please sign the consent form overleaf
Appendix 6: Stage B—Carecall Ireland Information Sheet

Thank you for volunteering to complete the teacher stress and well-being questionnaire. The questionnaire measures psychological well-being and perceived stress levels. These are sensitive issues that may cause discomfort.

There is a free service available for teachers if you feel affected by: any of the issues in the questionnaire or if you have questions in relation to your own well-being and stress levels.

The service is offered by Carecall Ireland (www.carecallwellbeing.ie). Carecall Ireland provides a free 24 hour confidential telephone service and a 1 to 1 counselling service to any post-primary teacher employed by the Department of Education and Skills.
Appendix 7: Stage B—Informed Consent

University of Limerick
OLLSCOIL LUIMNIGH

Teacher Informed Consent form (Stage B)

- I, the undersigned have read and understood the study information sheet provided.
- I have been given the opportunity to ask questions about the study.
- I understand that taking part in the study will include completing a confidential questionnaire examining the relationship between certain teaching related variables, well-being and stress levels.
- I have been given adequate time to consider my decision and I agree to take part in the study.
- I understand that the details of the school or my personal details will not be revealed to people outside the study.
- I understand that the data in the questionnaires may be quoted in publications and other research outputs but the name of the school or my name will not be used.
- I agree to assign the copyright I hold to any material related to this project to Brian Devitt, Dr Raymond Lynch and Dr Niall Seery.
- I understand that I can withdraw from the study at any time and I will not be asked any questions about why I no longer want to take part.

Name of Participant: ___________________________________________ Date: _________________

Name of Researcher: ___________________________________________ Date: _________________
School Survey

A national exploration of Irish post primary teachers’ perceived stress levels

This survey should take approximately 10 minutes to complete.

The survey can be completed by the school Principal or Vice Principal.

School Code: ________

Ethics Reference: 2013-11-18
1. What is the sex of the student population in the school?
   - Male □
   - Female □
   - Mixed Sex □

2. How many students are in the school?
   - 0-100 □
   - 100-200 □
   - 200-300 □
   - 300-400 □
   - 400-500 □
   - 500-600 □
   - 700-800 □
   - 800-900 □
   - 900-1000 □
   - 1000-1100 □
   - 1100-1200 □
   - 1200+ □

3. How many teachers are working in the school?
   - 0-10 □
   - 10-20 □
   - 20-30 □
   - 30-40 □
   - 40-50 □
   - 50-60 □
   - 60+ □

4. Are the students in the school: boarding, non-boarding or is there a mix of boarding and non-boarding students?
   - Non-boarding students’ □
   - Boarding students □
   - Mix of boarding and non-boarding □

5. Is the school classified as fee paying, non-fee paying or a combination of both?
   - Fee Paying □
   - Non-Fee Paying □
   - Combination of Fee and Non Fee Paying □
6. How would you describe the location of the school?
   - Urban (City) □
   - Urban (Town) □
   - Suburban (City) □
   - Suburban (Town) □
   - Rural □

7. Is the school part of the delivering equality of opportunity in schools (DEIS) action plan?
   - Yes □
   - No □

8. What is the religious ethos of the school?
   - Denominational (i.e. Catholic) □
   - Inter-denominational (i.e. Catholic and Protestant) □
   - Multi-denominational (Educate for all religions equally) □
   - Non-denominational (secular education) □

9. Is the school a Gael Scoile or English speaking school?
   - Gael Scoile □
   - English Speaking □

10. Under which of the following classifications does the school fall into?
    - Voluntary Secondary School □
    - Vocational School or Community College □
    - Community or Comprehensive School □
Appendix 9: Stage B—Individual Teacher Surveys

Faculty of Education and Health Science
Department of Education and Professional Studies

TEACHER SURVEY

A national exploration of Irish post primary teachers’ perceived stress levels

This survey should take approximately 10 minutes of your time to complete

Please return to the school main office upon completion unless otherwise instructed to do so.

School Code: __________  Participant Code: __________

Ethics Reference: 2013-11-18
1. Please indicate your age by ticking the appropriate box
   - 20-25
   - 25-30
   - 30-35
   - 35-40
   - 40-45
   - 45-50
   - 50-55
   - 55-60
   - 60-65
   - 65-70

2. Please indicate your main subject area in the school
   - Irish
   - English
   - Maths
   - History
   - Geography
   - Eng/Tech/Construct
   - DCG/Tech graph
   - Sciences
   - Art
   - Foreign Languages
   - Physical Education
   - Bus/Economics/Acc
   - Home Economics
   - Music
   - Religious Studies

3. Please indicate how long you have been teaching
   - 0-5 Years
   - 5-10 Years
   - 10-15 Years
   - 15-20 Years
   - 20-25 Years
25-30 Years □  
30-35 Years □  
35-40 Years □

4. Please indicate your current employment status

Casual Part-Time (subbing) □  
Non-Casual Part-Time (temporary cover) □  
Contract of Probationary Employment □  
Contract of Indefinite Duration □

5. Do you have your own base room in the school or do you use a number of rooms for your classes

My own base room □  
I use a number of rooms □

Section 1 of the survey contains a set of questions which relate to your feelings about your day to day experiences as a post primary teacher in Ireland. Please remember that there are no right or wrong answers.

<table>
<thead>
<tr>
<th>Circle the number that best describes your present agreement or disagreement with each statement.</th>
<th>Strongly Disagree</th>
<th>Disagree Somewhat</th>
<th>Disagree Slightly</th>
<th>Agree Slightly</th>
<th>Agree Somewhat</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am excellent at my job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. I generally have a good laugh at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3. In the evenings I regularly think about unfinished tasks or negative experiences from my work day.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4. I am generally prepared and organized for class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5. I regularly engage in professional development activities to further my professional practice.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6a. I feel that students can sometimes have unrealistic high expectations of me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6b. I feel that management can sometimes have unrealistic high expectations of me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6c. I feel that parents can sometimes have unrealistic high expectations of me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7a. I sometimes feel that I do not have the full support of colleagues.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7b. I sometimes feel that I do not have the full support of parents.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7c. I sometimes feel that I do not have the full support of management.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8a. I have quality relationships with my colleagues.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8b. I have quality relationships with my students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8c. I have quality relationships with parents.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8d. I have quality relationships with the school management.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9. I regularly have to deal with difficult personal and family related issues of students</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tr>
<tr>
<td>10a. The school management shows me appreciation for my hard work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10b. Parents show me appreciation for my hard work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10c. Students show me appreciation for my hard work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11a. I get positive feedback from management on my teaching.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11b. I get positive feedback from my students on my teaching.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11c. I get positive feedback from parents on my teaching</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12. I regularly have to deal with challenging discipline issues.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13. The students that I teach are generally really motivated.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14. Students in my classes regularly engage in individual learning projects that take a number of weeks to complete</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15. The classes that I prepare require a lot of differentiation for all students to take part.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16. I get to sit down and enjoy my breaks during the day, they are not interrupted.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>17. Myself and the other teachers in my subject area collaborate on and share resources with each other.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>18. I think that this school is good at making all students feel like they are a success and have something to offer society.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>19. I think that important information is communicated between staff very effectively and efficiently in this school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>20. There is a real positive vibe or atmosphere in this school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>21. Cuts due to the recession have made my job more stressful.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>22a. I find departmental inspections stressful.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>22b. I find that the feedback from departmental inspections enhances my teaching.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>23. Increasing administration demands are making the job more stressful.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>24. Increasing administration demands of the job mean that I have less time for planning good lessons.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>25. I would find correcting my own students work for the junior cert stressful.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>25. When teaching leaving certificate classes the race for points makes my job more stressful.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>26. I find the way that teachers are depicted in the media fair and consistent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>27. I feel that there are suitable promotion and reward opportunities in post primary teaching.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>28. I think that it would be better if the teaching terms were changed and more evenly spaced out.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
This last section of the survey contains a set of questions which ask about your feelings and thoughts during the last month. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. Remember that there are no right or wrong answers.

<table>
<thead>
<tr>
<th>Circle the number that best describes your present agreement or disagreement with each statement.</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Fairly Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In the last month, how often have you been upset because of something that happened unexpectedly?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. In the last month, how often have you felt that you were unable to control the important things in your life?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. In the last month, how often have you felt nervous and &quot;stressed&quot;?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. In the last month, how often have you dealt successfully with day to day problems and annoyances?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. In the last month, how often have you felt confident about your ability to handle your personal problems?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. In the last month, how often have you felt that things were going your way?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. In the last month, how often have you found that you could not cope with all the things that you had to do?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. In the last month, how often have you been able to control irritations in your life?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. In the last month, how often have you felt that you were on top of things?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. In the last month, how often have you been angered because of things that happened that were outside of your control?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. In the last month, how often have you found yourself thinking about things that you have to accomplish?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. In the last month, how often have you been able to control the way you spend your time?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>