A Study on the Perception of Stress and its Individual Difference relationship with Curiosity, Personality, Self Esteem and Perceived Social Support.

Colm Power

Submitted in partial fulfilment of the requirements of the Bachelor of Arts degree (Psychology Specialization) at DBS School of Arts, Dublin.

Supervisor: Dr. Gary Prentice

Head of Department: Dr. Patricia Frazer

April 2013

Department of Psychology

DBS School of Arts

Table of Contents

Acknowledgements

Thank you to Dr. Gary Prentice for his invaluable support and guidance as my thesis supervisor and the DBS library staff for their assistance. Thank you to the participants, Tara Hayes, Desmond Gannon, Sherif Gayed, friends and colleagues for their support during the course of the thesis delivery. Thank you to Ann Power for her support. Finally, thank you to my partner Elena for her generous support.

''In god we trust, all others bring data'' W. Edward Deming

''Seek first to understand, then to be understood'' Stephen R. Covey

Abstract

The aim of this study was to investigate to what degree individual differences in curiosity, personality, self esteem and perceived social support are associated with perceived stress. One hundred customer service employees completed questionnaires collected through an anonymous survey collector website (www.surveymonkey.com). A convenience sample technique was used to collect customer service employee responses from multinational companies in Dublin and a snowball collection technique was used through LinkedIn and Facebook networking sites. The outcome of the study found three variables as significant predictors of perceived stress, namely conscientiousness, gender and neuroticism. Gender was found to have no significant relationship with the predictor variables. Curiosity was not found to be significantly related to perceived stress however it did have a positive moderate correlation with the personality trait conscientiousness. The study indicates that future interventions in relation to stress management especially in customer service centre organisations need to factor in gender, curiosity and trait variables into their continuous improvement and design.

Introduction

Stress

Baum (1990, p. 653) defines stress as "a negative emotional experience accompanied by predictable biochemical, physiological, and behavioural changes that are directed toward adaptation either by manipulating the situation to alter the stressor or by accommodating its effects''. Taylor (2009, p. 147) state that stress has impacted most people in their lives and has been studied for a number of decades in psychological research. Stress is a mix of the demand-coping imbalance driving a 'strain' which if not dealt with well by the individual can harm well being and lead to damage such as exhaustion over extended time period, outline Guglielmi & Tatrow and Vandenberghe & Huberman (as cited by Kyriacou, 2001, p. 28).

Baum (1990, p. 654) discusses stress research generally and identifies that this area is highly complex due to ''high variation in…intensity, magnitude and duration…in the individual difference coping or appraisel'' response to a threat or stressor. The purpose of this current study was to advance stress research and investigate the individual differences of perceived stress in relation to curiosity, personality, self esteem, perceived social support and gender within an online customer service employee population.

Cohen, Kessler and Gordon (1997, p. 121) discuss the psychological perspective where the individual's perceptual evaluation of stress is a central assumption in how stress manifests itself. In this perspective stress does not exist essentially outside the individual's perceptual interpretation of an external event as stressful. Within this psychological system a relationship exists between the internal perceptual system interacting with external environmental stressful stimulus. This has important implications for stress intervention, which is outlined in the discussion section in more detail.

Lazarus and Folkman (1987, p.151-154) describe stress as a transactional process, a transaction which include the person and the outside world. The transaction has an engine of appraisal which has two motors called a primary and a secondary appraisel system. Primary appraisal is the cognitive, emotional and motivational led evaluation of stress. The appraisal categories are as follows: harm that has occurred, anticipated threat situations and risk based challenges for benefit. The secondary appraisal assesses the internal coping resources available to change through control the response to the external stress demand and subsequent stress outcome. This interactive outcome then results in coping with the stress, not coping or controlling the perceived stress level adequately.

According to Lazarus et al. (1987, p.145-148) a central assumption underpins the transactional model, the premise that all people share goals and commitments characteristics, which obstacles can prevent realisation of. Obstacles in this case trigger the stress system which either activate or don't activate a stressful interaction. An environmental stressor will not impact an individual unless that individual has the psychological and motivational system 'vulnerable' enough to a particular stressful interaction.

Lazarus (as cited by Rice, 2000, p. 197) notes that stress operates in a feedback style cycle which constantly changes to reflect the environment and individual interaction. Lazarus et al. (1987, p.157) state that the three main areas of stress impact on humans are social well being, psychological well being and general physical health. These are then the areas for humans to reduce, avoid or better manage stress to enable a better quality of life, which underlines the importance of stress research in psychology.

From a macro perspective according to a report by the Irish Smalls Firms Association Conlon (2006, *para.* 1) the importance of stress was seen in absenteeism in Ireland which costs Irish small business 550 million euro per annum. Stress was shown to be the leading cause of

absenteeism based on medical certification, moving above back pain. From an EU perspective Brun (2007, *slide* 2) conducted a WHO study in 1999 and found stress cost employers 20 billion euro and up to sixty per cent of all sick days were stress related. Research from Clarke (2013, *para* 24) highlights the importance of stress from an employer perspective, as legally under EU law enacted in 1993, the employer must identify and remove stress hazards in the workplace.

On a micro level the importance of stress research is shown through significant empirical evidence linking stress to the development of psychological disorders and physical illnesses (Repetti, 1993, p. 125). The drivers behind this potential deterioration were identified by Lazarus (as cited by Rice, 2000, p. 197) who found two key dependencies, personality variables and personal resource variables, within the appraisal central process. These dependencies input into the individual decision making process on how the individual evaluates and adapts to external demands with resultant stress level output. Taylor (2009, p. 174) describes the personality, personal resources and external social variables as "stress moderators'' and as "potential alleviators of stress''.

The interaction of these internal and external variables pervades the workplace and home environments. Collings (as cited in Sauter, Murphy and Hurrell, 1990, p. 1147) linked stress in an overlap between the workplace and non-workplace in terms of etiology and psychological illness. Further evidence was found by Anafarta (2011, p. 168) who identified pathways of perceived stress between home-work and work-home environments and their mutual influence.

In the current study a subjective perceived stress measure is employed, which is evidenced as being as high in reliability as objective measure. There is support for this provided by Repetti. The study by Repetti (1993, p. 125) identified in a job stress test on air traffic

controller that subjective and objective measurements independently linked to similar stress outcomes. In another related study it was found that both objective and subjective measurement predicted the outcome of the common cold which was administered to participants post measure (Cohen, Tyler & Smith, 1993, p. 134).

The purpose of this study was to investigate, in a customer service population, the individual differences of internal predictor variables of personality, self-esteem, curiosity and an external predictor, perceived social support, in relation to levels of perceived stress.

Stress and Curiosity

The current study's first internal predictor of perceived stress was curiosity. Kashdan and Silvia (2009, p1) advise that curiosity is the motivational drive involved in all human exploration and believe that this variable has not received the scientific investigation that it deserves, given its pervasiveness in human life. Human drive, motivation and breaking new ground is related to *change* generally. Change relates to interaction between the human and the environment and this is main location for stress to occur.

Kashdan et al. (2009, p. 987) describe curiosity as a trait which has a ''fundamental role in motivation, learning, and well-being''. Curiosity with respect to the concept of 'change' is defined under two factors namely 'stretching' and 'embracing' change. Stretching is the desire to seek out new experience or knowledge. Embracing is the absorption in these experiences or uncertainties. The curiosity and exploration element Kashdan et al. (2009, p. 987) found had strong correlation with the psychological Big Five trait of 'openness to new experience'. There was also correlation identified between curiosity and intrinsic motivation aswell as social support, which was a breakthrough finding.

In the cognitive appraisal process the capacity to anticipate a threat to one's goals is present according to Lazarus et al. (1987, p.151-154). This is developed by Coyne and Gottlieb (1996, p. 962) who advise anticipatory coping is an effective coping strategy and can exist consciously or in automated unconscious habits. An individual's anticipatory stress activation system and coping strategy outcome is dependent on the individual vulnerability to the stressor. The components of curiosity, that is reaching out and absorbing change, are evidenced to some degree to reduce vulnerability to stress through its anticipatory coping quality.

Taylor (2009, p. 379) identified an important link between an individual goals and obstacles, which is that goals related to the individuals current behaviour. They describe the motivational component to bridging goals and behaviour, albeit in risk related behaviour, to the individual's "readiness for change" level. The curiosity and exploration instrument used in the current study measures the level of change exploration and also the level of change absorption giving a rounded picture of an individual's interaction with change subjectively. The specific types of motivational interventions that support goal-behaviour shaping are outlined in detail in the discussion section.

Kashdan et al. (2009, p. 988) provide some important evidence for curiosity moderating the effects of stress. In a study of participants suffering from distress, of which stress is a component, curiosity was found to have a beneficial impact. Curiosity was linked to converting a threat into a challenge driving towards a goal and alleviating a stressor. Whilst limited in research evidence within the psychological stress research there is some support growing in the literature that high level of curiosity can mediate stress through proactively seeking out change and absorbing it developing potentially into an anticipatory coping strategy in the future, as currently the research is new and has a small body of work to date in relation to stress.

An example of anticipatory stress and knowledge with absorption from conscious to unconscious could be viewed in the following widely experience example. A person who experiences new headaches regularly as a result of noise in the environment they work could offset the headache proactively by taking aspirin before the headache arrives. This may then become a conscious to habit or unconscious drive, in this case potential harmful goal-behaviour. Stress appraisel pivots upon something changing and this example illustrated in a broad sense a pathway between the psychological concern to 'resolution alleviation' offsetting a stressful outcome. There appears to be a meeting 'head on' of stress (perceived threat) associated with curiosity and a sense of proactively offsetting or moderating a stressor.

Curiosity and motivation have been found to be hampered in research development due to measurement issues, lack of research and the benefits are only starting to be captured (Kashdan and Silvia 2009, p. 987-8; Cooper 2002, p. 279**).** There is also limited stress and no perceived stress studies in relation to curiosity from a literature review using the PsycINFO and PsycARTICLES databases. This study is then the first in relation to include perceived stress and curiosity and in relation to the population targeted. The first hypothesis states that perceived stress levels will be lower when levels of curiosity and openness are higher.

Stress and Personality

Pervin, Cervone & John (2006, p. 6-11) describe personality in terms of a "person's consistent behavioural patterns over time in how individuals think, feel and act" and are the "units of analysis...which are fundamental building blocks", of an individual's personality. Trait theory relates to a general consistency of psychological type over time and personality traits make up frame of a person's personality. Traits join to form personality constructs as through the five factor model of personality model outlined in the following paragraph.

Cooper (2002, p. 110-1) discusses the five factor model or 'big five' of trait personality, which developed from Norman's topic clustering of 1431 terms converting personality into factors. Cooper (2002, p. 110-1) also notes that Costa and McCrae are the biggest advocates of this mode and developed it through cluster or factor-like analysis. The five factors are openness, conscientiousness, extraversion, agreeableness and neuroticism. Costa and McCrae (as cited in Cooper 2002, p. 111) describe trait extraversion as related to being "assertive, active, excitement seeking"; neuroticism as being "anxious, angry and self conscious" and openness is related to "novelty seeking". Conscientiousness is described as "orderly and dutiful, motivated to achieve, think before acting" for example anticipating a stressful event and agreeableness is described as "trusting and co-operative".

It is important to note that there are other ways to measure personality. Apter through his theory of motivation (as cited in Cooper, 2002, p. 276-77) argues that 'trait' is supplanted by more rapidly changing 'state', for example telic and paratelic which would flip the individual between objective achievement or enjoyment activity. There is some support for this theory in the sporting environment however Cooper (2002, p. 278) argues that measurement of state may be measuring trait and is too broad and complex to be captured in the current instruments. The notion of learned behaviour and volition seems to also be a limitation in this theory.

A key study by Deci (as cited in Gross, 2009, p. 30) found through testing self determination theory that human choice in decision making is central in intrinsic motivation. This does appear to add support for a more stable influence at work in the stress appraisal system. The evidence in the literature appears overall to be stronger for trait compared to state and the five factor model is much higher in reliability, as described in the method section. Cohen, Kessler and Gordon (1997, p. 121) discuss the psychological perspective of stress succinctly stating that it how we perceive the stressor event that dictates the impact. Therefore there is a choice

in how the individual reacts to a perceived stressor although it may not feel like there is a choice to those who are overwhelmed or give in to the stress emotional response. The choice can be brought more to life through a structured educational and policy programme and intervention at all levels in the community.

There is much research supporting trait linking to stress for example LeBlanc, Ducharme and Thompson, Oswald et al. and Pruessner et al. (cited by Garcia-Banda et al., 2011, p. 1338) found that personality and traits may be strong predictors of stress levels. LeBlanc and Ducharme (2005, p. 1) found in an experiment using heat stress a correlation between neuroticism and greater discomfort, indicative of stress. Hudek-Knežević, Kalebić Maglica and Krapić (2011, p. 538) found that personality is correlated to stress levels in hospital nurses. The results found weak associations from neuroticism and conscientiousness to job stress**.** Grant and Langan-Fox (2007, p. 20) found that neuroticism mediates perceived stress, and also found links to job stress. From a gender perspective Wang, Repetti and Campos' (2011, p. 441) gender based study found that men with high neuroticism levels had higher job stress and withdrew from social support, compared to men with lower neuroticism who had higher emotional stability. There was no similar or detectable pattern found for women.

Contrary to the link between neuroticism and stress there is some debate in the literature about whether personality is in fact linked to stress at all. This is illustrated in a study by Houtman and Baker (as cited by Garcia-Banda et al., 2011, p. 1339) which associated neuroticism to low stress response in a public speaking study. This pattern was also found to occur in mental arithmetic tasks in a study by Leblanc and Ducharme and others (as cited by Garcia-Banda et al., 2011, p. 1339).

In relation to extraversion LeBlanc and Ducharme (2004, p. 1) in a study using physical stress of cold wind on students' faces found that those with higher extraversion levels had

higher levels of stress. Garcia de la Banda, Martínez-Abascal, Riesco, & Pérez (as cited by Garcia-Banda et al., 2011, p 1339) did find support for extraversion being associated with a lowered stress response which supported the link and also suggests a potential buffering effect. Grant et al. (2007, p. 20) found extraversion had a "direct positive effect on psychological strain". Goodwin and Engstrom (cited by Grant et al., 2007, p. 21) found that extraversion was linked to higher perceived health whilst neuroticism linked to lower perceived health.

Grant et al. (2007, p. 21) call for the need for research outside of neuroticism which the current study builds upon by focusing also on extraversion. The second hypothesis states that participants scoring high on extraversion and high on neuroticism will report higher levels of stress than those scoring lower on extraversion and/or neuroticism.

Stress, Social Support and Self Esteem

Allport (as cited in Hewstone, Sroebe and Jonas, 2008, p.5) describes social psychology "as an attempt to understand actual, imagined or perceived presence of other human beings" in our lives. Hewstone et al. (2008, p. 198-199) describe social support as a "basic human need to affiliate". There is a body of research evidence linking social support to self esteem in relation to stress which this study explores. Self esteem according to Hewstone et al. (2008, p. 101) is described as the "attitude towards oneself along a positive-negative dimension".

Generally speaking support from family, partner, colleagues or friends can help in times of stress and this can have a positive effect on one's self esteem. Social support according to Hewstone et al. (2008, p. 198-199) from a research review indicates links to stress reduction. Ostrowski, (2009, p. 13) found a positive link to reduced job stress related to both social support and self esteem. House (cited by Ostrowski, 2009, p. 13) found a buffering stress

impact on health effect also, however the sample used in this study was small. Friedlander, Reid, Shupak and Cribbies' (2007, p.1) study on college students found social support was linked to stress reduction and reduced stress led to improved self esteem. This is backed by evidence from a study by Arslan (2009, p. 561) which discovered a significant positive correlation between self-esteem and the social support received from family and teachers in relation to a perceived threat.

Contrary to the positive evidence the negative or positive outcome of social support is illustrated through the research of Marsh, Trautwein, Lüdtke and Köller (2008, p. 510) where student compared their grades in relation to their peers and formed negative self concept when grades were higher by peers, however self esteem was unrelated. Lipschitz-Elhawi and Itzhaky H. (2005, p. 329) found no significant relationship between peer support and self esteem. Krause (2009, p. 757) found that social support from fellow religious worshipers did not relate to improved self esteem, albeit it did from their secular network.

The third hypothesis in the current study is that participants scoring high on perceived social support will report lower levels of stress and lower self esteem than those scoring low on perceived social support. A key study conducted by Vohs et al. (2001, p.1103-1107) provides evidence for this hypothesis being tested in the current study, however there is little other evidence available from a literature review, which this study aims to address. Vohs et al. (2001, p.1103-1107) study investigated two group, group A were those with high self esteem and group B were low on self esteem. The results in group A found those with high self esteem seek competency based social feedback, have the characteristics of being self reliant and independent and thus do not require a high social support network to mediate stress. Group B on the other hand seek interpersonal feedback which is linked to having a wider social network as they have the 'likeability factor' more than group A however as a consequence are associated with lower self esteem.

Stress, Social Support and Gender Difference

Klein and Taylor (as cited in Taylor, 2009, p. 148) developed a 'tend and befriend' model which revealed that women are more social than men due to an evolutionary based adaptive response. Taylor, McCarthy and Gonzaga (as cited in Taylor, 2009, p. 149) found gender differences existing in the biopsychosocial perspective. A biological underpinning was discovered in relation to Oxytocin (OT). This hormone was found to play a role in stress response and OT was also found to be related to social support lack. It was found that estrogen modulates OT and therefore some evidence that women may have a better physiological ability to handle stress compared to men and are more likely to reach our for social support than men.

Contrary to this Hedbory, Anderberg and Muhr (2011, p.1) found that women were twice as likely than men to develop migraine when a stress events occur and are more likely to reach out for social support to reduce anxiety. There is supporting evidence from McIntosh, Keywell, Reifman and Ellsworth (1994, p.1) in a study of first year law students that found women relative to men were at greater risk of stress due to lack of time spent socially with spouse or family and McIntosh et al. (as cited in Mertz, 2007, p. 264) found females experienced more "continued distress'' compared to men. Overall social support gender differences was researched by Berkman and Syme (as cited by Cohen, 2001, p. 5-6) who found that those who had low social support died earlier on average and that woman had higher social support levels.

There is also research provided by Ukeh and Kwahar (2011, p. 3752) indicating no link between stress and gender. This study tested students and found no link between an interaction of stress and gender. Houston, Cates and Kelly (1992, p.1) found that social

support did not benefit women working from home, but did moderate job stress within the workplace.

According to a literature review by Baruch et al. (1987, *para* 2) stress gender studies are limited and tend to neglect gender with incorrect assumptions about women and men in relation to stress. This is supported by Taylor (2009, p. 149) who calls out that there is less known about men's social response to stress than women. The study aims to add support to this research through exploration of the social support and gender interaction together with perceived stress in a customer service population.

There are two hypotheses in the current study related to gender: the fourth hypothesis states that participants scoring low on social support will be correlated to higher male levels of stress compared to female participants. The fifth hypothesis states that there will be a gender association in relation to the predictor variables or criterion variable.

Hypotheses

The first hypothesis in the current study states that perceived stress levels will be lower when levels of curiosity and openness are higher.

The second hypothesis states that participants scoring high on extraversion and neuroticism will report higher levels of stress than those scoring lower on both variables.

The third hypothesis is that participants scoring high on perceived social support will report lower levels of stress and lower self esteem than those scoring low on perceived social support.

The fourth hypothesis states that participants scoring low on social support will be correlated to higher levels of stress in male participants compared to female participants.

The fifth hypothesis states that there will be a gender association in relation to the predictor variables or criterion variable.

Method

Materials

The materials used in this study consisted of an online 57 item questionnaire (Appendix 2). The online questionnaire was created and designed using the questionnaire builder from www.surveymonkey.com. The questionnaire comprised of five well known existing instruments. The survey used in the study were the *Curiosity and Exploration Inventory (CEI-II), The 15-item Big Five Inventory short* questionnaire (BFI-S), *Perceived Stress Scale, Multidimensional Scale of Perceived Social Support and the Rosenberg Self-Esteem Scale.*

The online based questionnarie included an introduction page (Appendix 1) for the participants outlining the confidentially, anonymity, right of withdraw at any stage, instructions on how to select an answer. An outro page (Appendix 3) detailing related sites to the topics investigated in the study was provided and the researcher contact details. The questionnaire was accessible to participants using a unique weblink generated from the website outlined above. The first page of the questionnaire asked two questions on occupation type role and gender. The occupational types available were eCommerce, online search, social networking and online gambling whilst the gender options were male and female. The five questionnaires used in the study are outlined in the next paragraphs.

Curiosity and Exploration Inventory (CEI-II). The CEI-11 instrument was designed by Kashdan et al. (2009) to measure individual differences in the reaching out for novel or challenging experiences and the absorption of experiential or informational change. The CEI-ii scale has a Cronbach's α reliability of .86 (Kashdan et al., 2009, p. 992). The CEI-II is a

ten item scale with two key elements ‘stretching’ and ‘embracing’. The first sub scale ‘stretching’ consists of five items which measures the level of motivation to seek out the novel and uncertain parts of life. The second subscale ‘embracing’ consisting of five question, seeks to measures the level of absorption in these change events or activities. Participants respond to a five point Likert scale from (1) very slightly to (5) extremely motivated to reach out for change or absorb change. Examples of questions from the two subscales are: ‘I actively seek as much information as I can in new situations for ‘stretching’ and ‘I am the kind of person who embraces unfamiliar people, events, and places’ for ‘embracing’. This instrument has good internal reliability, is easy to understand and to run and was found as mentioned above to be linked to trait and motivation areas which the study explores.

The 15-item Big Five Inventory short questionnaire. The BFI-S instrument was discussed by Lang, John, Ludtke, Schupp & Wagner (2011, p. 563) who advised that it was developed first for a large scale German study on justice and personality. The ‘big five’ instrument is generally regarded as robust, has validity and is comprehensive in terms of measuring personality “patterns of normal behaviour” in terms of thinking and feeling emotionally according to Furnham, Monsen & Ahmetoglu (2009, p. 770). Furnham et al. (2009, p. 770) assert that the ‘big five’ is the most ‘’coherent’’ way to measure personality and stable traits overtime and for researchers to compare notes on their respective studies. It is also easy to understand and short to run. There are five trait based dimensions which are as follows: openness to experience, conscientiousness, extraversion, agreeableness and neuroticism (OCEAN). The short version has undergone much validation across multiple studies for example by Donnellan and Lucas, Headey et al., 2010 and Winkelmann (as cited by Lang et al., p 563). The instrument provides three items per construct on a Likert scale of five points from (1) strongly disagree to (5) strongly agree. Lang et al., (2011, p. 563) describe the short

'big five' assessment as being a robust and reliable measure of the big five personality set of constructs in large research studies and for young and middle adult research. The Cronbach's alpha scores reported by Lang et. al in their investigation of the instrument are openness, alpha = .63; extraversion, alpha = .66; neuroticism, alpha = .60 and agreeableness, alpha = .50. Gagne & Hancock (cited by Lang et al., 2011, p. 563) advise that the three item per constructs represent the minimum level for identification of personality trait constructs. This is discussed further in the discussion section as there are some limitations in relation to this instrument and the chief author, Frederick Lang, was contacted who provided a copy in english of the full paper.

Perceived Stress Scale. This PSS-10 instrument was designed by Cohen, Kamarck & Mermelstein (1983, p. 390) to measure how much a person appraises a life situation as stressful and has a Cronbach's α reliability on average of .85. Cohen et al. (1983, p. 386) advise that perceived stress can be used as an "outcome variable..as function of personality..social support" investigation. The questions are easy to understand and designed for primary school level or above comprehension level. The instrument provides 10 items using a Likert scale of five points from (1) never to (5) very often. The positive items 4, 5, 7, and 8 are reverse scored and then scores summed. The questions for example are: 'In the last month how often have you been upset because of something that happened unexpectedly?' and 'In the last month, how often have you felt confident about your ability to handle your personal problems?'.

Multidimensional Scale of Perceived Social Support. This instrument was designed by Zimet, Dahlem, & Farley (1988, p. 30) to measure the subjectively perceived social support across three different subscales and has a Cronbach's α of between .85 and .91. Duru (2007, p. 446) found the internal reliability to be .88 and that this is a important factor to detect the sources of support. The questions are easy to answer and have a general application.

The subscales comprising the instrument are significant others, family and friends in the participants life. The instrument provides 12 items using a Likert scale of seven points from (1) very strongly disagree to (5) very strongly agree. The subscales are divided into four items per group. Significant others are 1,2,5,10; Family items are 3,4,8,11 and Friends items are 6,7,9,12. The questions are for example: 'There is a special person who is around when I am in need' and 'My family is willing to help me make decisions'.

Rosenberg Self-Esteem Scale. This instrument was developed to measure self esteem by Rosenberg (1965) to assess a person's self value through the measurement of positive and negative self esteem with a Cronbach's α of .77 according to Dobson et al. (cited in Robinson, Shaver & and Wrightsman, 1991, p. 122). The instrument provides 10 items using a Likert scale of four points from (1) strongly disagree to (4) strongly agree. The items 3, 5, 8, 9, and 10 are scored in reverse. The questions range from 'I take a positive attitude toward myself' to 'I wish I could have more respect for myself'.

Where scale instructions did not exist for low, medium or high score categories, scoring categories were created. 0-33% of the possible score was designated as low, 33-66% of the possible score was designated as medium and 66-100% was designated as high scoring in terms of scale scores.

Participants

The study had one hundred and twenty three participants in the online questionnaire. Twenty three responses were discarded due to incomplete questionnaires leaving one hundred in the study (n = 100). A convenience sample technique was used to collect customer service employee responses from customer service employees in multinationals in Dublin, Ireland and a snowball collection technique was also used through LinkedIn and Facebook networking sites targeting customer service employees. The participants included 60 (60%)

males and 40 (40%) females. 92% of the participants had an eCommerce occupation, 3% had a social networking occupation, 3% had an online search occupation whilst 1% had an online gambling occupation as outlined in table 1.

Table 1: *A descriptive statistical view of gender and occupational type.*

Gender	Frequency	Percent
Male	60	60.0
Female	40	40.0
Total	100	100.0

Occupation	Frequency	Percent
Ecommerce	92	92.0
Social Networking	3	3.0
Online Search	3	3.0
Online Gambling	1	1.0
Missing System	1	1.0
Total	100	100.0

Ethics

The survey was confidential, anonymous and informed consent was reached through the provision of clear instructions on the intro survey page and email to participants which included the right to withdraw at any stage. The survey link was sent to the researcher's internal network with full written authorisation from both the immediate line manager and local human resources. The survey link was also posted on networking sites which opened with the introduction informed consent page as outlined in the above materials section. The ethical board of DBS College reviewed the proposal and signed off whilst the researcher's supervisor reviewed the questionnaire and signed off as fulfilling ethical guidelines.

Design

The study employed a within subject, quantitative, correlational study design. There was a convenience sampling design used both in the researcher's multinational place of work and a snowball technique using social networking sites LinkedIn and Facebook to target customer service online employees. The predictor variables are scored from participants on the two subscales of the CEI-11 instrument, BFI-S, Multidimensional Scale of Perceived Social Support, Rosenberg self-esteem. The criterion variable scores came from the PSS-10 instrument. The design included the internal variables of personality, curiosity, self esteem with one external variable social support. Additional demographical data was also included in the investigations which were occupational type and gender.

Procedure

The permission to conduct the survey in the researcher's place of work was signed off by local human resources through email exchange and a meeting. No further permission was required. A link to the study's online survey created using www.surveymonkey.com was distributed on blind carbon copy via email to a distributional list both internally in the researcher's place of work and externally using social networking. A copy of the survey link was posted on social networking sites such as Facebook and Linkedin. Within the researcher's workplace written sign off was received from the human resource office to circulate to the researcher's internal network. The questionnaire was opened on December 8th 2012, sent to the distribution list and posted via social networking sites Linkedin and Facebook. A follow up reminder was issued in January 2013. An introduction section outlined the purpose and aims of the study whilst detailing the confidentially and right to withdraw at any stage. An outro page was included with links to relevant mental health sites and the researcher's email address.

Results

Descriptive Statistics

Descriptive statistics of mean and standard deviation were run, including conducting one tailed t-tests which explored gender differences within the customer service population in relation to the predictor variables. The original survey sample size was 123 (n = 123), however 23 of the sample were discarded due to incomplete survey responses. In the current study the remaining sample of 100 was used. Both samples were run and aligned generally.

The results of the independent samples t-test run on the predictor set of variables curiosity, perceived social support, big five personality traits and self esteem are displayed in Table 2. The p value was divided by two to provide one tailed test results. Overall the results of the t-test found no significant difference between male and female groups across any of the variables, which supports the null hypothesis partially in hypothesis four and fully in hypothesis five.

Table 2: *An Independent Samples T-test table displaying the differences between male and female groups for the predictor variables.*

	Variables	Gender	N	Mean	SD	*t*	*p*
1.	Curiosity	Male	60	36.02	6.65	-0.49	0.39
		Female	40	36.65	5.79		
2.	Neuroticism	Male	60	8.50	2.43	0.00	0.40
		Female	40	8.50	2.26		
3.	Extraversion	Male	60	10.93	1.99	-0.76	0.28
		Female	40	11.25	2.12		
4.	Openness	Male	60	10.78	2.10	-0.40	0.09
		Female	40	10.97	2.64		
5.	Agreeableness	Male	60	12.35	1.78	-1.18	0.32
		Female	40	12.78	1.73		
6.	Conscientiousness	Male	60	11.32	1.87	-1.05	0.25
		Female	40	11.75	2.23		
7.	Per. Social Support	Male	60	66.58	12.53	0.13	0.46
		Female	40	66.55	11.88		
8.	Self Esteem	Male	60	18.15	5.00	0.40	0.27
		Female	40	17.73	5.42		

Note: *p* significant at .05 level.

The results of the one tailed t-test found that curiosity within both male and female groups had similar mean levels and both groups scored high in curiosity levels, which is, seeking out change and absorbing change. Neuroticism results found that both male and female have similar mean levels of neuroticism and both groups were found to be at the moderate level of neuroticism.

Extraversion, openness, conscientiousness and agreeableness were found to be at similar mean level in both male and female groups and both groups were found to be at the high level across these variables. The categories for the variables were created due to the absence of category instruction in the chosen instrument available information.

A perceived social support test had a slightly higher mean for men, however both groups scored at a high level in this variable. Finally, self esteem showed a slightly higher mean for

men, however both groups had a moderate level of self esteem. The categories of low, medium and high scoring were created due to the absence of categories in the instrument instructions.

Inferential Statistics

The relationship between curiosity, perceived social support, self esteem and personality traits of the big five were explored using a Pearson's Correlation illustrated in Table 3. The assumptions of normality, linearity and homoscedasticity were held following a test and visual check. Linearity was also found to have an imperfect relationship, using a line graph, which reduced considerably when gender was removed from the data set.

Table 3: *Pearson's Correlation Coefficient between the predictor variables.*

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. CEStretch	-	-	-	-	-	-	-	-	-	-	-	-
2. CEEmbrace	.681**	-	-	-	-	-	-	-	-	-	-	-
3. Curiosity	.917**	.916**	-	-	-	-	-	-	-	-	-	-
4. Neuroticism	-.069	-.091	-.087	-	-	-	-	-	-	-	-	-
5. Extraversion	.318**	.525**	.460**	.011	-	-	-	-	-	-	-	-
6. Openness	.388**	.268**	.358**	.150	.077	-	-	-	-	-	-	-
7. Agreeableness	.158	.108	.145	-.260**	.297**	.089	-	-	-	-	-	-
8. Conscientiousness	.178*	.161	.185*	-.063	.176*	.125	.298**	-	-	-	-	-
9. Per Social Support	.505**	.484**	.539**	-.203*	.322**	.096	.355**	.114	-	-	-	-
10. Self Esteem	-.463**	-.488**	-.519**	.369**	-.426**	-.164	-.313**	-.304**	-.481**	-	-	-
11. Gender	.122	-.031	.050	.000	.076	.041	.118	.105	-.001	-.041	-	-
12. Occupation	.106	.050	.085	-.059	-.078	.120	-.074	-.003	-.077	-.112	-.050	-

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

The results show that curiosity has a low, positive and significant relationship to openness ($r = 0.35$, $p < .001$, 1-tailed). This indicates that as curiosity increases openness increases which partially rejects the null hypothesis in hypothesis one. Curiosity was also found to have a moderate, positive and significant relationship with extraversion ($r = 0.46$, $p < .001$, 1-tailed) and similarly with perceived social support ($r = 0.54$, $p < .001$, 1-tailed). Curiosity also had a moderate, negative and significant relationship with self esteem ($r = -0.51$, $p < .001$, 1-tailed). It was also found that curiosity had a low, positive and significant relationship with conscientiousness ($r = 0.19$, $p = 0.033$, 1-tailed). This indicates that as curiosity levels increase, higher levels of extraversion, perceived social support and conscientiousness are associated, whilst self esteem decreases.

Neuroticism was found to have no significant relationship with extraversion which partially supports the null hypothesis in hypothesis two. Neuroticism has a low, negative and significant relationship with agreeableness ($r = 0.26$, $p = .004$, 1-tailed) and perceived social support ($r = 0.20$, $p = .021$, 1-tailed). Neuroticism was also associated with a moderate, positive and significant relationship with self esteem ($r = 0.37$, $p < .001$, 1-tailed). This indicates that increased levels of neuroticism are associated with increased self esteem, lower agreeableness and low perceived social support.

Perceived social support was found to have a moderate, negative and significant relationship with self esteem ($r = 0.48$, $p < .001$, 1-tailed) which partially rejects the null hypothesis in hypothesis three. It was also found to have a low, negative and significant relationship to neuroticism ($r = 0.20$, $p = 0.021$, 2-tailed). Perceived social support was also associated with a moderate, positive and significant relationship with curiosity, extraversion and agreeableness. The results indicate that increased levels of perceived social support is associated with lower self esteem and neuroticism, whilst being related to higher levels of curiosity, extraversion and agreeableness.

The fourth hypothesis states that in this customer support population there would be a gender difference in relation to perception of stress and perceived social support and the fifth hypothesis states that there will be a gender association in relation to the predictor variables or criterion variable. There null hypothesis was accepted in both of these hypotheses as no significant findings in relation to gender and the criterion variable or predictor variables were identified.

Regression Modelling

A multiple linear enter regression was conducted to determine which of the predictor variables of curiosity, personality, perceived social support and self esteem predicted significantly the criterion variable perceived stress. The model was checked for multicollinearity and since the correlations were low to moderate this was not found to be present. Grimm and Yarnold (2003) highlight that multicollinearity checks are required to ensure that high correlations do not exists. Ne

A multiple regression enter model was conducted to identify which predictor variables significantly predicted perceived stress. The model was significantly related to perceived stress with 40.6 percent of the variance of perceived stress explained (Adjusted R Squared = .406, $F(11, 86) = 7.029$, $p < .001$).

Of the eleven predictors tested three were found to be significant predictors as outlined in Table 4. Neuroticism significantly predicted perceived stress scores with ($\beta = .50$, $p < .001$, 2-tailed). Conscientiousness explained a significant proportion of variance in scores ($\beta = -0.21$, $p = .018$, 2-tailed). Gender also explained variance in perceived stress scores ($\beta = .21$, $p = .010$, 2-tailed).

A second multiple regression was run to test curiosity combined and curiosity as part up of its two subscales embracing change and absorbing change. There was little difference noted between the two data sets.

Table 4: *A Stepwise multiple regression model of predictor variables: curiosity stretching, curiosity embracing, personality, perceived social support and self esteem was run on the criterion variable perceived stress as reported by participants.*

	R^2	Adj. R^2	B	*p*
Model	.473	.406		.00*
1. Neuroticism			.503	.00*
2. Extraversion			-.093	.36
3. Openness			.046	.61
4. Agreeableness			.172	.07
5. Conscientious			-.207	.02**
6. Per. Social Support			-.069	.51
7. CEStretch			-.175	.15
8. CEEmbrace			.086	.50
9. Self Esteem			.145	.19
10. Gender			.214	.01**
11. Occupation			-.010	.899

Note: *Correlation is significant at the .01 level, ** Correlation is significant at the .05 level.

Table 5: *A second Stepwise multiple regression model of predictor variables: curiosity (combining both subscales), personality, perceived social support and self esteem was run on the criterion variable perceived stress as reported by participants.*

	R^2	Adj. R^2	B	*p*
Model	.464	.403		.00*
1. *Neuroticism*			.496	.00*
2. Extraversion			-.054	.58
3. Openness			.034	.70
4. Agreeableness			.160	.09
5. *Conscientious*			-.207	.02**
6. Per. Social Support			-.076	.46
7. Curiosity			-.088	.442
8. Self Esteem			.148	.19
9. *Gender*			.193	.02**
10. Occupation			-.013	.873

Note: *Correlation is significant at the .01 level, **Correlation is significant at the .05 level

Analysis of Variance

A two-way between subjects ANOVA was conducted to investigate the impact of social support and gender on perceived stress. The two-way ANOVA showed the effects of social support across low, medium & high levels and gender interaction in relation to perceived stress were not significant ($F(1,94) = .018$ $p > .05$) thus accepting the null in hypothesis four.

Discussion

Aim

The main purpose of the current study was to examine to what extent perceived stress in participants with a customer service background individually differed in relation to internal variables of personality, curiosity, self-esteem and one external variable namely multidimensional perceived social support. The participants included both males and females which allowed for investigation into gender differences in relation to the predictor variables and criterion variable.

Overall Results

Overall the results showed, from a multiple regression, that of the 11 variables, 3 were significantly related to predicting the criterion variable, perceived stress. These 3 variables were conscientiousness, gender and neuroticism. These 3 variables did a large portion of the variance, explaining 40.6% of the variance combined together. The results show that as conscientiousness increases perceived stress decreases whilst as neuroticism increases perceived stress increases. These findings support the side of the debate, illustrated in the introduction, advocating a link from the big five set of trait constructs to stress. The established link between gender and stress is supported by the following finding. There were a number of low and moderate correlations partially supporting or not supporting the hypothesis and which are discussed in detail further on. Finally the results overall also revealed that no significant difference exists between male and female groups across the predictor variables. Both males and females scored high in levels of curiosity, openness, conscientiousness, extraversion, agreeableness and social support whilst both had moderate scores in neuroticism and self esteem. The instruments mean scores of both groups were

close with the exception for male self esteem which was marginally higher than females in the sample.

Hypotheses

The first hypothesis investigated whether having a high level of curiosity would be associated with higher openness trait scores and with lower perceived levels of stress. The results of a Pearson's correlation indicated that as curiosity increases openness increases, which partially rejects the null hypothesis in hypothesis one. The multiple regression model result found that curiosity was not significantly related in prediction of perceived stress levels, accepting the null hypothesis partially in hypothesis one. The link to openness supports previous research by Kashdan et al. (2009, p. 987) which has shown that curiosity is related to increased openness and reduced levels of distress. However the current study's finding that curiosity was not linked to perceived stress appears to contradict Kashdan et al., (2009, p. 987) previous research, which linked curiosity to reduced levels of distress.

Additional correlational analysis from the current study has shown that curiosity level increase is associated with lower levels of self esteem and higher levels of extraversion, perceived social support and conscientiousness. This key finding builds on studies such as Karwowski (2012, p. 584) who used the same curiosity instrument. This study identified strong evidence that curiosity is linked to extraversion, but little evidence of linkage to higher order traits such as conscientiousness, which the current study revealed.

This research therefore builds on an important new developing area in psychology as outlined in the introduction section. There is limited research on curiosity in relation to internal or external stress related variables and no research was found in a literature review in relation to perceived stress and customer service centres.

The second hypothesis of the study was to investigated whether those with high levels of extraversion and neuroticism would report higher levels of stress that those with lower levels. The results of a Pearson's correlation indicated that neuroticism was not significantly correlated with extraversion accepting the null hypothesis. The multiple regression model result found that neuroticism was significantly associated with prediction of perceived stress partially rejecting the null whilst extraversion was not significantly associated with predicting perceived stress partially accepting the null hypothesis.

A strength of this finding is that there is evidence provided supporting the trait-stress debate, in that personality big five traits are linked to perceived stress. Previous research from Hudek-Knežević et al. (2011, p. 538) found positive correlation between neuroticism, conscientiousness and job stress in nurses. Although not stated in any of the current study's hypothesis, conscientiousness was found to be a significant predictor of stress in the customer service population.

The third hypothesis of the study was to investigate whether those with higher perceived social support were associated with lower levels of stress and lower self esteem compared to those with lower levels. The results of a Pearson's correlation found that social support was positively correlated to self esteem rejecting the null partially. The multiple regression model result found that perceived social support was not a significant predictor of perceived stress partially accepting the null in this case.

This hypothesis generally states that those with high self esteem would have low social support. The hypothesis was backed by an important study by Vohs & Heatherton (2001, p.1103-1107) who found that after a stressor threat those with high self esteem were self buffering through independent thinking reflected in small social networks due to the

demanding nature of high self esteem people who required really contextual feedback to engage. This is compared to those with lower self esteem who were found after a stess threat to reach out not isolate into their large social network. There are limited other studies in the literature review that build upon this likeability model.

The findings showed that the population scored high in social support and moderate to high in self esteem in the instrument. This does suggest that the participants targeted in the study which were generally multinational customer service employees have varied and strong multidimensional social support whilst also having moderate to high self esteem levels. The current studies finding therefore challenges Vohs & Heatherton (2001, p.1103-1107) who advise high self esteem group have low social support network. Of the multinational employees targeted some of their companies in Dublin have been recently voted best places to work in Ireland, this is a national recognition award and may be a contributory factor.

The fourth hypothesis of the study was to investigate whether those with low social support levels would be associated with higher levels of perceived stress and whether males would score higher levels of stress compared to females. The levels of perceived social support across males and females were similarly high. The results of the two-way univariate anova found that the social support and gender interaction together were not significant predictors of perceived stress levels.

The fifth hypothesis investigated gender and its relationship with the criterion and predictor variables. The results found that gender was not associated with any of the predictor variables, however gender was found to be a significant predictor of the criterion variable perceived stress using a multiple regression. This result is consistent and adds support to previous studies which found significant gender influence and differences in relation to stress. A study by (McIntosh et al. 1994, p.1) within the psychosocial perspective research

area found that females experienced more stress if social support was low compared to men in the legal profession. This was identified by McIntosh et al. (1994, p.1) as supporting the buffering gender difference effect. According to Berkman and Syme (1986, p. 806) men were found to have more immunity to stress if married compared to women who had greater immunity if they were high in social support. They also found that women were more at risk without social support compared to men. Hedbory et al. (2011, p. 1) found that females were more prone generally to high stress than men.

A literature review by Krause (1987, p. 757) has discovered erratic findings in stress research in this area especially related to levels of stress difference between men and women, particularly around social support. Cohen and Wills (1985, *para 3*) in a literature review found both evidence confirming and denying the buffering effect of social support. The current study has identified through a literature review that the erratic findings may well be driven by the societal popular focus on stereotypical gender related occupations. These types of gender isolating research tends to occur in for example military, legal, teaching and social work occupations which were located in a extensive search of PsycINFO and PsycArticles databases in the course of the current study.

Limitations

The limitation of the current study arose from the finding that gender was not found to be related to any of the predictor criterion curiosity, personality traits, self esteem and social support. This suggests that there are other factors at work for example organisational commitment and 'state of mind', that is, whether someone is problem or emotional focused which will be discussed in the future research section.

A further limitation of the study identified was that the instrument measuring the big 5 was the at the threshold levels of reliability. Future research could utilised a stronger big 5

instrument in terms of reliability. A limitation of the study was that the sampling was not stratified by nationality which could be a confounding variable as multinationals and customer contact centres tend to have a high variety of nationalities, for example eBay has over 50 nationalities represented.

A measurement potential limitation is identified using the short version of the Big Five by Gagne & Hancock (cited by Lang et al., 2011, p. 550) advise that the three item per constructs represent the minimum level for identification of personality trait constructs although the validity is outlined as strong. Lang et al., 2011 advised the short version was design for large scale national surveys for improved efficiency deployment and the limitation is that the measure system may not capture the "breadth and facets of the big five constructs.. fully represented" (Lang et al., 2011, p. 550). This is discussed further in future research.

Future Research

Future research can build upon this current study in terms of personality trait and curiosity interaction with stress (change embracing and stretching) in the multinational work environment. This industry experiences rapid, consistent change compared to other industries therefore is an important facet to explore further. In multinational companies for example in eBay Dublin there is over 40 nationalities in a medium sized organisation, therefore any research in the future could take a cross cultural aspect more into account.

Future research can build upon gender research in the occupational environment. Bellman, Forster, Still and Cooper (2003, p. 45) study found gender differences in relation to stress and that social support interaction for men is related to organisational commitment whilst women is related to state of mind. This study provides some additional variables to challenge and to add into a review with potentially locus of control, manager versus employee levels of stress

in relation to gender and test-retest designs to get a picture over time of stress and avoid life event bias.

Future research could encapsulate in a more structured way the path of curiosity and stress to psychological well being, for example using the variables in scope in this research and applying a pathway analysis statistical technique. This could be applied across gender in a range of occupational areas which would be beneficial to advance the knowledge in motivations underlying perceived threat levels.

Future research in relation to the big five could utilise a higher item instrument to ensure a higher reliability and validity compared to the short version. The highlighted in reliability is outlined in the limitations section with reference to Lang et al., 2011 who provided commentary and literature review in relation to the short version 15 item inventory of the big five.

Future research in relation to social support could investigate further the isolative and reach out nature of threat response of the individual which may provide further insight into the homeostasis balance model particularly for multinational environments for people managers, individual contributors and frontline staff.

There is future research potential in customer service centres in relation to whether individual centric or team centric approach can be shaped to positively influence perceived stress and support provision of guidance for future stress intervention design or approach. Jie, Norvilitis and Ingersol (2007, p.131) found that idiographic group tend to focus more on their own goals and needs rather than collectivist groups and that this is related to personality trait, for example extraversion. Ost and Breitholz's (as cited by Cooper 2002, p. 240) research identified that personality trait extraversion and neuroticism can be shaped using clinical psychological procedures using relaxation and cognitive behavioural technique. This finding

indicates that positive intervention can be possible to support trait shaping or enhancement and enable a better management of a stressful interaction.

Conclusion

The current study has shown that trait personality, curiosity and gender are important facets in the study of stress and also in relation to the customer service employee population. Over 40% of the variance in perceived stress was found to be predicted by three variables, namely conscientiousness, neuroticism and gender. This result supports the side of the debate, outlined in the introduction and discussion sections, which states that personality trait is associated with stress and the perception of stress.

The motivation to seek out new experience and then embrace that change, as measured by curiosity instrument, was found not to directly predict perceived stress. However curiosity was found to be positively correlated with the trait conscientiousness which was a significant predictor of perceived stress. This indicates an indirect role of curiosity in the perception of stress and is an important variable in future stress research. Curiosity was also positively correlated with other traits including openness to new experience, extraversion and the single external variable used it the current study, perceived social support. This result adds new ground in the study of curiosity, in relation to perceived stress and social support as there is limited research available. It also challenges previous research which links curiosity to distress, of which stress is a component, and supports previous research that curiosity has a relationship with a number of personality traits.

The result from the current study also shows trait neuroticism and conscientiousness are predictive of perceived stress. This supports previous research that as neuroticism increases, stress increases. Extraversion was not found to be associated with perceived stress which

supports the debate that extraversion may not have a buffer effect at least in this population targeted.

Social support at low, medium or high levels was found to be positively associated with self esteem. This contradicts previous research challenging the interpretation of social support in relation to self esteem as being positively correlated and support a positive correlated link. Interestingly, the customer service population overall scored high in social support and self esteem in general.

Gender and social support together was not found to be related to perceived stress and gender was not found to be associated with any of the predictor variables indicating other variables at work as outlined in the discussion section. However, as mentioned above gender was discovered to be a significant predictor of perceived stress.

To support interventions in relation to trait and stress cognitive behavioural techniques, for example, such as motivational training have been successful in shaping trait and behaviour. This technique provides a set of holistic operating guidelines to improve the stress-environment interaction both in the workplace and the home however a key challenge to embed this culture into the operating rhythm of a family or company unit.

The literature review reveals a research gap in relation to perceived stress and the online customer service area. This is relevant since in Ireland multinational companies are a high investment and growth area of employment. Globally this industry is growing rapidly in terms of mobile interaction with daily commodity, business and social transaction.

The findings from the study using the customer service centre population should support stress management techniques review. The results indicate that gender and trait individual

difference in stress management are important considerations for the development of any stress management technique, programme or early warning system intervention in the future.

References

Anafarta, N. (2011). The Relationship between Work-Family Conflict and Job Satisfaction: A Structural Equation Modeling (SEM) Approach. *International Journal Of Business & Management*, *6*(4), 168-177. doi:10.5539/ijbm.v6n4p168 Retrieved Apr 1 2013, from Business Source Complete.

Annual Scientific Meeting of the International Society of Political Psychology Paper retrieved from the internet source: http://www.sowi.hu-berlin.de/lehrbereiche/empisoz/forschung/isjp/publication/ISJP_WP_152engl/ Gerlitz & Schupp. 2005, retrieved from internet search, 12th March 2013.

Arslan, C. (2009). Anger, Self-esteem, and perceived social support in adolescence social Behavior & Personality: An International Journal, 37(4), 555-564. Retrieved Jan 10 2013, from PsycINFO database.

Baruch, G., Bierner, L., Barnett Rosalind, C., Baruch, G., & Barnett, R. (1987). Women and Gender in Research on work and family stress. *American Psychologist*, 42(2), 130-136.

Baum, A. (1990). Stress, intrusive imagery, and chronic distress. *Health Psychology*, *9*(6), 653-675. doi:10.1037/0278-6133.9.6.653. Retrieved Jan 8 2013 from PsycARTICLES

Bellman, S., Forster, N., Still, L., & Cooper, C. L. (2003). Gender differences in the use of social support as a moderator of occupational stress. *Stress & Health: Journal Of The International Society For The Investigation Of Stress*, *19*(1), 45-58. doi:10.1002/smi.954, Retrieved March 28 2013, from Academic Search Complete database.

Berkman, L. F., & Syme, S. (1979). Social networks, host resistance, and mortality: A nine-year follow-up study of Almeda County residents. *American Journal Of Epidemiology*, *109*(2), 186-204.

Berkman, L., Seeman, T., (1986, *ND*). The influence of social relationships on aging and the development of cardiovascular disease - a review. Retrieved from http://pmj.bmj.com/content/62/730/805.full.pdf

Clarke, Jim (2001, ND) Under pressure in the workplace, Retrieved from: http://www.irishhealth.com/article.html?id=1241

Cohen, Sheldon, "Social relationships and health: Berkman & Syme [1979]" (2001). *Department of Psychology.* Paper244.
Retrieved from: http://repository.cmu.edu/psychology/244

Cohen, S., Tyrrell, D. A., & Smith, A. P. (1993). Negative life events, perceived stress, negative affect, and susceptibility to the common cold. *Journal Of Personality And*

Social Psychology,*64*(1), 131-140. doi:10.1037/0022-3514.64.1.131 Retrieved Jan 8 2013, from Academic Search Complete database.

Cohen, S., Kessler, R.C., & Gordon, L. (1997). Measuring stress: A guide for health and Social Scientists. New York, NY US: Oxford University Press. Retrieved Feb 24, 2013, from PsycINFO.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A Global Measure of Perceived Stress. *Journal Of Health & Social Behavior*, *24*(4), 385-396. retrieved from psycINFO, 12th March 2013.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, *98*(2), 310-357. doi:10.1037/0033-2909.98.2.310 Retrieved Jan 25 2013, from PsycARTICLES database.

Conlon, D (2005, August 4) Stress a key cause of work absence Retrieved from http://www.irishhealth.com/article.html?id=7967

Cooper, C., (2002). *Individual Differences* (2nd ed.). Hodder Arnold.

Coyne, J. C., & Gottlieb, B. H. (1996). The Mismeasure of Coping by Checklist. *Journal Of Personality*,*64*(4), 959-991. doi:10.1111/1467-6494.ep9706272193 Retrieved Feb 25, 2013, from PsycINFO

Duru, E. (2007). Re-examination of the psychometric characteristics of the multidimensional scale of perceived social support among Turkish university students, *Social Behavior & Personality: An International Journal*, *35*(4), 443-451. Retrieved Mar 28, 2013, from Academic Search Complete

Friedlander, L. J., Reid, G. J., Shupak, N., & Cribbie, R. (2007). Social support, self-esteem, and stress as predictors of adjustment to university among first-year undergraduates. *Journal Of College Student Development*, *48*(3), 259-274. doi:10.1353/csd.2007.0024 Retrieved Jan 25 2013, from PsycINFO database

Furnham, A., Monsen, J., & Ahmetoglu, G. (2009). Typical intellectual engagement, Big Five personality traits, approaches to learning and cognitive ability predictors of academic performance. *British Journal Of Educational Psychology*, *79*(4), 769-782. retrieved from psycINFO, 12th March 2013 and Mar 29th 2013.

Garcia-Banda, G., Servera, M., Chellew, K., Meisel, V., Fornes, J., Cardo, E., & ... Doctor, R. M. (2011). Prosocial Personality Traits and Adaptation To Stress. Social Behavior & Personality: An International Journal, 39(10), 1337-1348. doi:10.2224/sbp.2011.39.10.1337 Retrieved Nov 25 2012, from PsycINFO database.

Grant, S., & Langan-Fox, J. (2007). Personality and the occupational stressor-strain relationship: The role of the Big Five. Journal Of Occupational Health Psychology, 12(1), 20-33. doi:10.1037/1076-8998.12.1.20 Retrieved Nov 25 2012, from PsycINFO database.

Grimm, L., & Yarnold P. (2003). Reading and Understanding Multivariate Statistics (8th ed.) Washington: APA.

Gross, R., *Themes Issues and debates in Psychology*, (3rd ed.). Hodder Education.

Hedborg, K., Anderberg, U., & Muhr, C. (2011). Stress in migraine: personality-dependent vulnerability, life events, and gender are of significance. Upsala Journal Of Medical Sciences, 116(3), 187-199. doi:10.3109/03009734.2011.573883 Retrieved Jan 8 2013, from PsycINFO database.

Hewstone M., Wolfgang S., Klaus Jonas, (2011) *Introduction to Social Psychology, A European Perspective*, (4th ed.). BPS Blackwell.

Houston, B., Cates, D., & Kelly, K. (1992). Job stress, psychosocial strain, and physical health problems in women employed full-time outside the home and homemakers. *Women & Health*, *19*(1), 1-26. Retrieved Jan 15 2013, from PsycINFO database.

Hudek-Knežević, J., Kalebić Maglica, B., & Krapić, N. (2011). Personality, organizational s tress, and attitudes toward work as prospective predictors of professional burnout in hospital nurses. Croatian Medical Journal, 52(4), 538-549. doi:10.3325/cmj.2011.52.538 Retrieved Nov 25 2012, from PsycINFO database.

Jie, Z., Norvilitis, J. M., & Ingersoll, T. (2007). Idiocentrism, Allocentrism, Psychological Well Being and Suicidal Ideation: A Cross Cultural Study. Omega: Journal Of Death & Dying, 55(2), 131-144. doi:10.2190/OM.55.2.c Retrieved Nov 25 2012, from PsycINFO database.

Karwowski, M. (2012). Did Curiosity Kill the Cat? Relationship Between Trait Curiosity, Creative Self- Efficacy and Creative Personal Identity.*Europe's Journal Of Psychology*, *8*(4), 547-558. doi:10.5964/ejop.v8i4.513 Retrieved from Europe's Journal of Psychology March 24 2013

Kashdan, T. B., & Silvia, P. J. (2009). Curiosity and interest: The benefits of thriving on novelty and challenge. In S. J. Lopez, C. R. Snyder (Eds.) , *Oxford handbook of positive psychology (2nd ed.)* (pp. 367-374). New York, NY US: Oxford University Press. Retrieved March 25, 2013, from PsycINFO

Kashdan, T. B., Gallagher, M. W., Silvia, P. J., Winterstein, B. P., Breen, W. E., Terhar, D., & Steger, M. F. (2009). The curiosity and exploration inventory-II: Development, factor structure, and psychometrics, Department of Psychology, MS 3F5, George Mason University, Fairfax, VA 22030, United States. Retrieved Jan 25 2013, from. http://psychfaculty.gmu.edu/kashdan/publications/curiosity_CEI_II_jrp.pdf via http://www.ppc.sas.upenn.edu/ppquestionnaires.htm#CEI 13th and 25th March 2013.

Kashdan, T. B., Gallagher, M. W., Silvia, P. J., Winterstein, B. P., Breen, W. E., Terhar, D., & Steger, M. F. (2009). The curiosity and exploration inventory-II: Development, factor structure, and psychometrics. *Journal Of Research In Personality*, *43*(6), 987-998. doi:10.1016/j.jrp.2009.04.011, retrieved from psycINFO, 12th March 2013.

Krause, N. (2009). Church-Based Social Relationships and Change in Self-Esteem Over Time. Journal For The Scientific Study Of Religion, 48(4), 756-773. doi:10.1111/j.1468-5906.2009.01477. Retrieved Jan 10 2013, from PsycINFO database.

Kyriacou, C. (2001). Teacher Stress: directions for future research. *Educationa l Review*, *53*(1), 27-35. doi:10.1080/00131910120033628 Retrieved Feb 26, 2013, from PsycINFO

Lang, F. R., John, D., Lüdtke, O., Schupp, J., & Wagner, G. G. (2011). Short assessment of the Big Five: Robust across survey methods except telephone interviewing. *Behavior Research Methods*, *43*(2), 548-567. doi:10.3758/s13428-011-0066-z; Retrieved from psycINFO, 12th March 2013 and on March 28 from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3098347/#CR25

Lazarus, R. S., & Folkman, S. (1987). Transactional theory and research on emotions and coping. *European Journal Of Personality*, *1*(3), 141-169.

LeBlanc, J. J., & Ducharme, M. B. (2005). Influence of personality traits on plasma levels of cortisol and cholesterol. *Physiology & Behavior*, *84*(5), 677-680. doi:10.1016/j.physbeh.2005.02.020 Retrieved January 20, 2013, from PsycINFO database.

LeBlanc, J. J., Ducharme, M. B., & Thompson, M. M. (2004). Study on the correlation of the autonomic nervous system responses to a stressor of high discomfort with personality traits.*Physiology & Behavior*, *82*(4), 647-652. doi:10.1016/j.physbeh.2004.05.014 Retrieved Nov 25 2012, from Academic Search Complete

Lipschitz-Elhawi, R., & Itzhaky, H. (2005). Social Support, Mastery, Self-Esteem and Individual Adjustment among At-Risk Youth. Child & Youth Care Forum, 34(5), 329-346. doi:10.1007/s10566-005-5906-5 Retrieved Jan 12 2013, from PsycINFO database.

Marsh, H. W., Trautwein, U., Lüdtke, O., & Köller, O. (2008). Social comparison and big-fish-little-pond effects on self-concept and other self-belief constructs: Role of generalized and specific others. *Journal Of Educational Psychology*, *100*(3), 510-524. doi:10.1037/0022-0663.100.3.510 Retrieved Jan 12 2013, from PsycINFO database.

Mertz, E. (2007). The language of Law School learning to ''Think like a Lawyer'', New York, USA, Oxford University Press Inc.

McIntosh, D. N., Keywell, J., Reifman, A., & Ellsworth, P. C. (1994). Stress and health in first-year law students: Women fare worse. *Journal Of Applied Social Psychology*, *24*(16), 1474-1499. doi:10.1111/j.1559-1816.1994.tb01559. Retrieved Jan 8 2013, from PsycINFO database.

Ostrowski, T. (2009). Self-esteem and social support in the occupational stress-subjective health relationship among medical professionals. *Polish Psychological Bulletin*, *40*(1), 13-19. doi:10.2478/s10059-009- 0003-5 Retrieved Jan 25 2013, from PsycINFO database.

Ostrowski, T. (2009). Self-esteem and social support in the occupational stress-subjective health relationship among medical professionals. *Polish Psychological Bulletin*.

Retrieved from http://www.degruyter.com/view/j/ppb.2009.40.issue- 1/s10059-009-0003-5/s10059-009-0003-5.xml

Pervin A.L, Cervone, D, & John, P.O, K.-L. (2005). *Personality theory and research* (9th ed.). John Wiley & Sons, Inc.

Repetti, R. L. (1993). Short-term effects of occupational stressors on daily mood and health complaints. *Health Psychology*, *12*(2), 125-131. doi:10.1037/0278-6133.12.2.125 Retrieved Jan 8 2013, from PsycARTICLES database.

Rice, H. V. (2000). Handbook of stress, coping, and Health: Implications for Nursing Research, Theory and Practice. In Lazarus, R.S. (1966). *Evolution of a Model of Stress, Coping and Discrete Emotions* (p. 195-260): Retrieved Feb 24 2013, P 197, from http://books.google.ie/books?id=pb86KTtGXoUC&pg=PA262&dq=Lazarus,+R.S.+(1966).+Psychological+Stress+and+the+Coping+Process.+New+York:+McGraw-Hill&hl=en&sa=X&ei=lHEmUcSiDcnOtQbQn4GgBQ&redir_esc=y#v=onepage&q=Lazarus%2C%20R.S.%20(1966).%20Psychological%20Stress%20and%20the%20Coping%20Process.%20New%20York%3A%20McGraw-Hill&f=false

Robinson, J.P., Shaver, P.R. and Wrightsman, L.s. (1991) *Measures of personality and social psychological attitudes: volume 1 in measures of social psychological attitudes series*. LONDON: Academic Press. P. 120. Retrieved from google books March 28 2013: http://books.google.ie/books?id=tq8j8jNg7moC&pg=PA120&dq=Measures+of+personality+and+social+psychological+attitudes+rosenberg&hl=en&sa=X&ei=37FVUZ6eGcObtQaN2AE&ved=0CC0QuwUwAA#v=onepage&q=Measures%20of%20personality%20and%20social%20psychological%20attitudes%20rosenberg&f=false

Rosenberg Self-Esteem Scale (Rosenberg, 1965) http://www.yorku.ca/rokada/psyctest/rosenbrg.pdf , retrieved from the internet, 12th March 2013.

Sauter, S. L., Murphy, L. R., & Hurrell, J. J. (1990). Prevention of work-related psychological disorders: A national strategy proposed by the National Institute for Occupational Safety and Health (NIOSH). *American Psychologist*, *45*(10), 1146-1158. doi:10.1037/0003-066X.45.10.114 Retrieved Feb 24, 2013, from PsycARTICLES

Specht, J., Egloff, B., & Schmukle, S. C. (2012, May 18). Examining Mechanisms of Personality Maturation: The Impact of Life Satisfaction on the Development of the Big Five Personality Traits. Social Psychological and Personality Science. Advance online publication. doi: 10.1177/1948550612448197

Taylor, S., (2009). *Health Psychology*. Berkshire, England: McGraw-Hill.

Ukeh M, Aloh P, Kwahar N. Stress and gender in relation to self-esteem of university business students. Gender & Behaviour [serial online]. 2011;9(1):3752-3764. Doi:10.4314/gab.v9i1.67471. Retrieved March 28 2013, from PsycINFO database.

Vohs, K. D., & Heatherton, T. F. (2001). Self-Esteem and Threats to Self: Implications for Self-Construals and Interpersonal Perceptions. Journal Of Personality & Social Psychology, 81(6), 1103-1118. doi:10.1037//0022-3514.81.6.1103 Retrieved Jan 10 2013, from PsycINFO database.

Wang, S., Repetti, R. L., & Campos, B. (2011). Job stress and family social behavior: The moderating role of neuroticism. *Journal Of Occupational Health Psychology*, *16*(4), 441-456. doi:10.1037/a0025100 Retrieved January 20, 2013, from PsycINFO database.

WHO Organisation, Work-related stress: scientific evidence-base or risk factors, prevention and costs Retrieved from www.who.int/occupational_health/topics/brunpres0307.pdf

Williams, K. L., & Galliher, R. V. (2006). Predicting depression and self-esteem from social connectedness, support, and competence. Journal Of Social And Clinical Psychology, 25(8), 855-874. doi:10.1521/jscp.2006.25.8.855 Retrieved Jan 8 2013, from PsycINFO database.

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal Of Personality Assessment*, *52*(1), 30. retrieved from psycINFO, 12th March 2013.

Appendix

Appendix 1. Online Survey Cover Page for Participants

Psychology Research Study: To research individual differences of curiosity, personality, social support and self esteem in relation to stress perception.

This survey is part of a psychology degree research study. The questionnaire takes approx 10 mins to complete. The questionnaire is 100% anonymous, confidential and you have the right to withdraw at any stage.

Research Aims:

- To explore new areas of research in Curiosity (Seeking out change/Absorbing Change)
- and Perception of Stress which is linked to Motivation.
- To build upon existing research in relation to social support and personality.
- To contribute to the understanding of perceived stress and support future intervention areas of focus.

To agree to take the survey please click on next to start. At the end of each page is a next button until you see a Done button to complete the survey.

You will have the option of selecting one answer per question. Ask yourself each question and select a response using your mouse and clicking to place a tick under one of the answer options.

Tip: Don't overthink it just answer it.

Appendix 2. Questionnaire

Section A Demographical Variables

Occupation	**eCommerce**	**Social Networking**	**Online Search**	**Online Gambling**
What type of customer service centre do you work for?	**Checkbox**	**Checkbox**	**Checkbox**	**Checkbox**
If other occupation	**Free-text Box**			

Section B

Curiosity Section

		Very Slightly or Not At All	**A Little**	**Moderately**	**Quite a Bit**	**Extremely**
1.	I actively seek as much information as I can in new situations.	**1**	**2**	**3**	**4**	**5**
2.	I am the type of person who really enjoys the uncertainty of everyday life.	**1**	**2**	**3**	**4**	**5**
3.	I am at my best when doing something that is complex or challenging.	**1**	**2**	**3**	**4**	**5**
4.	Everywhere I go, I am out looking for new things or experiences.	**1**	**2**	**3**	**4**	**5**
5.	I view challenging situations as an opportunity to grow and learn.	**1**	**2**	**3**	**4**	**5**
6.	I like to do things that are a little frightening.	**1**	**2**	**3**	**4**	**5**
7.	I am always looking for experiences that challenge how I think about myself and the world.	**1**	**2**	**3**	**4**	**5**
8.	I prefer jobs that are excitingly unpredictable.	**1**	**2**	**3**	**4**	**5**
9.	I frequently seek out opportunities to challenge myself and grow as a person.	**1**	**2**	**3**	**4**	**5**
10.	I am the kind of person who embraces unfamiliar people, events, and places.	**1**	**2**	**3**	**4**	**5**

Section C

Personality Section

		Strongly disagree	disagree	neither	agree	strongly agree
1.	I try to be courteous to everyone I meet	**1**	**2**	**3**	**4**	**5**
2.	I'm pretty good about pacing myself so as to get things done on time	**1**	**2**	**3**	**4**	**5**
3.	When I'm under a great deal of stress, sometimes I feel like I'm going to pieces	**1**	**2**	**3**	**4**	**5**
4.	I am intrigued by the patterns I find in art and nature	**1**	**2**	**3**	**4**	**5**
5.	I really enjoy talking to people	**1**	**2**	**3**	**4**	**5**
6.	I often feel tense and jittery	**1**	**2**	**3**	**4**	**5**
7.	I like to be where the action is	**1**	**2**	**3**	**4**	**5**
8.	I often feel as if I'm bursting with energy	**1**	**2**	**3**	**4**	**5**
9.	I often get angry at the way people treat me	**1**	**2**	**3**	**4**	**5**
10.	Some people think of me as cold and calculating	**1**	**2**	**3**	**4**	**5**
11.	I have little interest in speculating on the nature of the universe or the human condition	**1**	**2**	**3**	**4**	**5**
12.	I generally try to be thoughtful and considerate	**1**	**2**	**3**	**4**	**5**
13.	I never seem to be able to get organised	**1**	**2**	**3**	**4**	**5**
14.	I often enjoy playing with theories or abstract ideas	**1**	**2**	**3**	**4**	**5**
15.	I strive for excellence in everything I do	**1**	**2**	**3**	**4**	**5**

Section D

Perception of Stress Section

		Never	Almost Never	Sometimes	Fairly Often	Very Often
1.	In the last month, how often have you been upset because of something that happened unexpectedly?	**1**	**2**	**3**	**4**	**5**
2.	In the last month, how often have you felt that you were unable to control the important things in your life?	**1**	**2**	**3**	**4**	**5**
3.	In the last month, how often have you felt nervous and "stressed"?	**1**	**2**	**3**	**4**	**5**
4.	In the last month, how often have you felt confident about your ability to handle your personal problems?	**1**	**2**	**3**	**4**	**5**
5.	In the last month, how often have you felt that things were going your way?	**1**	**2**	**3**	**4**	**5**
6.	In the last month, how often have you found that you could not cope with all the things that you had to do?	**1**	**2**	**3**	**4**	**5**
7.	In the last month, how often have you been able to control irritations in your life?	**1**	**2**	**3**	**4**	**5**
8.	In the last month, how often have you felt that you were on top of things?	**1**	**2**	**3**	**4**	**5**
9.	In the last month, how often have you been angered because of things that were outside of your control?	**1**	**2**	**3**	**4**	**5**
10.	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	**1**	**2**	**3**	**4**	**5**

Section E

Perception of Social Support Section

		Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutral	Mildly Agree	Strongly Agree	Very Strongly Agree
1.	There is a special person who is around when I am in need.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
2.	There is a special person with whom I can share my joys and sorrows.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
3.	My family really tries to help me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
4.	I get the emotional help and support I need from my family.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
5.	I have a special person who is a real source of comfort to me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
6.	My friends really try to help me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
7.	I can count on my friends when things go wrong.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
8.	I can talk about my problems with my family.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
9.	I have friends with whom I can share my joys and sorrows.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
10.	There is a special person in my life who cares about my feelings.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
11.	My family is willing to help me make decisions.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
12.	I can talk about my problems with my friends.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section F

Self Esteem Section

		Strongly Agree	Agree	Disagree	Strongly disagree
1.	I feel that I am a person of worth, at least on an equal basis with others.	**1**	**2**	**4**	**5**
2.	I feel that I have a number of good qualities.	**1**	**2**	**4**	**5**
3.	All in all, I am inclined to think I am a failure.	**1**	**2**	**4**	**5**
4.	I am able to do things as well as most other people.	**1**	**2**	**4**	**5**
5.	I feel I do not have much to be proud of.	**1**	**2**	**4**	**5**
6.	I take a positive attitude toward myself.	**1**	**2**	**4**	**5**
7.	On the whole, I am satisfied with myself.	**1**	**2**	**4**	**5**
8.	I wish I could have more respect for myself.	**1**	**2**	**4**	**5**
9.	I certainly feel useless at times.	**1**	**2**	**4**	**5**
10.	At times I think I am no good at all.	**1**	**2**	**4**	**5**

Appendix 3. Online Survey Outro Page for Participants

Thank you for completing the Survey.

Related Informational Websites:

- http://www.yourmentalhealth.ie/
- http://www.leanonme.net/ie/
- http://www.reachout.com/
- http://ie.reachout.com/inform-yourself/depression/
- http://www.samaritans.org/your-community/samaritans-work-ireland/samaritans-branches-ireland

Researcher Email Address [redacted]