Commuting in Dublin: An Analysis of Factors as Predictors of Occupational Burnout

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Abstract

This study involves the investigation into some of the issues and problems faced by commuters in Dublin everyday, and attempts to help the understanding of how factors like mode of transport and journey length moderate the effects of commuting in terms of the individual's likelyness to suffer from Occupational Burnout. This study investigated 6 modes of transport; commuters who travelled to work by bus, train (Dart), car, Tram (Luas), cycling and walking while testing for relationships to factors of burnout. Mixed results were recorded with no single mode of transport testing significant for a relationship with burning out, although cyclists reported the lowest levels in exhaustion and cynicism while also recorded the highest rates of professional efficacy. The length of time an individual commuted for also did not seem to have a linear affect on such psychological principles. Gender differences were also accounted for.
# Table of Contents

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover Page</td>
</tr>
<tr>
<td>Abstract</td>
</tr>
</tbody>
</table>

## Section 1

**Introduction**

1.1 Commuting 6
1.2 Commuting in Ireland 7
1.3 Job Burnout 8
1.4 Health Consequences of Burnout 9
1.5 Health Consequences of Commuting 10
1.6 Impact on the Workplace 12
1.7 Measurement of Occupational Burnout 13
1.8 Aim of Research 15
1.9 Hypotheses 15

## Section 2

**Methods**

2.1 Participants/Respondents 18
2.2 Design 18
2.3 Dependent Variables 19
2.4 Independent Variables 20
2.5 Materials 20
2.6 Procedure 21
Section 3

Results

3.1 Hypothesis 1 22
3.2 Hypothesis 2 24
3.3 Hypothesis 3 25

Section 4

Discussion

4.1 Overview 26
4.2 Exhaustion 26
4.3 Cynicism 27
4.4 Professional Efficacy 28
4.5 Cycling 29
4.6 Hypothesis 2 Findings 29
4.7 Hypothesis 3 Findings 30
4.8 Limitations 31

Section 5

Conclusion

5.1 Future Research 33

References 34

Appendices

Appendix 1 – Maslach Burnout Inventory – General Survey 37
Appendix 2 - MBI-GS Scoring Key- Professional Efficacy 38
<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>MBI – GS Scoring Key – Exhaustion</td>
<td>39</td>
</tr>
<tr>
<td>4</td>
<td>MBI – GS Scoring Key – Cynicism</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>Mode of Transport and Gender Populations Table</td>
<td>41</td>
</tr>
<tr>
<td>6</td>
<td>Self-Report Survey</td>
<td>42</td>
</tr>
<tr>
<td>7</td>
<td>MANOVA Descriptives Table</td>
<td>44</td>
</tr>
<tr>
<td>8</td>
<td>Length of time commuting Population Table</td>
<td>45</td>
</tr>
<tr>
<td>9</td>
<td>Exhaustion &amp; Length of time commuting Trend Graph</td>
<td>45</td>
</tr>
<tr>
<td>10</td>
<td>Exhaustion &amp; Gender Descriptives Table</td>
<td>46</td>
</tr>
<tr>
<td>11</td>
<td>Exhaustion &amp; Gender Trend Graph</td>
<td>46</td>
</tr>
</tbody>
</table>
INTRODUCTION

1.1 Commuting

Commuting has become a large part of living in a heavily populated city (HR24 Magazine). It is something we are faced with everyday either going to work, school or college. Studies have shown us how commuting can take its toll on our health and wellbeing (Sedghi & Arnett, 2104). Commuting through a busy city at rush times in the morning or evening can be experienced as inconvenient and sometimes stressful. While being potentially physically straining and tiring, commuting can also be mentally exhausting (Smerk, 1974). Commuting has been described as “the plague that affects modern man” (Koslowsky, et al., 1995, pg. 134), but saying this, the issues and problems that are associated with daily commutes to work come from far before the modern age. Urbanisation, which is the increase in the proportion of people living in towns and cities, has proven to be the cause of congestion in 19th century America (Smerk, 1974). Across the Atlantic Ocean, similar congestion has been evident in ancient Rome where horse-drawn carriages featured to create a similar congestion. Taking these issues and problems into account, very little research has been carried out to find out the mental effects that daily commuters can suffer from the obstacles and complications a growing population can face. Consequently, the current research will examine the role of commuting on job burnout, under the factors of Cynicism, Professional Efficacy and levels of Exhaustion.

Commuting is defined as “ travelling some distance between one’s home and place of work on a regular basis”. Commuting is neither ideal nor convenient, but is a journey that must be completed by many. It suggests that commuting exceeds their boundary of their residential community, with commutes ranging anywhere from a 20
minutes travel or over (Trunk, 2007). The first recorded case of commute was back in the 1840’s in the US cities of Boston, Chicago and New York, where rail travel connected residents of the suburbs to their respective cities for a ‘commuted’ fare (Paumgarten, 2007). This ticket would allow a person complete and repeat the same journey during a period of validity as many times as they would like (Paumgarten, 2007).

Commuting is not attached to a specific mode of transport. While following the above case example, where rail users of the 1840’s were only considered as commuters, times have changed. Commuting can be endured through any different means of getting to work. As we can see throughout the world, some cities have more popular ways of commuting to others. We can see an example of this when you simply think of commuting throughout the largest cities in the world. New York is closely linked to commuting on the Subway. London, Tokyo and cities throughout North/North East India e.g. New Delhi, Calcutta etc. can be associated with rail travel, and Los Angeles with its infamous gridlock congestion of automobiles. It has also been found that since 1990, the average time of a commute in New York has risen by 30 minutes (Steinhiber, 2016).

1.2 Commuting in Ireland

Commuting in Dublin can at times be a troubling thing with just over 28% of the nations population (4,757,976) living in County Dublin (CSO, 2011). These large moving populations can cause problems. A recorded 39,764 people (CSO, 2011) over the age of 15 years old throughout the Republic of Ireland reported spending 90 minutes or over on there commute to work, college and school, with the average commute time a week being 7 hours and 50 minutes. The majority (73%) of these
journeys were made by car, 16% on foot with the bus following in 3rd place with 4% 
(National Transport Authority 2011). Staying in Dublin, a record amount of cyclists 
commuting to and from work has peaked over 11,000 people in 2014, nearly 20 years 
after records began. Topping this, almost 100,000 people opted for public transport to 
commute into Dublin City in the mornings, 57,548 taking buses, 29,521 using rail 
services and 12,503 being recorded taking the Luas. The CSO also reported that out 
of the 26 counties in the Republic of Ireland, 7 of these had a higher inflow than 
outflow of commuters, with Sligo having the largest inflow of over 7,433 commuters. 
This shows that commuting is active amongst other areas than cities.

1.3 Job Burnout

A key focus of the current research is to examine the psychological impact of 
commuting, mainly its influence on job burnout. Burnout as a psychological 
definition is a state of emotional, mental and physical exhaustion caused by prolonged 
and excessive stress (Maslach, 1982). It is also associated with a lack of interest and 
motivation (Maslach 1982). Job Burnout is the same principle, but connected strongly 
to work. It is stress that is caused from a job or career that causes such drained 
feelings across mental, emotional and physical states (Maslach 1982). Also known as 
Occupational burnout, job burnout is further characterised by feelings of 
ineffectiveness or professional efficacy, with features of cynicism (Maslach 1982). 
The main result of occupational burnout is reduced efficacy in the workplace 
(Ruotsalainen, et al., 2014).

The causes for occupational burnout are thought to be multifactorial in nature with a 
range of possible factors playing their part (Maslach & Jackson, 1981). Stressors are 
seen as large contributors to occupational burnout that people struggle to cope with
(Alacron, et al., 2009). This stress is dependent on the ability to deal with pressure. This ability varies from person to person. Some may be able to handle greater pressure from many different stressors, as some people may only be able to handle small amounts of pressure from single stressors (Maslach 1982). Examples of such stressors can include lack of control in the workplace, dysfunctional workplace dynamics, work-life imbalance or simply a poor job fit. Such burnout isn’t easy to spot at the beginning, with, any cases proving that occupational burnout can often be slowly developed and not recognised until it is too late. This commonly occurs as one’s idea and expectation of certain work or of a certain job starts to differ from the reality of it (Ruotsalainen, et al., 2014).

1.4 Health Consequences of Burnout

Occupational burnout can hold very negative affects in a person’s life. These can include health related issues such as increases in stress hormones, circulatory issues and even coronary heart disease have been reported, while some mental health issues including depression, anxiety and insomnia (Sandstrom, et al., 2005). Treatment for burnout syndrome is difficult as the three factors which build up to create occupational burnout, those of cynicism, professional efficacy and exhaustion, which are constructs that are difficult to create interventions for. The intervention of professional efficacy has been found in research to actually worsen such efficacy in people who originally had low professional efficacy (Van Dierendonck, et al., 1998). Stress management, cognitive restructuring and cognitive-behavioural therapy (CBT) are commonly used as means to prevent burnout. Other prevention methods can include exercise, healthy eating, improving sleeping habits and relaxation practices (Hätinen, et al., 2007).
1.5 Health Consequences of Commuting

Many studies before have focused on the affects that commuting can have on people. A lot of attention has been given to the physical affects. However each mode of commuting has both its pros and cons. Long commutes by car have found to cause back and neck pains, while being at the risk of obesity for the lack of movement whilst sitting in a car (Steinhilber, 2016). Steinhilber’s earlier 2004 study found that each additional hour of time spent in a car each day was associated with a six-per cent increase in the chances of obesity. It was still found that even car commuters who exercised regularly still put on more pounds than active commuters. A study by the British Medical Journal (BMJ, 2014) concurred that commuters on foot or by bicycle on average had a lower body mass index (BMI) and body-fat percentage than those who opt to drive. Normal sleeping habits were found to be affected by long rail commutes (Walsleben, et al., 1999). Over 50% of participants who responded to Walsben’s survey reported difficulty with sleep and wakefulness, with only 3% seeking out professional help. This was associated with an increase in daytime sleepiness, hypertension, obesity and even diabetes. Furthermore, 70% of commuters had reported napping during these long commutes. It was concluded that long commutes negatively impacts one’s ability to capture adequate sleep.

A study among bus drivers found that time spent in congested traffic was correlated with both epinephrine and norepinephrine secretions (Evans & Carrere 1991). These neurotransmitters help ready the brain and body for function (IUPHAR Database, 2016), meaning a lack of such bodily chemicals can be cause feelings of fatigue and exhaustion. Following this, the length of a commute is correlated with self-reported
symptoms including tiredness, lower back pain and stiff necks along with the mental affects of tension, anger and a difficulty in focusing attention (Evans & Carrere 1991).

More research is being implemented into the mental affects that commuting can have on people on day-to-day basis (Greller & Parsons, 1989). Wellbeing and stress have been widely studied as symptoms to long and exhausting commutes. 80% of commuters in Dublin have reported their daily commute to be a stressful experience (Buckley & O’Regan 2004). Commuters who opted to walk to work displayed the least stress and arrived to work with the most positive moods. Dart users built up the opposite end of the scale experiencing the highest levels of stress as well as suffering negative moods upon arrival at their workplace. The levels for higher stress levels in a commute were due to the number of impedances someone suffered along the way. Reports of traffic, delays, hygiene and the fear of running late are such impedances. People who experienced a less eventful commute expressed more positive moods and lower levels of stress. Such stress levels have been seen to rise when these impedances occur (Shaeffer, Street, Singer & Baum, 1988). This is when a journey takes longer than expected due to unforeseen and uncontrollable reasons e.g. road accidents, train delays, broken traffic lights etc. The stress caused by these impedances can bring with it a variety of behavioural issues, as well as physical and psychological ones.

An article written by The Guardian in 2011 explored the concept and idea that there is a gender difference in the way both men and women suffer from commuting. A woman’s mental health has been found to suffer more, due to the idea that women have more day-to-day responsibilities. Such responsibilities come in the form of domestic chores and childcare. Women are more likely to add daily errands on to their commuting (Roberts, Hodgson & Dolan). Such errands can be seen in stopping to do
the food shopping and dropping and picking children up from childcare. Roberts, Hodgson and Dolan’s study carried on to state that women with children at the age of pre-school were affected most by commuting, and that the psychological impact of commuting was four times greater than it was for men with children in pre-school.

Commuting distance, length and means are factors of stress that can lead to burnout (Barreck, 2015). Barreck states there is a correlation that exists, but varies according to the individual, the conditions on where their commutes take place, and where and what type of industry the individual works in. Results showed that the bigger the city in which people commuted, the more stressful the commute was. Barreck found that passengers of public transport and car-pooling were more likely to be stressed than drivers because the lack of control. This in turn creates stress before an individual has even arrived at work. Another figure showed that anyone who commuted for more than 35 minutes, were at risk of cynicism towards there job (Barreck, 2015). This provides an example of how the factors of chosen mode of transport, length and distance of travel can have a psychological impact on an individual’s attitude to work.

1.6 Impact on the Workplace

Lower concentration at work (Schaeffer et al., 1988) with tardiness and absenteeism (Novaco et al., 1990) are amongst the biggest complaints from employers as a result of commuters suffering a bad experience on their way to work. According to the Confederation of British Industry, in 1998 over 200 millions days were lost to illness, which came to costing industries an outrageous £10.2 billion. It was also found in a European wide study that work-related stress accounted for over a quarter of all two-week absences.
A study by the Author of the bestseller ‘Bowling Alone’, Robert Putman introduced a rule of thumb stating, “every 10 minutes commute mean 10% fewer social links” To explain, Putman believes that a 2 hour car commute can have devastating affects on our daily habits and outlook on life, claiming that church on Sunday doesn’t have such an impact. Complaints of loneliness have been recalled of large cities, needed longer commutes to get to and from (Miller, J. 2007).

1.7 Measurement of Occupational Burnout

Within the current study, occupational burnout is examined through the Maslach Burnout Inventory (Maslach, Jackson & Leiter 1996). This scale is most commonly used throughout the world to do so. Originally developed in 1996, Christina Maslach and Susan Jackson identified and operationalized burnout to be a three-dimensional syndrome made up of cynicism, inefficacy and exhaustion. Schaufeli, Leiter and Kalimo (1996) found that the MBI-General Survey (See Appendix 1.) consistently related to other constructs, as expected. A series of principal component analysis found Cynicism to be primarily related to the same constructs with Professional Efficacy, which are satisfaction, job involvement, access to resources and organisational commitment. Exhaustion related to work overload, role conflict at work and mental and physical strain. Across the three variation scales of the Maslach Burnout Inventory; General Survey (MBI-GS), Human Services (MBI-HSS) & Educators Survey (MBI-ES), it is highlighted that burnout factors do not belong to certain occupations, and not just restricted to the earlier believed thought that burnout was exclusive to service provided occupations. The MBI-GS provides means to test for burnout throughout a full range of jobs and careers and performs a consistently across nations, occupational groups and organisations.
Leiter and Schaufeli tested the validity of the MBI-GS on 853 participants of a tertiary care hospital sample. The participants filled out the General Survey along with noting comments on their workplace. Those who left positive comments about management scored higher throughout the Professional Efficacy questions and lower in the Exhaustion and Cynicism fields. In contrast to this, those who commented negatively about standards of quality of care throughout the hospital scored lowly in Professional Efficacy but higher in Cynicism and Exhaustion. Under analysis, together these results supported the expectation that the MBI-GS measures burnout consistently with those measured by the MBI-HSS among human service providers and with theoretical considerations regarding the burnout concept.

A later study carried out in 1998 again, by Schaufeli, accompanied by Dierendonck and Buunk looked at the validity of the MBI with a longitudinal study. The research assessed the relevance of the scales used in the Maslach Burnout Inventory. The study proposed that inequity influenced burnout across time, and whether the relationship on burnout and equity were curvilinear. Having 568 participants of who were all Dutch human service professionals, split into four groups, two of which being control groups who worked in direct caring for mentally disabled patients. The other 2 groups worked in a health care organisation with 2 separate departments, a nursing home and a lung clinic. Each participant completed a Dutch equivalent of the Maslach Burnout Inventory, including the 3 subscales of Emotional Exhaustion, Depersonalization and Personal Accomplishment. The analysis proved that equity and burnout did have a curvilinear relationship where equity influenced burnout and not the other way around. Depersonalization was found to be the most recipient-orientated dimension of burnout. When emotional exhaustion increased as a result of feeling deprived and when not accompanied by a change in the attitude towards the recipients, the failing
to cope with the stress of the work on hand was a leading contributor to Depersonalization. The study found two interesting points which show the direction of the relationship of the three subscale factors and burnout, and some key factors that cause such subscale ratings, contributing heavily to overall burnout.

1.8 Aim of Research

This study can assess the results and hopefully find a relationship that could identify a contributing factor towards Occupational Burnout, and could help indicate a less stressful form of transport to help avoid such burnout from taking place. As cities in general, (Dublin included) are growing to accommodate rapidly growing populations, the use for long commutes is becoming more necessary. Combining these issues will show and lead us to the explanation that this study is very relevant to attempting to understand some of the factors and reasons that may lead to Occupational Burnout. From learning these factors and predictors, we can aim at learning how to prevent and avoid such burnouts from happening, which will bare ease on the on going battle to achieve good mental health.

1.9 Hypotheses

Building on current and passed studies as mentioned above, this research looks to tests 3 separate hypotheses relating to the likelihood of chosen modes of transport as a predictor for Occupational Burnout. There are no previous studies that explore this idea so this study is set out to answer fundamental questions on how different factors of commuting can be linked with Occupational Burnout.
**Hypothesis 1:** To find a relationship between chosen modes of transport for commuting to work to be a predictor of the likelihood of suffering from occupational burnout.

The main hypothesis of this study will search for a correlation between the 6 specific modes of transport and high levels in the relevant subscales of the Maslach Burnout Inventory – General Survey: Exhaustion, Professional Efficacy and Cynicism. The results will hopefully indicate that one mode of transport in particular will have a significant relationship to high results across the MBI-GS subscales.

**Hypothesis 2:** Participants who spend longer amounts of time commuting are more likely to feel more cynical about the values of one’s occupation.

This hypothesis will investigate if the levels of participants recorded levels of cynicism, have a relationship with the length of time they spend commuting. This coincides with Barreck’s study, which found the main factors of commuting to affect one’s attitude towards work. It will specifically look at the factor of time spent commuting.

**Hypothesis 3:** Women on average will have higher rates of Exhaustion than men.

This hypothesis will look at the gender differences in recorded feelings of exhaustion. As explored earlier by The Guardian in 2011, they found women had more day-to-day responsibilities they juggled around during their commute, such as food shopping, dropping off and picking up children from childcare. This will be tested to see if such errands cause stronger levels of exhaustion in women then you would find in men. Roberts, Hodgson and Dolan’s study also found that women suffered greater than men from commuting. This hypothesis will try to correlate with
their findings and see if women suffer from exhaustion more than men from commuting.
The Study

Methods

2.1 Participants/Respondents

A self-report questionnaire was designed and distributed to 107 participants. The means to which the surveys were distributed were via social media (Facebook) and to a number of selected groups of convenience (e.g., work colleagues, friends and family etc…). The reason behind choosing select groups was to create as much of a variation between jobs and industries as possible. This study didn’t aim at any specific career or job, so it was best to have as much variety as possible for chosen modes of transport. The research was based on Dublin being the area of representation for its workers. 107 participants responded having filled out their surveys. 106 participants (99.1%) consented to complete the questionnaire with one participant not giving consent. As it was the case that the one participant continued to complete the survey, that is to be counted as consent. Of the 93 respondents who answered the question concerning their age, the average was 32.8 years old. The participants were predominantly male with 56.1%, along with 47 female respondents. Please find in Table.1 (See Appendix 2) for a breakdown of sample population by gender and chosen mode of transport for commuting.

(Insert Table.1)

2.2 Design

The research was carried out as a Quantitative Cross-Sectional study. The answers collected from the questionnaires (See Appendix 1.) were analysed as soon as the intended target for a population size was reached. The data was collected over the course of a two-month period, all just requiring one point in time for the participants.
to fill out the questionnaire in one quick sitting, with all of the questionnaires being the same. As all of the data was collected by the same means, there were no control or experimental groups necessary for the style of research.

2.3 Dependent Variables

The dependent variables examined in this study were the Maslach Burnout Inventory (MBI). The Maslach Inventory is broken into 3 different questionnaires: MBI- General Scale (MBI-GS), MBI- Human Services (MBI-HSS) and MBI-Educators (MBI-ES). Each different survey is relevant to the careers and jobs of the participants being examined. For this study as there is no fixed profession or career we’re looking into, the MBI-GS is deemed most suitable. Schaufeli, Leiter and Kalimo (1996) found that the MBI-GS was consistently related to other constructs as expected. A series of principal component analysis found Cynicism and Exhaustion to both be associated with mental and physical strain, work over-load and role conflict at work, with Professional Efficacy to be related to job involvement, access to resources, organizational commitment and satisfaction. Another perspective on the validity of the scale is provided by examining relationships across the three subscales found in the MBI-GS and qualitative responses from participants (Leiter & Schaufeli, in press). Such analysis examined 853 participants all of which taken from a tertiary care hospital sample. It was found that respondents who commented positively about management scored highly in Professional Efficacy and lower in Exhaustion and Cynicism. This coincided with results displaying comments on quality of care given scoring highly in Exhaustion and Cynicism and lower in Professional Efficacy, the opposite to the other comments made. These findings along with other bits of analysis support the consistency of which the MBI-GS measures burnout.
The MBI-GS is a 16-question survey, listing statements to which the respondent is to relate to on a 7-point scale ranging from ‘Never’ to ‘Everyday’. This survey is broken into the 3 subscales as mentioned before: Exhaustion (5), Professional Efficacy (6) and Cynicism (5). Each subscale is to be scored by adding up the answers given to the questions relevant to that subscale. Each scale has a different scoring process with different values implicating the severity of the levels of that subscale.

2.4 Independent Variables

The independent variables for this study include age, gender and the chosen mode of transport of the participant. The six modes of transport included in the research were bus, car, Luas (tram), Dart (train), walking and cycling. 6 different modes of transport were chosen, as the study looked to investigate if the chosen mode of transport used by participants was an indicator for suffering from Occupational Burnout. The larger the selection was to help see if any particular modes were to be significant in the analysis. Other modes of transport were considered, such as moped/motorbike but were left out due to a small and limited projected representation.

2.5 Materials

There were little materials needed to complete this study. To fill out the survey, all was needed was a hard print out copy of the questionnaire and a pen/pencil to fill it out with. For the participants who completed the survey through online Google Forms, all were required was a device to load the questionnaire on and working Internet. The survey was created using Google Forms. To analyse the collected data, a computer and a copy of SPSS (Statistical Package for the Social Sciences) software is
needed. The tests carried out on SPSS were Independent T-tests, a one-way multivariate ANOVA and Two-way mixed ANOVA tests, all respective of their relevant hypothesis. The survey itself was split into 4 sections. The first explained the layout of the questionnaire along with the consent form. The second part asked for general information concerning age, gender, the mode of transport used to get to work, length of time spend commuting, and an open question on why they may feel their commute is stressful if so. The third section contained the 16 questions of the MBI-GS, with the fourth section being a debrief with the explanation of the nature of the study, as well as support services each participant may contact if they feel they have in anyway been affected by the survey.

2.6 Procedure

To start, the participants accepted the opportunity to be apart of my study by consenting to taking part by answering a simple question of consent. Following this, the participants continued through the survey going through the sections as outlined above. Upon taking 4-6 minutes to fill out and complete the survey and having read through and understood the debrief, the survey would be submitted online or handed back to myself in the case of completed a hard copy version. Nothing more was requested of the participants, as the rest of the work was to be completed by myself by collecting all the data and then further analysing it. The softcopies of the participants surveys are kept on a password protected personal computer and will be for the following year, while the hard copies of the survey are kept safe in a locked press, which will be destroyed after a year of storage. No ethics issues arose as the subject group were all over the age of 18, and required to consent to taking part in this research.
The Results

3.1 Hypothesis 1

The first and main hypothesis of the study looks to find if any certain mode of transport correlated with high scores in each three of the subscales in the MBI-GS. To carry out such examinations, a MANOVA test was used to find the relationship between the 6 modes of transport, and levels of Exhaustion, Cynicism and Professional Efficacy.

(Insert Table.2)

Starting with Exhaustion and Table.2 (See Appendix 3) that those who commuted by means of car recorded the highest average levels of exhaustion (14.68). Dart users (13.38) followed in a close second, with those who commute by Bus (12.64) coming third. Participants who opted to cycle to work recorded the lowest means scores with 7.50. An independent samples t-test however found that there was a statistically significant difference between exhaustion levels of those who cycle (M = 7.50, SD = 7.307) and those who commute by car (M = 14.68, SD = 8.502) (t (46) = -2.44, p = .019, CI (95%) -13.109 -> -1.26).

Moving down the table to cynicism, the stats showed that those who commute by cycling (7.20) again recorded the lowest scores. The highest levels this time were recorded by those who opted the take the bus to work (13.05), with respondents who commuted by car (11.97) finishing with the second highest levels of cynicism. The difference between those who took the bus and those who cycled averaged at a mean of 5.85. A further analysis in the form of an independent samples t-test, which found there was a significant difference between cynicism levels of those who cycled
(M=7.20, SD 6.877) and those who commuted by bus (M = 13.05, SD = 7.60) (t (30) = -2.07, p = .047, CI (95%) -11.60 - .089).

The final subscale examined in the first hypothesis is professional efficacy. In reverse to the two other subscales, low scores of professional efficacy indicate a potential factor of occupational burnout. At first glance again at table one it is very interesting to see that again, the 10 respondents who cycled to work scored the best levels with 29.40. Dart users expressed the lowest levels of professional efficacy, scoring 21.54 on average, followed then by bus commuters with 24.50. Those who walked to work again placed in the middle ground for all three subscales, documenting a mean of 26.20 for Professional Efficacy. The difference of 7.86 from those who cycled and got the dart were tested to hopefully suggest a significant difference. An independent samples t-test was also carried out and found that there was a significant difference between levels of professional efficacy of those who cycle (M= 29.40, SD = 4.427) and those who used the dart for their commute (M = 21.54, SD = 5.364) (t (21) = 3.750, p > .001, CI (95%) 3.502 -> 12.221)

As we can see from a quick glance at the averages throughout the 3 subscales, it is clear to see that the 10 participants who cycled to work scored the best. Despite this, a one-way multivariate ANOVA found that there was no statistically significant difference in levels of Exhaustion, Cynicism and Professional Efficacy between respondents across the 6 different modes of transport. (F(5, 101) = 1.366, p = .164, effect size .094) Following a Beferroni adjustment to 0.17, there was no significant difference for the groups on Exhaustion (F(5, 101) = 2.107, p = .071, effect size = .094), levels of Cynicism (F(5, 101) = .696, p = .628, effect size of .033), or in levels of Professional Efficacy (F(5, 101) = 1.47, p = .207, effect size of .068).
3.2 Hypothesis 2

The second hypothesis looks to investigate and hopefully find that there is a correlation between levels of Cynicism in the participants and the amount of time they spent commuting. The table below shows the population breakdown of time spent commuting (See Appendix 4.)

(Insert Table.3)

As we can see from Table.3, the majority of respondents spent less than 31 minutes commuting. Only 5 out of 107 participants reported to spend over 61 minutes in their commute to work. From reading the table, the participants who did spend over 61 minutes commuting scored an average of 17.00 in levels of Cynicism. According to the MBI-GS scoring manual, anyone who scores over 11 for classified as having a high rate of Cynicism. The only other division who on average scored in the high rate of Cynicism was those who spent the smallest amount of time commuting between 0-15 minutes with a mean of 13.05. The lowest group was those who spent 46-60 minutes commuting with an average of 9.56. According to the scoring, scoring between 6-10 records moderate levels of Cynicism, with no group scoring 5 or below to record low levels of cynicism.

(Insert Graph.1)

Graph.1 above (See Appendix 5) would lead to the assumption that those who spend over 61 minutes commuting do suffer from the highest levels of Cynicism, which on average has be found, but a one-way analysis of variance showed that the levels of cynicism did not differ significantly between the 6 different modes of transport (F(4,
102) = .997, p = .413). Saying that, the results did not vary enough throughout the 5 groups of commuting time to find significant evidence that those who spend longer commuting record higher levels of Cynicism.

3.3 Hypothesis 3

The final hypothesis aims to examine if there is a relationship of gender and the amount of Exhaustion expressed by participants. This will hopefully coincide with Roberts, Hodgson and Dolan’s 2011 study that found women to suffer greater mentally from commuting.

(Insert Table.4)

The population breakdown (See Appendix 6) shows that there was a near even spread of gender, with 60 respondents being male, and the rest female, 47. On average we can see that women did record higher scores of Exhaustion with a mean of 12.77, compared to men who recorded a mean of 12.13, just below. The scoring methods for the MBI-GS subscale of Exhaustion classifies both mean scores as being moderate levels of Exhaustion. While it is fair to say by looking at the results that on average, women do suffer a fraction more than men with levels of Exhaustion, A one-way analysis of variance showed that levels of Exhaustion did not differ significantly between either gender, male and female, (F(1, 105 = .179, p = .673).

(Insert Graph.3)
Discussion

4.1 Overview

This research study set aim to investigate the psychological affects that commute can have on individuals. It was the first study to do this in Dublin with the focus on how the three mental factors which make up Occupational Burnout, being Exhaustion, Professional Efficacy and Cynicism, are specifically affected. These primary factors were examined for changes when correlated with factors regarding an individual’s commute to work. Such variables were mode of chosen transport and the length of time for one’s commute. Gender differences were also accounted for to find if both men and women were affected differently by their daily commute. Overall, none of the three hypotheses came to be significant, but the results did shed a light into some interesting relationships between the name factors and variables above, but a silver lining of results found from independent t-tests found significant differences in cycling compared to the other means of transport, with all of the MBI-GS subscales.

4.2 Exhaustion

From reading thoroughly through the results of the statistical analysis of the hypotheses, it is clear to see that despite none of them being significant, there are still a lot of valuable points to take from this study. A place to start would be the examination of the results from the three subscales of the MBI-GS. While the first hypothesis failed to define a significant relationship between one certain mode of transport and levels of exhaustion, cynicism and professional efficacy, the scores of the subscales themselves are worth paying attention to. The results ranged from low to high rates in their relevant subscales. Starting with Exhaustion, we can positively
report that on average, the participants across the six modes of transport did not register any high levels of exhaustion. These stats look at the exhaustion suffered by mode of transport, so covers all the relevant lengths of time spent commuting. Commuters who cycled and walked to work funny enough expressed the lowest levels of exhaustion with means 9.40 and 7.50 respectively. Cycling would initially propose the image of medium to heavy exercise depending on the distance one travels, so it comes as a surprise that they suffer the lowest scores of exhaustion. Drivers suffered the worst from exhaustion; this could be down to sitting stationary in traffic or potential delays experienced through road works and accidents. The stresses of driving need to be looked at in a focused view to what extent and why such stresses and exhaustion is experienced.

On a positive note we can report that none of the averages recorded high levels of exhaustion. While it is good to show that exhaustion levels didn’t get to extreme, and that commuting didn’t have a severe toll on the mean scores, or individual’s mental health, the scores did report average feelings of moderate exhaustion, which again as a whole needs to be investigated further, as to how and why such feelings are felt during the necessary commute to work.

4.3 Cynicism

The subscale of cynicism displayed less positive findings. The mean scores found that all six modes of transport felt either moderately cynical or higher, leaving no group with low feelings of cynicism. Cyclist again recorded the lowest means with 7.20 in the moderate category. Cycling as a mode of transport has found to be the least exhaustion and that with the least cynical feelings. This could be down to the mix of exercise completed as a commute to work. As found before, exercise decreases
stress and has the ability to enhance moods (Berger & Owen, 1987). This could be the reasoning behind lower feelings of cynicism as cycling to work can enhance the moods of which individuals arrive to work in, creating a great, positive start to the day. In contrast to this, those who commuted by bus had the highest mean of cynicism (13.05). Cynicism concerns the feeling of distrust of others motives, and how people are motivated purely by self-interests. This could be the case as those who take the bus are in close vicinity and sharing personal space with strangers, which could help promote such strong feelings. This idea of sharing personal space can bring up negative feelings towards others, especially in the case of when someone in on a bus and an un-well individual is to be sat near. The thought of becoming unwell or sick from being stuck on a bus is one that has been experienced by any bus commuter.

4.4 Professional Efficacy

Professional Efficacy was the final subscale investigated in the first and main hypothesis on the study. The results found there was not much variation between mean scores and the six modes of transport. All of the modes transport scored in-between 24-29 on their mean scores, except for Dart commuters, who scored in the low category with 21.54. This figure suggests that those who commute by the dart have a low belief that the work they carry out has a genuine impact of a desirable result in what they do. There are no immediate thoughts as to why this could be the case, but in relations to Buckley and O’Regan’s 2004 study, where results showed that commuters who used the dart as their primary mode of commuting to work, arrived to the workplace more stressed and in with the most negative moods. This could coincide with feelings of low professional efficacy, as arriving in a bad mood
could easily affect the way you view your work and the role you play in an organisation.

4.5 Cycling

As discussed in the above analyses, it was clear to see that cyclists recorded the lowest levels of the relevant subscales. Upon this finding, the results of cycling were compared to the highest records of each subscale; Professional efficacy with Dart users, Cynicism with commuter who opted for the bus and exhaustion with car users. The independent t-tests found for the difference between cycling mean along with their relevant opposite means to all be significant. This proves that the differences recorded in the throughout the mean were large enough to be found significant under statistical analysis. These recordings indicate that cyclist reported significantly better results than those who used the other five forms of transport. Seeing that this is the case, cycling as a mode for commuting needs to be examined in focus for how its result differ in such away that is less mentally straining than the others ways to commute to work.

4.6 Hypothesis 2 Findings

For the 2nd hypothesis of this research study aimed to find that the longer an individual spent commuting, they would record higher levels of cynicism. The results did find that those who spent 61+ minutes commuting did suffer from the highest levels of cynicism. This however is not enough to prove the hypothesis. It was predicted that the longer one spends commuting would be exposed to the higher levels of cynicism, but looking closely at the results, this isn’t the case. Even though as explained before that those who spend longest commuting did in-fact display these
results, the group that expressed the 2\textsuperscript{nd} highest levels of cynicism were those who spent the smallest amount of time commuting, the results recorded were not linear to what the hypothesis had predicted. Being that this is the case, we cannot accept that longer time spent commuting is a direct factor to such recorded levels of cynicism. These findings show that other factors such as type of transport and maybe the distance one is to cover may be a leading factor that could explain such results.

4.7 Hypothesis 3 Findings

The 3\textsuperscript{rd} hypothesis looked at the gender differences on perceived levels of exhaustion. While research has already been carried out and found that there is a significant difference in how men and women psychologically suffer from commuting (Roberts, Hodgson & Dolan, 2011), this study found a similar relationship. The recorded results showed that on average, women marginally suffered worse off from exhaustion than men. Unfortunately, the stats showed that there were no significant findings through an ANOVA testing, but earlier research has proved this to be a trend.

Linking back into the main hypothesis of this research study, the results found that those who cycled did in fact record the best levels of all 3 subscales of the MBI-GS. The hypothesis aimed to highlight or find a relationship of the chosen modes of transport as a predictor for suffering occupational burnout. The low results scored by those who cycled are more valuable than the insignificant results shown by the statistical tests searching for a mode of transport that would indicate a high probability of occupational burnout. These findings suggest that cycling to work could be a lot less mental and psychologically straining than the option to take public transport or to drive. The cost of owning and running a bike is also something that would be of benefit to those individuals who opt to cycle, saving money on bus and
train fares, or petrol and parking fees. Further investigation needs to be under-taken to examine further why this is the particular case, and to how other forms of transport can be improved to attempt to lower the psychological impacts on people for an action that faces a worldwide population.

4.8 Limitations

This study was one of the first of its kinds to study the psychological affects in the form of occupational burnout and how commuting can play a role as a factor to it’s subscales within the Dublin area. Seeing this was the case, there are several potential limitations that could be emended to create a more thorough follow up study.

To start, there were several factors that needed to be addressed to ensure the validity of the study. These concern more details into the individual’s regular commute. One issue not addressed or asked of by the participants was to state the industry or career that they worked in. Obviously occupational burnout considers feelings and emotions felt about ones work and workplace. Commuting was only being studied as a potential factor for such burnout. It is common knowledge that some jobs and careers are more stressful and require more psychologically of people than other jobs and careers. This study did not factor in any outside factors of stress and only focused on the potential feelings of exhaustion, professional efficacy and cynicism that may come about from their commute. Correlations could have been derived from the idea that individuals from like careers will record similar levels of burnout due to the job itself. Having this as a factor for analysis could have improved the accuracy of the results, and could have helped explain such reported levels of burnout.

More information on the individuals commute could have been taken to paint a clearer picture of how they impact the person. As it is now becoming more common
for businesses and jobs to have varying operational hours, the times that people most commonly commuted was not recorded. Peak times in the morning would in theory be more stressful to commute though, as later stages in the morning would provide less crowds and traffic for people to battle through. Peak times include more factors to potentially create stress, and by missing these times, individuals may have an easier journey, which in turn could report lower levels in exhaustion, cynicism and professional efficacy. As well as peak times, the direction in which one is travelling is also another important factor not accounted for in the survey. Travelling out of the city in the morning will allow you to go against traffic on key roads, as well as train and tram lines, providing potentially quicker travel times. This could have the same affects as commuting in non-peak times by being less psychological straining on the daily commuter.

One final limitation that could have affected the study’s accuracy is the fact that some people tend to use more than one form of transport for their commute. As a city like Dublin expands further into the suburbs, journeys can become a lot further in distance, and there may not be a direct line from an individual’s home right to their workplace. This means taking more than one means of transport, which could account for some of the rates of burnout recorded in the survey. This again could limit the accuracy of the burnout rates against the chosen modes of transport.
Conclusion

5.1 Future Research

Commuting is something that we all do and will continue to do for a long time. As we analysed the data set from the first hypothesis, Cycling to work showed the best results of exhaustion, cynicism and professional efficacy. The reasons to why this is the case could not be examined in this study, but should be brought forward for future studies, and how it could possibly reduce the factors of occupational burnout. This could also be the reverse case of explain why drivers suffer the highest levels of exhaustion, with a focused look on how this can change.

Women displayed higher levels of exhaustion on average than men, but results were not deemed significant. This idea was always examined throughout a study, which was found significant (Roberts, Hodgson & Dolan, 2011). That study combined with this piece of research need to be expanded on to help find causes of such a relation, and to account for the errands and childcare issues surrounding women during their commute, and to find if they a significant factors into such results.

Cynicism as a whole needs to be explored in further detail within the focus of commuting and transport. Signs of cynicism varied throughout the results of the first hypothesis, indicating that commuting could be a big factor into such feelings. This as a whole needs to be investigated under a new light, along with the other possible psychological issues that may arise from commuting, apart from how it just affects how an individual performs in their workplace.
References


Confederation of British Industry (1998)


National Transport Authority 2011


Sandstrom, A; Rhodin IN; Lundberg M; Olsson T; Nyberg L. (2005). “Impaired cognitive performance in patients with chronic burnout syndrome.”


Van Dierendonck, D.; Schaufeli, W. B.; Buunk, B. P. (1998). "The evaluation of an individual burnout intervention program: The role of inequity and social support"

Walsleben, JA.; Norman, RG.; Novak, RD.; O’Malley, EB.; Rapoport, DM.; Strohl KP. (1999). “Sleep habits of Long Island Rail Road commuters.”
Appendices

Appendix 1 – Maslach Burnout Inventory – General Survey
Appendix 2 – MBI-GS Scoring Key – Professional Efficacy

[REMOVED]

Appendix 3 – MBI-GS Scoring Key - Exhaustion

[REMOVED]

Appendix 4 – MBI- GS Scoring Key - Cynicism

[REMOVED]
### Appendix 5 – Mode of Transport and Gender Populations Table

<table>
<thead>
<tr>
<th>Mode of Transport</th>
<th>Commuter Number</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk</td>
<td>10</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Cycle</td>
<td>10</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Car</td>
<td>38</td>
<td>15</td>
<td>23</td>
</tr>
<tr>
<td>Bus</td>
<td>22</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>Luas</td>
<td>14</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Dart</td>
<td>13</td>
<td>4</td>
<td>9</td>
</tr>
</tbody>
</table>
Appendix 6 Self-Report Survey

Questionnaire

Age ________________ Tick on lines

Sex ________________

Mode of Transport used to get to and from work:
Walk____  Cycle____  Drive____  Bus____  Luas____  Dart____

How long is your commute to work:

<table>
<thead>
<tr>
<th>0-15 minutes</th>
<th>16-30 minutes</th>
<th>31-45 minutes</th>
<th>46-60 minutes</th>
<th>61+ minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>________</td>
<td>________</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
</tbody>
</table>

If you feel your commute is/can be stressful in any way, please explain why with a few simple words:

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
__________
How Often: Statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Never</th>
<th>A few times a year</th>
<th>Once a month</th>
<th>A few times a month</th>
<th>Once a week</th>
<th>A few times a week</th>
<th>Every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ____________ I feel emotionally drained from my work.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. ____________ I feel used up at the end of the workday.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. ____________ I feel tired when I get up in the morning and have to face another day on the job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. ____________ Working all day is really a strain for me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. ____________ I can effectively solve the problems that arise in my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. ____________ I feel burned out from my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. ____________ I feel I am making an effective contribution to what this organization does.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. ____________ I’ve become less interested in my work since I started this job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. ____________ I have become less enthusiastic about my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. ___________ In my opinion, I am good at my job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. ____________ I feel exhilarated when I accomplish something at work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. ____________ I have accomplished many worthwhile things in this job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. ____________ I just want to do my job and not to be bothered.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. ____________ I have become more cynical about whether my work contributes anything.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. ____________ I doubt the significance of my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. ____________ At my work, I feel confident that I am effective at getting things done.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Google Forms:
https://docs.google.com/forms/d/1T4jPrbKKar6BI39HFgFEms6nd9vLX-hNsdw3IFwNFUQ/edit

<table>
<thead>
<tr>
<th>How do you travel to work?</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaustion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk</td>
<td>9.40</td>
<td>5.892</td>
<td>10</td>
</tr>
<tr>
<td>Cycle</td>
<td>7.50</td>
<td>7.307</td>
<td>10</td>
</tr>
<tr>
<td>Car</td>
<td>14.68</td>
<td>8.502</td>
<td>38</td>
</tr>
<tr>
<td>Bus</td>
<td>12.64</td>
<td>6.987</td>
<td>22</td>
</tr>
<tr>
<td>Luas</td>
<td>10.64</td>
<td>8.073</td>
<td>14</td>
</tr>
<tr>
<td>Dart</td>
<td>13.38</td>
<td>4.770</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>12.41</td>
<td>7.647</td>
<td>107</td>
</tr>
<tr>
<td>Cynicism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk</td>
<td>10.30</td>
<td>13.098</td>
<td>10</td>
</tr>
<tr>
<td>Cycle</td>
<td>7.20</td>
<td>6.877</td>
<td>10</td>
</tr>
<tr>
<td>Car</td>
<td>11.97</td>
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<tr>
<td>Bus</td>
<td>13.05</td>
<td>7.600</td>
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<tr>
<td>Luas</td>
<td>9.93</td>
<td>8.138</td>
<td>14</td>
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<tr>
<td>Dart</td>
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<td>Total</td>
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<tr>
<td>Professional Efficacy</td>
<td></td>
<td></td>
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<tr>
<td>Walk</td>
<td>26.20</td>
<td>5.203</td>
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</tr>
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<td>Cycle</td>
<td>29.40</td>
<td>4.427</td>
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</tr>
<tr>
<td>Car</td>
<td>25.55</td>
<td>9.096</td>
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</tr>
<tr>
<td>Bus</td>
<td>24.50</td>
<td>6.610</td>
<td>22</td>
</tr>
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</table>
Appendix 7 – MANOVA Descriptives Table

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luas</td>
<td>25.00</td>
<td>5.805</td>
<td>14</td>
</tr>
<tr>
<td>Dart</td>
<td>21.54</td>
<td>5.364</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>25.20</td>
<td>7.242</td>
<td>107</td>
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</table>

Appendix 8 – Length of time commuting Population Table

<table>
<thead>
<tr>
<th>How long is your commute to work?</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 15 minutes</td>
<td>21</td>
</tr>
<tr>
<td>16 – 30 minutes</td>
<td>38</td>
</tr>
<tr>
<td>31 – 45 minutes</td>
<td>27</td>
</tr>
<tr>
<td>46 – 60 minutes</td>
<td>16</td>
</tr>
<tr>
<td>61 + minutes</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 3

Appendix 9 – Exhaustion & Length of time commuting Trend Graph
Appendix 10 Exhaustion & Gender Descriptives

Table.4
Appendix 11 – Exhaustion & Gender Trend Graph

**Exhaustion Trend Graph**

<table>
<thead>
<tr>
<th>Sex</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>60</td>
<td>12.13</td>
<td>7.430</td>
<td>.959</td>
</tr>
<tr>
<td>Female</td>
<td>47</td>
<td>12.77</td>
<td>7.982</td>
<td>1.164</td>
</tr>
<tr>
<td>Total</td>
<td>107</td>
<td>12.41</td>
<td>7.647</td>
<td>.739</td>
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</table>

Graph.2