Traits of Personality & Emotional Intelligence;

Is there a General Factor of Personality?

Final Year Project

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Abstract

Participants for this study were collected from the general public (N = 269). This piece integrates current research that suggests the presence of a Higher-order latent factor to personality based on five-factor models of personality in which explains a degree of variance across low-order personality traits. Along with this, is the research done on personality trait theory and its high correlation with trait emotional intelligence. The question still remained unanswered is what's the best way to measure personality? This study aims to look at traits of personality based on the Eysenckian model consisting of three personality traits known as the 'PEN' model and investigate whether there is a significant presence of a higher-order latent factor based on the EPQ-RS whilst running correlational analysis on personality with emotional intelligence. Provided in this study is a step by step approach to replicate this research and recommendations to make along with the further acknowledgment of negative personality traits being as equally important to research as common positive personality traits. This study concludes with support for the research of Emotional intelligence and the link with Neuroticism and a legacy to further question the properties of the EPQ-RS scales.

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Declaration

Submission of Thesis and Dissertation

National College of Ireland

Research Students Declaration Form

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Name: Sophie Doyle

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Material submitted for award

- I declare that the work has been composed by myself.
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Introduction

1.1 History of Personality

Over time, the concept of personality has been developed from as far back as the Ancient Greek philosophers like Aristotle, Plato and Hippocrates. As a result of their inputs, it has allowed us to recognise that each person possesses individual differences. Being evolutionary adapted and changed to fit the ever changing society, with theories providing initial thoughts have been taken and developed further into what we now identify as the theory of personality (Saklofske, Reynolds & Schwean, 2013). Over recent decades, developments and progression in Personality have been influenced by a variety of approaches aiming to objectively define what personality is. Like any research in psychology, some approaches complement others, some contradict and some are developed as an 'all inclusive' manner that looks at all different aspects i.e. the genetic make-up of individuals, as well as their social interactions, experiences and behaviour, level of cognition, and thought processes.

In the early 1900's, Sigmund Freud was one of the first to develop theories surrounding an individual's Personality. Freud developed the Psychoanalytic Approach to personality (Nevid, 2011) in which was implemented in therapy sessions with his patients. The Psychoanalytic approach was Freud's attempt to suggest that individual's experience internal conflict between their conscious and unconscious thoughts and that this explains why individuals behave in the way that we do. The idea that individual's inner conflict they experience was a result of the three aspects of a person Freud labelled as the 'Id', the 'Ego', and the 'Super Ego'. The strength of these anomalies determined what Freud believed to make up individual's Personality. Majority of Freud's theories behind this approach are based around abnormalities that patients experienced, rather than individual's who did not seek help. Freud's approach to Personality is still used today in therapy, coined with the tem "psychoanalysis".

As the years passed theories began to mould into a different approach of Personality derived from Maslow's (1951) theories of individuals urge to fulfil their desires and needs, theorists such as Carl Rogers (1961) had created a new way of looking a personality known as the *Humanistic Approach*. This approach's aim was to explain individual's experiences and free will in conjunction with Maslow's theory of self-actualisation (1951) with how individual's behaviours are motivated. Similar to Freud's theory, it takes a person-centred approach (Nicholas, 2009). Both approaches being centred on internal processes in which suggested there to be a level of thought processes and perception involved. This integration of internal processes led to the development of another approach known as the Cognitive Approach with key theorists like George Kelly and Albert Ellis pioneering the research (Burger, 2010) look at the cognitions and personality with acknowledgement of the ancient Greek Philosopher's and their theories, like Aristotle for example who believed that individuals possessed a human psyche which allowed for the ability to think and rationalise (Mayes & Williams, 2013).

Up until this point, very little emphasis would have been placed on the idea of personality being of great importance. Theories of personalities were perceived of being a vague and unreliable concept, with no scientific evidence supporting this phenomenon. Until case studies began as a result of accidents that appeared to change a person had gained interest. By linking these case studies, this then allowed for theories of personality to become more of an established phenomenon by the changes that people had encountered. Cases like Phineas Gage (Harlow, 1948: Harlow, 1968) had been reported to have found changes in aspects of thought and behaviour. Particularly personality changes had spiked great interest. The attempt was then made to find a more bio-psychological basis to personality with added support of personality being an actual construct. In the case of Phineas Gage, it was as a result of a cast iron rod penetrating the skull and frontal lobe that altered his personality (Schildkrout, 2011). This case along with others gave rise to the *Biological Approach* to personality (Wickens, 2000). A lot of personality theories do attempt to find a way to link

their theory of personality to biological basis typically requiring cases of abnormalities in personality. Although this may be not quite an accurate way to study personality, these cases allowed for personality to be accepted as a construct to be further advanced.

Taking all approaches of Personality into account, the most recent approach in personality is the *Trait Approach*. Questionnaires and tests have been developed using this approach and it is now widely used (Craighead & Nemoroff, 2004). Early theorists like Allport (1937) contributed to this approach in an attempt to "unify" all personality theories together to provide a more holistic view of Personality (Matthews, Deary & Whiteman, 2009). This approach is what most would appear to associate now with personality testing.

1.2 Traits in Personality

The gathering of this research has contributed to many different outlooks been taken. Although there have been many definitions of what a personality traits are, they can be explained by saying that they are;

"Relatively enduring patterns of thoughts, feelings and behaviours that distinguish individuals from one another"

(Roberts & Mroczek, 2008)

There are still questions as to what personality actually is, as well as the effectiveness of the trait approach in being the best way to explain the construct. Some Personality tests question from a wide range of traits in which one is believed to possess where as others measure personality more simply by attempting to zone in on basic traits that they believe would be considered applicable to every individual in some way. Another question faced when attempting to measure personality is whether the characteristics a person holds is believed to be a 'trait' as previously defined above as stable and enduring characteristics of personality or a 'state', debated in the research literature which would consider personality characteristics as transient experiences that can change quite quickly (Eysenck & Eysenck,

1980). Still to date the question of whether some aspects of personality are seen as a fixed concepts or if they can be explained by being placed on a continuum still remains debated by researchers.

Using the trait approach to personality has been the most effective way to measure personality as of yet. The trait approach allows for standardised psychometric tests that can be easily replicated. The testing of personality has improved over the years to becoming a more effective way to measure these traits in which Allport (1937) aimed to "unify" personality approaches to explain personality. As well as ensuring tests are valid, what is also considered to be of great importance in any psychometric test is to check the test being administered, that it is a reliable measure of the construct you wish to test (see; Cronbach, 1951) . This thought has led to the development of a new way to measure tests called Objective Personality Tests (OPT)'s which are considered as performance task tests to measure personality related characteristics in standardised settings by looking at individual's behaviour (Cattell & Warburton, 1967). They have also advanced more recently, now classified as 'Second Generation OPT's giving more advanced methods of testing with the use of computer based technology with the idea of a 'second opinion' of an individual's personality (Ortner & Proyer, 2014) with use of these OPT's, it then limits the subjectibility of self-report measures of personality (Aiken, 2000). It is apparent that this is a more accurate and flexible way of testing an individual's personality (Ortner & Proyer, 2014).

1.3 Personality Research

Personality traits have been studied over the years and researchers have brought many different rationales as to what is the best model for testing personality but the research is not in agreement. Should traits be placed on a continuum or investigated as either being present or not? Researchers have measured psychological constructs by using statistical procedures and ensuring that the personality tests are standardised, reliable and valid in an attempt to explain this construct. Problematic to personality is the fact that it is not a visible entity (Engler,

2013). Personality is only illustrated through what a person may explicitly share via their behaviour, thoughts or emotions (observable expression). As personality cannot be explicitly measured, it is predominately studied through means of factor analysis (Kaplan & Saccuzzo, 2012). Eysenck (2013) discusses how everything in science should be looked at originally as an "organisation" and then focus on its "development" through research, especially with psychological constructs. Eysenck (2013) also mentioned that the problem is not the lack of evidence or theories of personality, but rather the "multiplicity" of theories. There is not one coherent model of personality.

Although personality, as the research at present suggests to be a valid phenomenon, more research is needed to explain exactly what the construct is. Personality would be considered a specific section of study and an important part of Psychology, particularly in social psychology (Deaux & Snyder, 2012). Rather than criticising the measures used to test the construct of personality, it would be wise to use measures to allow for the progression of personality in the right direction to find a more psychometrically concrete way of testing developed in the future as a result of trial and error.

Some personality traits are considered to be more 'core' to individual's than others but what are the reasons why there are some core traits and not others? As well as this is the debate as to whether your personality changes over time. Studies have attempted to see if there may be a difference in types of personality in which appear to be "core" traits and others which are more loosely associated to individuals which leads researchers to question can personality be changed? Some research suggests that personality exists as a state level as much as a trait level (Fleeson, 2001). If personality is believed to be a relatively stable phenomenon, is this illustrated in the studies testing this? Some research has suggested that as individual's progress and go through their various developmental periods, their personality can be dynamic and shift going through these "trajectories" (Jackson, Hill & Roberts, 2010). In support of this are longitudinal studies performed to investigate whether personality is a

fixed entity or whether it changes over time (e.g. Roberts & DelVecchio, 2000; Roberts, Walton & Viectbauer, 2006) which they have concluded from the research that personality traits appear to be either relatively stable or have found to change slightly over time (Lucas & Donnellan, 2011). In most of the personality definitions proposed, they all mention the aspect of "Temporal Stability" in characteristics (Roberts et al., 2006) especially in studies that look specifically to what degree they change longitudinally. Changes are found in trait stability (Bleidorn et al, 2009) with Roberts et al (2006) proposing that across the lifespan there are points at which it would appear that people are more susceptible to a change or shift in our personality. Some particular traits have been studied regarding their stability like extraversion for example. Studies have suggested that extraversion decreases with age. But possible to question also, is if this is a result of further intrinsic maturation (Costa & McCrae, 2006). The possibility that different social demands and experiences you encounter may be an adequate reasons as to why personality shifts (Lockenhoff, Terracciano, Patriciu, Eaton & Costa, 2009). There have also been research done to support changes in Neuroticism and Extraversion the closer one gets to the age of thirty (Scollen & Dinner, 2006), but perhaps it may not be that the personality trait diminishes around the age of thirty, but rather that the value one holds of these traits may change as you age in general (Bleidorn et al, 2006; Lucas & Donnellan, 2011). Studies suggest that an individual can have more than one personality from one situation to another (Bergin & Bergin, 2014). With regards to traits, as much as there has been support for these changes, there has still been many mixed results (Roberts et al, 2006). Another aspect of debate is the idea of whether personality traits should be measured on a continuum, illustrated as a spectrum or all as singularly measured personality traits. One trait known to be conversely used as either on a continuum as well as a single traited approach is the introversion extraversion phenomena (Reevy, Ozer, & Ito, 2010).

As well as this, there have been controversy surrounding the psychoticism scale as being uni-dimensional (Cook, 2012). With considerations of all of these questions, the problem still remains as to what makes personality, how it can be measured and how many trait types give

an overall inclusive explanation to what personality is. Recent studies have questioned what if there is only one trait that explains personality? There have been investigations on the notion of a higher order latent factor contributing to the lower order traits of personality (See; Hopwood, Wright, & Donnellan, 2011; Rushton & Irwing, 2011, van der Linden et al., 2010). This idea leads us to think that personality, although it can be separated into various trait types, that maybe there is one trait that explains all of what contributes to personality. Studies have investigated this and have found support for this idea rather than previously theorised to be a result of the presence of an artificial artefacts (see; Ashton, Lee, Goldberg, & de Vries, 2009) or a degree of social desirability bias (Anusic, Schimmack, Pinkus, & Lockwood, 2009) but this may be controlled for if a scale was included in the testing procedure to measure for this social desirability bias. It would seem plausible to suggest the possibility of a higher order latent factor if there is shared variance reported within a test. With this in mind, the testing of a three dimensional personality test has not yet been investigated. The presence of a higher order latent factor has only been studied in five factor models of personality like Costa and McCrae's (1992) 'Big Five' model of personality (e.g. Hopwood, Wright, & Donnellan, 2011; Rushton & Irwing, 2011, van der Linden et al., 2010).

1.4 Standardising, reliability and validity

In any test you wish to administer, the main aspect of importance is whether the test has good reliability and validity and whether it can be standardised (Aamodt, 2012). In personality testing, if a model represents the construct effectively, it should be illustrated through questionnaires as well as observational methods and objective checklists when using self-report measures. This is what Cattell (1957) labelled as "the principle of indifference of observation medium". Aamodt (2012) mentions that a study performed by Goddard, Simons, Patton and Sullivan (2004) said that in hand-scored aptitude-personality tests 12% contained error of assessment in interest and that a total of 64% of these results with error would have changed the outcome of interest given for the individual taking the test. The important

concern in relation to personality tests are the question of whether the test is a sufficient measure of personality as a whole, or whether they are just tapping into a certain aspect of an individual's personality based on the way it's phrased (Weiten, Dunn & Hammer, 2014). The psychometric properties are of extreme focus in relation to carrying out personality tests (Frick, Barry, Kamphaus, 2009) but yet even recently developed Personality tests still remain to be quite controversial (Schacter, Gilbert, Vegner & Hood, 2011).

Even taking into consideration all of above, and despite the plethora of personality tests available, which vary in many ways i.e. the number of items asked and scales to measure. The problem with the varieties of personality tests available is that people hope to get a particular outcome based on their understanding or belief of what personality comprises of. In a novel called *'The Cult of Personality Testing'* author Annie Murphy Paul (2010) states that original instruments of personality testing, as a result of their "idiosyncratic and often eccentric" creators personalities have been influenced the tests they have created. This leads us to question whether the test is a good representation of their personalities rather than the construct in general.

1.5 Eysenck and Personality

The personality test in this project is the EPQRS (Eysenck's Personality Questionnaire revised short form) originally developed in the 1860's and has come a long way, originally only measuring scales of Extroversion and Neuroticism called the Maudsley Personality Inventory (MPI) (Eysenck & Eysenck, 1964). The scales were further developed due to high inter-correlations in the two scales in which produced scores that had low reliability (Eysenck & Eysenck, 1964). Eysenck and Eysenck (1964) then produced a scale called the EPI (Eysenck's Personality Inventory) including the L scale for response bias later to be advanced to include a Psychoticism scale also called the 'PEN' model EPQ (Eysenck & Eysenck, 1975).

Until this point, EPQ scores still remained to produce unreliable scores but Eysenck strived to make it a more reliable and valid measure, and later devised a revised version of the EPQ (EPQ-R) found to have less inter-correlations and claimed to correct weakness in the Psychoticism scale (Eysenck et al, 1985). A big concern regarding EPQ is that researchers over the years have not reported significant results, and have excluded error reporting, hence not giving a true representation of its reliability (Caruso, Witkiewitz, Belcourt-Dittloff & Gottlieb, 2001).

1.6 Applications of Personality

As the theory of personality has developed and become a more reliable phenomena, many more disciplines have begun to integrate it into their screening processes. Personality tests are used for clinical practise for assessment and diagnosis purposes (Cowen, Harrison, & Burns, 2012) linking psychological disorders to personality, seeing whether various traits can contribute to investigating the presence of a psychological disorder. Personality tests are used in employee selection for successful companies who belief in assigning various types of personalities to different jobs in the company. Linked in with guidance for students, personality tests are administered alongside aptitude tests to see what type of person each student is to allow a suggestion to be made about what direction each individual should take in terms of career path (Neukrug, 2011). As well these applications it is also used as a method of selection for army candidates evolved from world war two originally (Christiansen & Tett, 2013). But what still remains is questions with regards to the uncertainty surrounding personality is of effective ways to measure it. The most widely used personality tests currently used on average follow a five dimensional approach to personality, some have 16 and some have only three, but who is accurate in testing personality?

1.7 Emotional Intelligence

The suggestion was made to consider if there may be an aspect to intelligence that was important for social interactions, as early as the 1920's when the idea of 'IQ' had been developed, Edward Thorndike had coined the term "social intelligence", which he believed to understand men and women (Goleman, 2011). Thorndike (1920) had proposed that people do have a degree of intelligence with emotion, which was later agreed by Wechsler (1943) who added that he believed intelligence to be an effect and not a cause. Wechsler believed that it could be impacted by "non-intellective" factors such as personality (Bumphus, 2008). When the humanistic approach took flight, theories such as Maslow (1951) had proposed the idea that people can build on emotional strength (Goldstein et al, 2014). Gardner (1985) has also acknowledged the emotional aspect of intelligence in his theory. He proposed that there may be a multitude of intelligences (Dufour & Curtis, 2011). The first person to label this phenomena as "emotional intelligence" was Wayne Payne (1985) in his Doctoral Dissertation published in a popular Journal called "Imagination, Cognition and Personality" with many people further popularizing this as another aspect of ability testing known as Emotional Quotient (EQ) (Gibbs, 1995). Daniel Goleman had published a book about emotional intelligence in the New York Times (see; Goleman, 1998). As a result of these past theories, there have been emotional intelligence tests devised over the last twenty years.

Mayer et al (2004) say that "individual's high in EI pay attention to, use, understand, and manage emotions, and these skills serve adaptive functions that potentially benefit themselves and others". Since then there has been many tests devised in the attempt to measure Emotional Intelligence. There has been a dilemma created in how to effectively measure this construct. The tests have been studied in two forms, 1) Ability Testing of Emotional Intelligence and 2) the Trait approach to Emotional Intelligence. He most popular

of ability tests would be the MSCEIT (Caruso et al., 2003) and Trait Emotional Intelligence tests like Bar-Ons EQ-I (Bar-On, 2004) and the TEIQue (Petrides & Furnham 2006) and the SSEIT (Schutte et al., 1998). But which type of test can be seen to measure this construct?

Some researchers say that to get an accurate overall representation of emotional intelligence, it would be wise to include both as a 'mixed model' originally suggested by Goleman (1985). Mixed models of emotional intelligence were developed due to the inclusion of various attributes to emotional intelligence like assertiveness, self-actualisation as well as empathy and self-awareness (Mayer et al., 2000). As Petrides and colleagues proposes that the distinction between both trait and ability are emotion-related self-perceptions that can be measured using self-report and emotion-related cognitive abilities that should be measured using performance testing respectively (Petrides, Perez-Gonzalez, & Furnham, 2007). This adds to the idea that both are conceptually different, finding little to no correlations between them (Brackett, Rivers, Shiffman, Lerner, Salovey, 2006) but that they can indeed co-exist (Tett, Fox & Wang, 2005). With regards to self-report trait emotional intelligence tests, they offer emotion-attributes which would be believed to have ecological significance which has been demonstrated in various applied contexts (Petrides, 2011).

With MSCEIT being the most successfully developed Emotional intelligence ability test, over the years it has been developed as a four dimensional approach to emotional intelligence as Bumphus (2008) described to be measuring; 1.) Perception of emotions, 2.) Use of emotions 3.) Understanding of emotions 4.) Managing emotions. In this study we aim to see linkages between emotional intelligence and personality. As this is the case, we focus more specifically on the trait approach to personality. Trait emotional intelligence as researchers have said, is unrelated to cognitive ability (Ferrando et al., 2010). Reasons for specific interest in trait emotional intelligence is because of how it correlates strongly with personality theory (Seiling, Furnham, & Petrides, 2015). Although in this study, the aim is to see if there may be a relationship between personality and emotional intelligence, an

important point to note, is that emphasis is placed on the notion that it cannot be mistakenly labelled as a personality trait (Mayer & Caruso, 2008). As well as this it is also important to not ignore that in some scientific research the term Emotional intelligence is indeed overgeneralised and covers too many traits and concepts (Landy, 2005; Murphy & Sideman, 2006; Zeider, Roberts & Matthews, 2004).

1.8 Emotional Intelligence Research

Emotional intelligence has been widely popularized and sparked a great deal of media interest (Salovey & Grewal, 2005). As a result of this publicity, much of the research that has been done on this topic have been biased by the over-generalised, non-statistical findings presented (Mayer & Caruso, 2008). We cannot ignore the plausibility of the work of researchers in this area who have contributed to the scientific approach in which has not been over generalised to define emotional intelligence.

There have been studies performed to investigate the relationship between IQ and EQ. Over the years, some researchers have made overgeneralised statements concerning the importance of emotional intelligence, and have concluded in their research to say that emotional intelligence is of greater importance than having general intellectual ability. For example, there was a refereed study "EI- not IQ- predicts top performance (Watkins, 2000 p.89) but rather on the contrary as recently studied, it is suggested to have a good mix of both. Mayer and colleagues (2004) believe that emotional intelligence is a part of general intelligence that they believe enriches discussion of humans and what they are capable of.

With regards to the previous studies, it is suggested that there are both positive and negative relationships with scales of the EPQ. Due to both Neuroticism and Psychoticism being what one may consider as negatively attributional traits of personality have been found to be inversely correlated with emotional intelligence over the years (see; Copestake, Grey & Snowden, 2013 for Psychoticism; Vernon et al., 2008 for Neuroticism). As extraversion being

considered more positively attributional to personality traits, it has been found to be positively correlated with higher levels of emotional intelligence (see; Vernon et al., 2008).

In studies investigating emotional intelligence, there have been consistent correlations found with lower-order traits and personality theory (Seiling, Furnham & Petrides, 2015). These lower-order traits are found to be ultimately linked to higher order latent factors of personality due to shared variance (Paunonen & Ashton, 2001). Interestingly emotional intelligence has also been found to be a better predictor over higher-order trait dimensions of more personality outcomes (Parker, Keefer & Wood, 2011; Russo et al, 2012). Similarly regarding higher order latent factors, the research investigates both the presence of a higher order latent factor of personality and how in relation to emotional intelligence. As suggested that EI appears to be a better predictor of outcomes of certain personality traits, this should be noted that they have only been performed on five factor models as well as presence of a higher order latent factor.

1.9 Applications of Emotional Intelligence

Emotional intelligence although overused in many cases, has been found to be quite effective in terms of measurement and studies of leadership and managerial skills (Goleman et al., 2013) as well uses of personality. Emotional intelligence is also applied in clinical practises and criminology to look particularly at psychopaths and the measurement of their emotional intelligence, much of the research on this topic have found to contradict original definition of a psychopath, that they had trouble recognizing emotions was not the impairment, but rather the ability to pay attention to emotions (Copestake, Gray & Snowden, 2013) , more recent research has found that psychopaths score higher in some EI ability branches than others (Copestake, Gray & Snowden, 2013)

Emotional intelligence, particularly self-awareness and regulation have been used effectively in both sports and personal life coaching by coaching psychologists to improve

their own EI in order to improve their clients EI type skills i.e. navigating their feelings and motivation as well as sense of empathy (see; Stewart, 2014; Gill, 2013).

1.10 Research Aims and Hypotheses

The aim of this research project was to investigate whether there is a relationship between emotional intelligence and personality. By doing this research, with acknowledgement of all previous research on the two topics with the possibility to add to this. The topics of interest in this research project would be the scores on both participant's levels of emotional intelligence and their most prominent personality trait based on the EPQRS, as well as being guided by previous research to investigate the presence of higher order latent factor of personality to add to existing research. By doing this research it will be the first to investigate this idea in a three-dimensional approach to personality using the Eysenck Personality Questionnaire.

Hypotheses:

H1. There will be a significant correlation between emotional intelligence and all three trait dimensions of personality.

H2. There will be a significant higher order latent factor of personality for the three trait dimensions of personality.

H3. If there is a presence of a higher order latent factor, both emotional intelligence and this higher order latent factor will have similar results of explained variance of the lower order personality traits.

Method

2.1 Design

The research project utilised a non-experimental design using quantitative and descriptive research. A control group was not included in the design but there was use of a pilot study. The test was carried out via a computer software application called Google Forms© and it was sent to participants through a social media website called Facebook©. The data, as a result of being collected through Google Forms© was recorded in a excel format which was then transferred to SPSS. Using SPSS once all the data was inputted, a series of statistical analysis was performed on the data. Firstly preliminary analysis was performed to investigate the reliability of the scales being tested in this research project with the data being coded into quantitative information and descriptive where needed. A series of legacy dialogs were computed like histograms to assess normality (see appendix two). A series of correlations were performed on the scale totals to see if there was a relationship among them to investigate the initial hypotheses. Exploratory factor analysis was performed to see how many possible factors were present in the EPQ subscales of Neuroticism, Extraversion, Psychoticism and Response Bias as well as investigating the possibility of a higher order latent factor. Further correlations were performed on the revised scales created as well as further reliability analysis. Multiple regression analysis was performed on both the original and revised scales of the EPQRS as predictor variables of EI.

2.2 Participants

The sample consisted of 269 participants, with a total of 183 female participants (68%) of a general population gathered from a social media website. The respondents ranged between the age brackets of (18-23) – (60+). The most frequent age range within the sample was the bracket of 18-23 year olds (164 participants) accounting for 61% of the overall sample age. The most frequently reported level of education was level eight (N= 97, accounting for 36.1%), followed by participants who responded to have not completed further

education after the leaving certificate (N=48, accounting for 17.8%) and likewise participants

reporting level five (N=47, accounting for 17.5%).

Table 1. Demographic information on the sample collected.

Variable	Frequency	Valid Percentage
Gender		
Male	86	32.0
Female	183	68.0
Level of Education		
Not Applicable	48	17.8
Level 5	47	17.5
Level 6	28	10.4
Level 7	23	8.6
Level 8	97	36.1
Level 9	9	3.3
Level 10	5	1.9
Age Range		
18 - 23	164	61.0
24 – 29	33	12.3
30 – 35	30	11.2
36 – 41	22	8.2
42 – 47	12	4.5
48 – 53	3	1.1
54 – 59	2	0.7
60+	3	1.1

2.3 Materials/Apparatus

Facebook© (2015)

Facebook© is a social media website where people use as a means of socialising. This website allows users to share posts with friends or the public and allows for private messaging also. Reason for choosing this website was to collect the data sample. An informal message was sent to lists of people connected to each other on Facebook©. This message was to request the attention of possible participants to invite them to take part in the study, and also giving an overview of approximately how long it will take to complete. This message was sent in private messaging to individuals simultaneously supplying them with the URL to follow if they wished to complete the questionnaire. This message was sent once, and for three days the questionnaire had been completed by 271 people.

Google Forms© (2015)

Google Forms are a part of company Google©'s software application Google Drive© (2015). It was created for the purpose of the public to utilise and allow to connect with their email account. This application software allows the user to create various types of documents, in this case surveys and questionnaires. Once the document is created, the user is supplied with a URL to send on to desired sample they wish to test. The application allowed for the user to insert an information sheet regarding the study participant is wished to take part in. The choice to continue is offered by pressing a button at the bottom of the screen. This opens up the questionnaire to be completed. The software allows for multiple choice questions, open text options and ticked box options. The application gives the user the choice to supply subheadings in which were utilized for this study to let the participant know they had completed one section allowing them to know they were moving on to the second section. Once the participant had filled out the questionnaire the application saves the information on an excel file in which synchronises with the administrators account allowing them to then transfer all data to SPSS.

The EPQR-S

        With a total of 48 items within the questionnaire, the EPQR-S (Eysenck et al., 1985) has been developed to investigate what Eysenck believed there to be three main dimensions of personality and wanted to test these via a self-report questionnaire. These are Psychoticism, Neuroticism, and Extraversion along with a Response Bias subscale known as the 'Lie' scale. Each subscale comprises of a total of 12 items per scale, marked independently of each other to investigate whether an individual scores high or low among the various subscales. Each item is assessed using a two point scale of response; *Yes* and *No*. In a meta-analysis of the revised EPQ, Caruso et al (2001) had reported internal consistency with use of Cronbachs alpha coefficient (Cronbach, 1951) to be most reliable in Extraversion and Neuroticism with alpha levels of .83 and .82 respectively which met the criterion set out by De Villis (2003) of above 0.65 comfortably, whereas the Psychoticism and Lie scale had weaker alpha levels of .66 and .77 respectively. Particularly the Psychoticism scale being the most unreliable measure with alpha levels were reported to be as low as .36 (Caruso et al, 2001) agreed also by Francis, Craig and Robbins (2008) which found the psychoticism scale to be quite weak with reported alpha co-efficients of (.48). This has been a finding in which has been consistent throughout the research (Francis, Brown, & Philipchalk, 1992)

<u>The TEIQue-SF</u>

Based on theory of emotional intelligence, with a total of 30 items in the scale. It aims to measure how individuals can assess, identify and manage their emotions and others. It was developed by Petrides and Furnham (2006) with responses measured on a seven point likert scale with the lowest being 1=*Strongly Disagree* to 7=*Strongly Agree.* The questionnaire is self-report in which a total score is computed. It has been reported to excrete reliable scores in previous work with regards to the construct (Petrides, & Furnham, 2006). With reported alpha figures of eighty and above (Chamorro-Premuzic et al., 2010; Russo et al., 2012). This short form of the TEIQue provides scores practically identical to it (Petrides, 2009) and is validated through IRT (item response theory) (Cooper & Petrides, 2010).

2.4 Procedures

Firstly the questionnaires were gathered from PsychTests (APA, 2015) to be put together as a battery of tests. A Google document was created. It included an information sheet and the questionnaires selected (see appendix one). Once the document was completed, an URL was sent to participants via a private message on Facebook© simultaneously. Once the participants click on the link, it directs them to the questionnaire. After every participant completes the questionnaire, the data is recorded in a Google Excel on Google Drive© to be accessed via the administrators email. The document took approximately four hours to create and the collection of data lasted three days. Once a sufficient amount of participants had completed the study, the excel sheet could then be transferred to SPSS for analysis to be ran.

Pilot Study

A pilot study was performed on a total of three participants to give a clear estimate on how long it would take to complete the questionnaire and general overall feedback about the difficulty was given. The time taken by the participants to fill the questionnaire out was approximately fifteen minutes. The participants in the study had given oral feedback that the questionnaire was easy to understand and complete. A few minor changes had then been made for presentation purposes to make it more organised and comprehensive.

Official Study

The sample was gathered over a period of three days in February. The ethical approval was granted by the Ethics Board of the National College of Ireland. The questionnaire was delivered via the social media website Facebook© through the software application Google Forms©. The questionnaire began with an informational page detailing content of the test and the scoring and security of the data collected with the option to proceed if consented to take part in the study, with a brief description of the study and instruction on how to complete the questionnaire was given (see appendix one). The questionnaire was a self-report measure which was completed anonymously by each participant via the URL that they had received in a private message on Facebook©. The participants were assured in the informational sheet prior to the questionnaire about the confidentiality and their rights to withdraw at any time during the questionnaire. A mixture of questions were asked firstly looking at general demographic information, such as their age range, gender and level of education they had obtained followed by a battery consisting of two psychometric measures to test 1.)Trait Emotional Intelligence – TEIQue Short Form and 2.)Personality Trait Questionnaire – EPQR Short Form. Originally a total of 275 participants participated; however, only 269 (due to some missing data and duplications) were included for the final analysis.

Results

3.1 Reliability Analysis

Preliminary analysis involved descriptive information about all five variables prior to other analysis being run to investigate for normality and homeodacticity. The skewness and kurtosis for each variable was examined and there were no values greater than an absolute value of one, suggesting reasonably normal distributions in some cases and not in others (see graphs). Histograms for each variable were also examined (see Appendix two) however, and these showed that most scales were moderately positively skewed (see appendix two) which appeared to violate the assumption of normality particularly extraversion which may suggest that the sample were more extraverted. The most normally distributed of the variables was emotional intelligence (see appendix two). Reported Cronbach alpha figures were moderately unsatisfactory with only two scales from the EPQR short form being considered reliable, Neuroticism (a = .79), Lie Scale (a = .65) and Extraversion (a = .82) and with unsatisfiable figure was Psychoticism (see; Cronbach, 1951) with an alpha figure of (a = .32). As a result of this reliability analysis, it had led to the assumption that the measure as a whole were unreliable which may then jeopardise correlational analysis needed for Hypothesis One.

Although the reliability for Psychoticism were unsatisfactory, correlational analysis was performed on the scales of the EPQRS and the TEIQue short form to see if there was a relationship with the reliable scales. From running this analysis, it is reported that a significant correlation was found with Emotional intelligence and Neuroticism (-.47) which appeared to be a weak to moderate inverse correlation and for Extraversion (.27) and Social Desirability (.12) had weak correlations. Although this does not support Hypothesis One, there is evidence to suggest that based on the Neuroticism and Emotional intelligence correlation to be a significant finding, and can support the research on this topic.

Table 2. Descriptive statistics and reliability of all continuous variables

	EI	Neuroticism	Extraversion	Lie(SD)	Psychoticism
Mean	142	6.80	9.39	4.33	2.97
Standard Deviation	22.7	3.14	2.80	2.42	1.54
Range	127	12	12	12	9
Possible Range	80-207	0-12	0-12	0-12	0-9
Cronbach's Alpha	.85	.79	.82	.65	.32
No. of items	30	12	12	12	12

Note: EI = Trait Emotional Intelligence, SD = Social Desirability.

Table 3. Standard Correlations table for EPQRS scales on Emotional Intelligence.

Variables	EI (DV)	N	E	L	P
EI (TEIQue)	*1*				
Neuroticism (N)	*-.47***	*1*			
Extraversion(E)	*.27***	*-.25***	*1*		
Social Desirability (L)	*.12**	*-.18***	*-.08*	*1*	
Psychoticism (P)	*.09*	*-.17***	*.23***	*-.20***	*1*

Note. ** p < .05, ** p < 0.005, *** p < .001*

3.2 Exploratory Factor Analysis (EFA)

To investigate Hypothesis Two on the prediction of a significant higher order latent factor will be extracted, exploratory factor analysis was performed. Initially, the factorability of the 48 EPQ items was examined. Several well-recognised criteria for the factorability of a correlation were used. Factor retention is based on a number of principles. General guidelines suggest factor retention when eigenvalues are greater than 1; inspection of a scree plot; and theoretical interpretability (see Bollen, 1989). In other words, the decision for retention of factors should be made on both statistical and theoretical grounds. Results of the initial EFA on the 48 item scale suggested the presence of four latent factors (see scree plot). A total of four factors been extracted in which explained 29% of variance in response to the EPQRS.
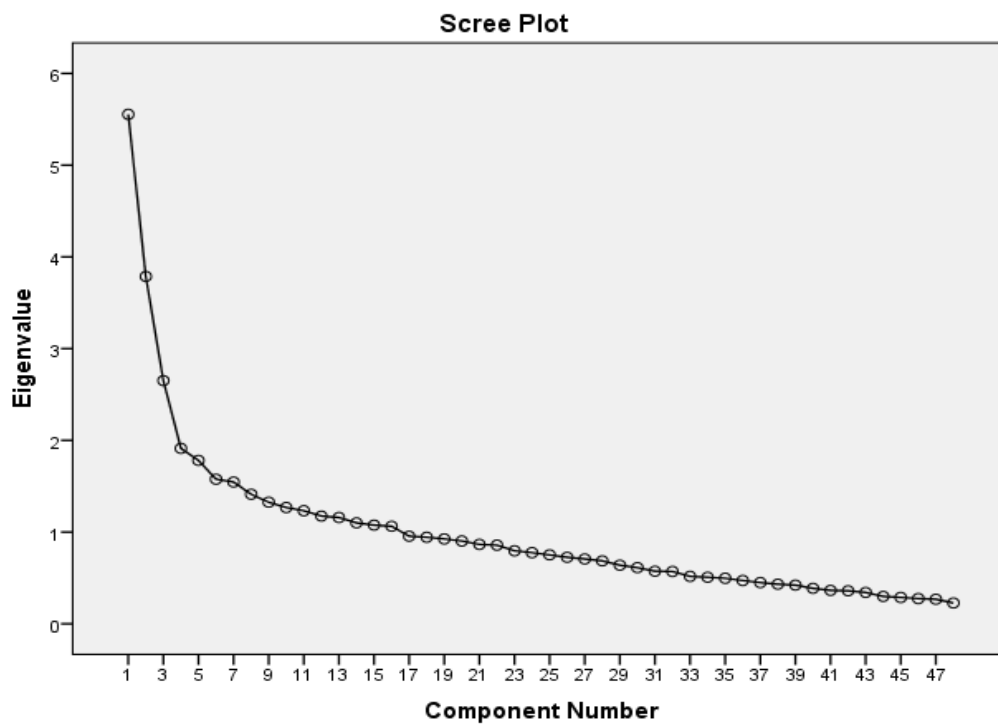

Scree Plot

Table 4. Factor loadings and communalities based on analysis with oblimin rotation for 48 items from the short version of the Eysenck's Personality Questionnaire (EPQ) (N = 269).

	1	2	3	4
1 – Neuroticism	.429	.145		-.278
2 – Psychoticism	.561	-.104		.107
3 – Extraversion		.621		
4 - Lie (Social Desirability)	-.206		.337	
5 – Neuroticism	.572	.154		-.266
6 – Psychoticism	.346		.164	
7 – Extraversion		.578		.133
8 - Lie (Social Desirability)		-.135	-.646	.169
9 – Neuroticism	.379		-.132	-.235
10 – Psychoticism			-.353	
11 – Extraversion	-.145	.349	-.149	.496
12 - Lie (Social Desirability)			-.618	
13 – Neuroticism	.607	.103	.132	
14 – Psychoticism		.370		-.418
15 – Extraversion	-.206	.332	-.143	
16 - Lie (Social Desirability)			.228	.344
17 – Neuroticism	.576		-.174	-.126
18 – Psychoticism	-.158		.230	
19 – Extraversion		.517		.184
20 - Lie (Social Desirability)			-.623	
21 – Neuroticism	.524	-.163		.101
22 – Psychoticism			-.113	
23 – Extraversion		.715	.131	
24 - Lie (Social Desirability)		.109	-.429	
25 – Neuroticism	.659		.195	
26 – Psychoticism		.218		.519
27 – Extraversion		-.636		-.122
28 – Psychoticism	.323	-.146	.122	

	1	2	3	4
29 - Lie (Social Desirability)			-.336	-.277
30 – Neuroticism	.443			-.295
31 – Psychoticism		.219		
32 - Extraversion		.380	-.127	.587
33 - Lie (Social Desirability)		.240		-.123
34 – Neuroticism	.648		-.194	.117
35 – Psychoticism	.105		.164	.283
36 – Extraversion		.331	-.167	.337
37 - Lie (Social Desirability)	-.101		-.641	
38 – Neuroticism	.445			
39 – Psychoticism			-.166	-.286
40 - Lie (Social Desirability)			-.477	
41 – Extraversion	.173	-.527		
42 – Neuroticism	.443			-.176
43 – Psychoticism	.142	-.178	-.137	.387
44 – Extraversion	.121	.739		
45 - Lie (Social Desirability)	-.172		.157	.189
46 – Neuroticism	.514		-.129	.195
47 – Lie (Social Desirability)	.213	.190	-.204	
48 – Extraversion	-.162	.629		-.278

Note. Factor loadings < .1 are suppressed.

Questions 18, 22, 31, 33, 35, 39, 45 and 47 had eigenvalues of below .3 which gave reason for extracting these eight items in further EFA. As well as this there were items associated with one subscale had loaded stronger on another which allowed further questionability of the scale itself, these were questions 2, 6, 10, 28, 32 and 36 (see Table 4 for details). There were also other items which cross loaded on two factors with eigenvalues close to one another, these questions were question 11, 14 and 16. These factor loadings can be illustrated in table 4.

Removal of the eight poor performing items had allowed us to question the scale standard as well as poor reliability figures from the previous analysis. This led us to create shortened and revised version of the EPQRS which was then subjected to EFA again. A total of eight items were extracted from the scale as previously stated as a result of eigenvalues below 1. Once the extraction and rotation of items was complete, the revised model then explained 33.5% of variance in the given sample. Similarly we found that the same eigenvalues of items had loaded on the same four factors as they did prior to the extraction.

With further investigation of the 40 items, it was discovered that some items visibly did not measure what they intended, for example Q.6 an item that questions Psychoticism "would being in debt worry you?" loaded stronger on the Neuroticism factor with reasonable assumption that could be a result of the thought of worry and anxiety within the question, or another example would be Q.10 associated with Psychoticism "Would you take drugs which may have strange or dangerous effects?" loaded stronger on the Lie factor which given that it would be unlikely that individual's may openly admit to taking drugs in a questionnaire. As a result of these findings we investigated the items we had extracted and it was no surprise to find that the questions themselves were irrelevant to the sample. Q18 "Do good manners and cleanliness matter much to you?" and Q31 "Do you think people spend too much time safeguarding their future with savings and insurance?" are both Psychoticism items that were extracted with the suggested possibility that as the age range within the sample were predominantly in the range of 18-23 years. This perhaps could be why appearance and advanced planning of their future may be irrelevant, rather than participants being psychotic.

From the extracted four factors of the shortened and revised scale of the EPQRS, it was clearly illustrated what factors had represented which latent personality trait in the Eysenckian model. F1 conclusively contained fifteen items, majority being Neuroticism. F2 had a total of ten items all of which were Extraversion. F3 with the exception of one item were all Lie scale items, there were nine items in total. F4 as evident from the scree plot

above did not appear to represent one predominant trait, but by ruling of majority it had possessed more Psychoticism items.

Overall, the analysis indicated that there was four distinct factors with no presence of a higher order latent factor of personality contained within the original version of the EPQRS or revised version. This conclusion has led to the rejection of Hypothesis Two with the expectation of a significance presence of a higher order latent factor of personality. By rejecting Hypothesis Two, this also inhibits investigation of Hypothesis Three to investigate variance explained by both higher order latent factor of personality and emotional intelligence.

Table 5. Factor loadings and communalities based on a principal components analysis with oblimin rotation, extraction and inspection for 40 of the 48 items from the short version of the Eysenck's Personality Questionnaire (EPQ) (N = 269).

	1	2	3	4
1 – Neuroticism	.415	.154		-.298
2 – Psychoticism	.578			.107
3 – Extraversion		.624		
4 - Lie (Social Desirability)	-.209		.347	
5 – Neuroticism	.565	.169		-.281
6 – Psychoticism	.345		.172	
7 – Extraversion		.594		.110
8 - Lie (Social Desirability)		-.159	-.644	.216
9 – Neuroticism	.374		-.173	-.223
10 – Psychoticism	.106		-.359	
11 – Extraversion	-.119	.326		.524
12 - Lie (Social Desirability)			-.634	
13 – Neuroticism	.611	.124	.141	
14 – Psychoticism		.346		-.376
15 – Extraversion	-.184	.324	-.159	
16 - Lie (Social Desirability)			.253	.338
17 – Neuroticism	.577		-.174	-.121

	1	2	3	4
19 – Extraversion		.515		.245
20 - Lie (Social Desirability)			-.635	
21 – Neuroticism	.531	-.163		.132
23 – Extraversion		.734	.104	
24 - Lie (Social Desirability)		.102	-.420	
25 – Neuroticism	.674		.211	
26 – Psychoticism		.215		.507
27 – Extraversion		-.649		
28 – Psychoticism	.304	-.147	.120	
29 - Lie (Social Desirability)			-.384	-.301
30 – Neuroticism	.452			-.286
32 - Extraversion		.376		.568
34 – Neuroticism	.657		-.179	.122
36 – Extraversion		.319	-.137	.395
37 - Lie (Social Desirability)			-.647	.107
38 – Neuroticism	.440			
40 - Lie (Social Desirability)			-.501	
41 – Extraversion	.156	-.528		
42 – Neuroticism	.428			-.259
43 – Psychoticism	.161	-.162		.375
44 – Extraversion	.152	.769		
46 – Neuroticism	.522		-.102	.171
48 – Extraversion	-.124	.639		-.298

Note. Factor loadings < .1 are suppressed and questions 18, 22, 31, 33, 35, 39, 45, 47 were removed.

3.3 Reliability Comparisons

Internal consistency for each of the scales was examined using Cronbach's alpha. The alphas taken from the modified EPQRS were similar to results reported from the initial short form EPQR. But rather being only one unsatisfactory alpha figure as previously found, there were two: for F1; Neuroticism (a = 64), F2; Extraversion (a = .80), F3; Lie scale (a = .27) and F4; Psychoticism (a = .18). The initial rationale for the investigation on the revised scale was performed to see if it could be developed into a more reliable and robust scale. Eight of the forty eight items were extracted, and the original factor structure proposed by Eysenck was modified in an attempt to improve the psychometric properties of the scale. When reliability analysis was performed on the revised scales of the EPQRS it had been found that the scales were not all internally consistent (see table 6). Evident from table 6 the reliability for all scales had in fact decreased, especially the Psychoticism scale in which was already a very weak figure had decreased to .18 with only Extraversion (a = .80) and Neuroticism (a = .64) being internally consistent. Due to these findings, there was a violation to theory of reliability analysis which lead to the inability to assume normal distribution. As a result, these findings can then lead to conclude that the scales used were not a suitable psychometric tests and from statistical analyses, it was apparent that it also lacked in consensual validity.

Table 6. Descriptive statistics and reliability of all continuous variables

	EI	F1	F2	F3	F4
Mean	142	7.57	8.48	3.77	2.29
Standard Deviation	22.7	2.85	2.67	2.07	0.82
Range	127	13	10	8	6
Possible Range	80-207	1-14	0-10	0-8	0-6
Cronbach's Alpha	.85	.64	80	.27	.18
No. of items	30	15	10	9	6

Note: EI (Trait Emotional Intelligence).

3.4 Multiple Linear Regression Models

After EFA results had shown an increase in variance explained in a revised and shorten version of the EPQ, although reporting only two of the scales to being reliable (see table 6), the interest to analyse predicted variance from both scales to emotional intelligence was still contributable to research. Multiple regression analyses were performed on the original scales of the EPQRS and the revised scales to compare the two to investigate if the reliable scales contained within the revised version had predicted more variance. As expected, due to very low psychometric plausibility there was not a dramatic difference found in the overall amount of variance predicted of EI by one more than another. The variance reported from both scales had remained at approximately 25%. As visible from the tables of reliability, the assumption of collinarity and homoscedasticity was violated due to poor reliability of both scales. The only two reliable and significant predictor of emotional intelligence of all revised scale variables was Neuroticism with a total explanation of variance of 42% and Extraversion 17%, although this figure may be considered quite low. This indicates that the test itself is a bad fit to the sample and is unsuitably correlated with emotional intelligence. The four trait variables produced an adjusted R^2 of .25 (F (4,264) = 21.80, $p < .05$) for the prediction of Emotional intelligence.

Table 7. Standard multiple regression of EPQRS Scales (original) on Emotional Intelligence

Variables	R^2	β	B	SE	CI (95%)
Model	25.0				
Neuroticism (N)		-.42*	-3.01	.41	-3.8/-2.2
Extraversion(E)		.17*	1.40	.46	0.5/2.3
Social Desirability (L)		.06	.55	.52	-0.5/1.6
Psychoticism (P)		-.01	-.17	.83	-1.8/1.5

Note. *$p < .05$, **$p < 0.005$, ***$p < .001$

Table 8. Standard multiple regression of EPQRS Scales Revised and shortened on EI

Variables	R^2	β	B	SE	CI(95%)
Model	24.0				
Neuroticism (F1)		-.41**	-3.30	6.70	-4.1/-2.4
Extraversion(F2)		.18**	1.60	.44	.6/2.7
Social Desirability (F3)		.05	.60	.54	-.6/1.9
Psychoticism (F4)		.02	.38	1.22	-2.0/2.8

Note. *$p < .05$, **$p < 0.005$, ***$p < .001$

Table 9. Standard Correlations table for EPQRS scales Revised and Shortened on EI

Variables	EI (DV)	F1	F2	F3	F4
EI (TEIQue)	1				
Neuroticism (F1)	-.45**	1			
Extraversion(F2)	.26**	-.20**	1		
Social Desirability (F3)	.07	-.10	-.10	1	
Psychoticism (F4)	.12*	-.10	.36**	-0.2	1

Note. *$p < .05$, **$p < 0.005$, ***$p < .001$

Discussion

In this section, the topics discussed will be the results of the analysis performed as well as linking to relevant research and evaluating the hypotheses posed. As it was mentioned in the introduction, there had yet to be research performed on the EPQRS to investigate the presence of a higher order latent factor of personality. As of yet, there is still no exact number of traits in which explain one hundred percent of variance or even close to the construct of personality. But as mentioned previously in the introduction, was how Eysenck (2013) had said, that something is relevant until science has proved it irrelevant. With this being said, he also stated that in his belief, the problem is not a scarcity of information, it is the multiplicity of information.

Taking from what Eysenck has said, personality tests are used for screening purposes as stated in the introduction, but yet a general consensus of what we are actually testing is not yet established. What if there is no such thing as personality? Roberts and colleagues (2006) has been mentioned in the introduction to say that personality traits can be stable but they are not fixed, that they do change over time. This idea that over time one's personality changes may not be that this construct rearranges its predominant traits of each individual over time, but rather it could possibly be that with experience individuals behave and interact with each other differently. What if personality is not a real entity? For the overall consensus of personality to be explained, it would seem that as humans we yearn for simplicity in testing but by limiting personality to three, or five traits would mean that we as individuals are categorised simplistically, contradicting the notion of individual differences we supposedly hold. The aim of this study was to see whether a three dimensional model would explain a sufficient amount of variance in Personality, or even possibly by one single factor (higher order factor). Based on the Psychometric properties of the EPQRS from this study, this could not be supported.

Correlations

As like all tests being administered, checking the reliability for the test is preliminary. From running reliability analysis, it was shown that only Neuroticism, Extraversion and the Lie scale were deemed reliable. Once reliability analysis was performed this allowed for correlational analysis. There was a negative relationship to be found between emotional intelligence and neuroticism, this seemed concurrent with research literature (see; Vernon et al., 2008). What you could derive from both past research and this study would be that the more neurotic an individual may be, the less they score in emotional intelligence. Extraversion seemed to have a significant weak correlation with emotional intelligence, this weak finding may be attributional to the scale used rather than the construct itself. This finding that even a weak correlation was found between extraversion and emotional intelligence is considered a relevant finding as research has suggested that Extraversion has been found to correlate highly with trait emotional intelligence in the five factor models of personality (Vernon et al., 2008). Both Psychoticism and the Lie scale had both produced quite poor correlations with emotional intelligence. These figures are both insignificant and too low to possibly deduct a relationship from. Although insignificant, of what was left of items of the scale, Psychoticism did show to be inversely correlated as studies also suggest (see; Copestake, Gray & Snowden, 2015).

As research included in the introduction, states that high correlations between trait emotional intelligence and personality traits from other test have been reported (see; Bar-On, 2004; Petrides & Furnham, 2003). The poor correlation between the scales of the EPQRS and the TEIQue-sf has led this study to further investigate the construct of personality. Based on weak correlations the first hypothesis could then be rejected. This was to find a correlation between emotional intelligence and all the scales. Correlations only appeared to support studies, present in the introduction of Neuroticism and Extraversion in relation to EI.

Exploratory Factor Analysis

As explained in the results section, this study also rejected hypothesis two predicting the presence of a higher order factor as previously found in five factor models (van der Linden et al., 2010; Hopwood et al., 2011). There was only four scales found within the EPQRS as originally derived from Eysenck's model. Already mentioned in the results section was reasons for extraction of a total of eight items. It was found then that by the removal of these items had led to more variance of the construct being explained. The removed items had appeared to lack ecological validity with questions involving planning and maintenance of individuals future, and due to the sample being relatively young this would seem to suggest why this was unsuitable to question this sample and deduct reasoning that by responding in a way that does not show one's desire to "safe-guard their future" or like to ensure their appearance is "neat" does not make individuals psychotic. There were also other items in the scale that would appear to also be invalid as a result of being out-dated, and not relevant to today's society. Issues such as an individual's care for marriage being "done away with" has long since been an outdated concern to this generation. Although variance was still very low, there was a substantial difference with an increase of over 10%. With this in mind, it was assumed at this point to perform better than the original. Unfortunately the reliability did not increase with the removal of the eight items and that by modifying the scales based on what items loaded on to more, in fact decreased which debilitated any possibility of the test being revised into a more psychometrically sound model.

Multiple Regression Model

With research displaying support for the correlations between emotional intelligence and trait personality as reported in the introduction, a multiple regression analysis was performed to investigate how much variance was explained by personality in the prediction of emotional intelligence. With the original scale EPQRS, it explained only 25% of variance, which is not believed to be a substantial amount. Neuroticism in both the original and revised scales of the EPQRS had been the most significant predictor of Emotional intelligence of 41%

on average which supports the research by saying that Neuroticism and Emotional intelligence are inversely correlated (Vernon et al, 2008) and indeed Neuroticism appears to be a prominent dimension in trait personality, secondly was extraversion which in the original had significantly explained 17% of variance, but in the revised scale had only increased to 18% which was also was reported to be a significant finding.

TEIQue-sf Psychometric Properties

Overall the psychometric properties of the TEIQue short version appear to be valid. In this study, this trait emotional intelligence test was found to be a reliable measure displaying no issues to normality (see appendix two). This trait emotional intelligence test appears to support the previous research with correlations that were valid with reliable personality traits that were present.

Strengths of the Study

The collection of data was performed via social media websites, by this collection method it had shortened time spent collecting dramatically as well as the ability for the data to be computed in an excel file easily transferred to SPSS. The study has been quite relevant to recent research investigating the higher order latent factor and linking personality to emotional intelligence. Testing this three dimensional model posed by Eysenck investigated hypothesis two of the presence of a significant higher order latent factor has not yet been done. EI has been an important topic as mentioned in the introduction to many different disciplines. By investigating the measures this can also contribute to support of them being utilized and it would appear from this study that the TEIQue-sf is an effective measure of trait emotional intelligence. Strong evidence has been illustrated to question the EPQRS through EFA that the scales were not effective at measuring what they intended to. Considering all findings, this study also offers support that Neuroticism is a significant contributor to the construct personality and also that it explains a significant amount of variance in the prediction of trait emotional intelligence.

Limitations of the Study

One major limitation to this study is how the scales of the EPQRS have been measured. All item responses were measured on two points; Yes or No which limits the flexibility to quantifiably measure the scales to its true effect and also contradicts the possibility of individual's personality traits being positioned on a continuum as mentioned in the introduction (Reevy, Ozer, & Ito, 2010). With this in mind, original thoughts when the battery of tests was inputted into Google Forms of how age should be measured was asked categorically in range age values. This also limited further investigation of age in relation to personality and emotional intelligence. With age in mind, it was found that the data collected was reported to be predominantly age 18-23 (see table 1) which is not a true representation of the general population, this could possibly be as a result of utilising social media websites for the collection of data.

Future Research

This study illustrates the poor psychometric qualities of the EPQRS with only two of the four scales outputting significant findings, as well as this is only explains a total of 35% variance of the construct itself, this may suggest that measuring personality may not be effectively done using three dimensions of personality. Another perspective that could be taken from the small amount of variance being explained could be simply that the tests proposing to measure these traits may actually not be effectively measuring them at all. This gives scope for further research and investigation of what would be more effective scale items to measure Neuroticism, Extraversion, Psychoticism as well as controlling for a response bias. With regards to the presence of a higher order latent factor, given that if in the future there is a more psychometrically robust way to measure personality in this 'PEN' type model could enable this investigation of a higher order latent factor with assurances that the measure of personality being used is a good representation of personality explaining a significant amount of variance along with having a more effective way of controlling for the possible deduction

of a response bias being present. Particularly, with the psychoticism scale are questions concerning what it actually aims to measure. Some suggest that the scale is problematic due to the viewing of psychoticism as uni-dimensional previously stated in the introduction (Cook, 2012). Taking reference from specific measures of this may be more effective to capture an efficient way to measure this aspect of personality. Although there still remains questions as to whether it is measuring Psychoticism or rather that it measures Psychopathy. A good reference to follow if a new scale were to be developed would be the multi-dimensional view of the concept PCL-R (Lillienfield & Widows, 2005).

Reasons for the choice to test personality using Eysenck's model was because it claimed to look at three dimensions, not all of which were considered positive personality traits. This model accounts for psychopathological aspects to personality with use of both Neuroticism and Psychoticism being negatively attributional personality traits when scores are high as previously mentioned in the introduction. Future research, given this in mind could maybe investigate more into the negative aspects of personality, this idea has been mentioned in a study also that this PEN model maps similarly on three proposed categories of psychopathology in Caspi and colleagues (2013) model; internalising behaviours, externalising behaviours and psychosis of psychological disorders. For future research, if new scales were devised there could be possibility to investigate this link further.

As well as personality, future research could also look into more than just trait emotional intelligence. Although there have been high correlations reported between this and personality traits (see; Seiling, Furnham & Petrides, 2015) it would be useful given the two types of measures of emotional intelligence, that utilising a mixed methods approach suggested to be more effective (Goleman, 1998) might be more effective ways of measuring this relationship between them with less limitability.

Prior to just creating a new three dimensional model of personality, it would be useful to edit the way responses are recorded for the EPQRS to possibly a seven point likert scale of agreeability with the statements of items within the questionnaire.

Conclusion

We can conclude this study by saying that the EPQRS has supported the idea that it is an ineffective measure of a three dimensional model of personality and that it would be unsuitable to deduct meaningful correlations between this scale and trait emotional intelligence and that even the revision of the scales appeared to not predict more variance of emotional intelligence. With this in mind the significant findings of a relationship of neuroticism and EI has allowed further analysis then displaying evidence that Neuroticism is a significant predictor of trait emotional intelligence with both original and revised scales being reliable measures allowing for support of previous research on the topic. What should be taken from this study is not that this three dimensional approach to personality is incorrect, but rather that the measures used are not psychometrically viable. With previous research being supported by the correlations between EI and neuroticism can also support the effectiveness of the TEIQue-sf in measuring trait emotional intelligence. To conclude this study contributes to research on both topics of personality and emotional intelligence as well as supplying future research ideas derived from the findings. Although the findings were not significant they were indeed important to include for the purpose of research to report both support and rejection of hypotheses in relation to the topics in question to allow further development of these constructs for application.

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Appendix One

(Consent Form and Questionnaires)

Informational Sheet and Consent Form

Emotions, Personality and their Relationship

You are invited to participate in a research project for my final year thesis, this study is looking at people over the age of 18* and the relationship between personality types and emotional intelligence, also looking at if there is a difference in course type and the chosen area of discipline

It is a quantitative study that wishes to look these relationships in depth

Please note that any information disclosed in this study is never shared with any persons other than the researcher, it is the researcher who has full responsibility with regards to the storage, scoring and interpretation of the data in this study.

The objectives of this study is to look at the structure of the EPQ-R (personality test) in short version to see whether results outputted by the scales within the questionnaire are related to the second questionnaire of measurement which is the TEIQue-SF that measure Emotional Intelligence also in sort version. For any more information on the questionnaire used, you can look up Eysenck's Personality Questionnaire revised, and also the TEIQue-SF on Google.

I want to thank you very much for your participation in this study, any information that you may need concerning the test please do not hesitate to contact me, the researcher involved

My email address is x12451938@student.ncirl.ie

You can also contact my supervisor:
Dr. Arlene Egan (01-4498694, Arlene.egan@ncirl.ie)

Thanks Again!

* - of great importance.

Continue »

20% completed

55

EPQRS – (Eysenck, Eysenck & Barrett, 1985)

1. Does your mood go up and down?
2. Do you take much notice of what people think?
3. Are you a talkative person?
4. If you say you will do something, do you always keep your promises?
5. Do you ever feel 'just miserable'?
6. Would being in debt worry you?
7. Are you rather lively?
8. Were you ever greedy by helping yourself to more than your share of anything?
9. Are you an irritable person?
10. Would you take drugs which may have strange or dangerous effects?
11. Do you enjoy meeting new people?
12. Have you ever blamed someone for doing something you knew was really your fault?
13. Are your feelings easily hurt?
14. Do you prefer to go on your own rather than act by the rules?
15. Can you usually let yourself go and enjoy yourself at a lively party?
16. Are all your habits good and desirable ones?
17. Do you often feel fed-up?
18. Do good manners and cleanliness matter to you?
19. Do you usually take the initiative in making new friends?
20. Have you ever taken anything (even a pin or button) that belonged to someone else?
21. Would you call yourself a nervous person?
22. Do you think marriage is old fashioned and should be done away with?
23. Can you easily get life into a rather dull party?
24. Have you ever broken or lost something belonging to someone else?
25. Are you a worrier?
26. Do you enjoy co-operating with others?
27. Do you tend to keep in the background on social occasions? **
28. Does it worry you if you know there are mistakes in your work?
29. Have you ever said anything bad or nasty about anyone?
30. Would you call yourself tense or 'highly strung'?
31. Do you think people spend too much time safeguarding their future with savings and insurances?
32. Do you like mixing with people?
33. As a child were you ever cheeky to your parents?
34. Do you worry too long after an embarrassing experience?
35. Do you try not to be rude to people?
36. Do you like plenty of bustle and excitement around you?
37. Have you ever cheated at a game?
38. Do you suffer from 'nerves'?
39. Would you other people to be afraid of you?
40. Have you ever taken advantage of someone?
41. Are you mostly quiet when you are with other people?
42. Do you often feel lonely?
43. Is it better to follow society's rules than go your own way?
44. Do other people think of you as being very lively?
45. Do you always practise what you preach?
46. Are you often troubled about feelings of guilt?
47. Do you sometimes put off until tomorrow, something you ought to do today?
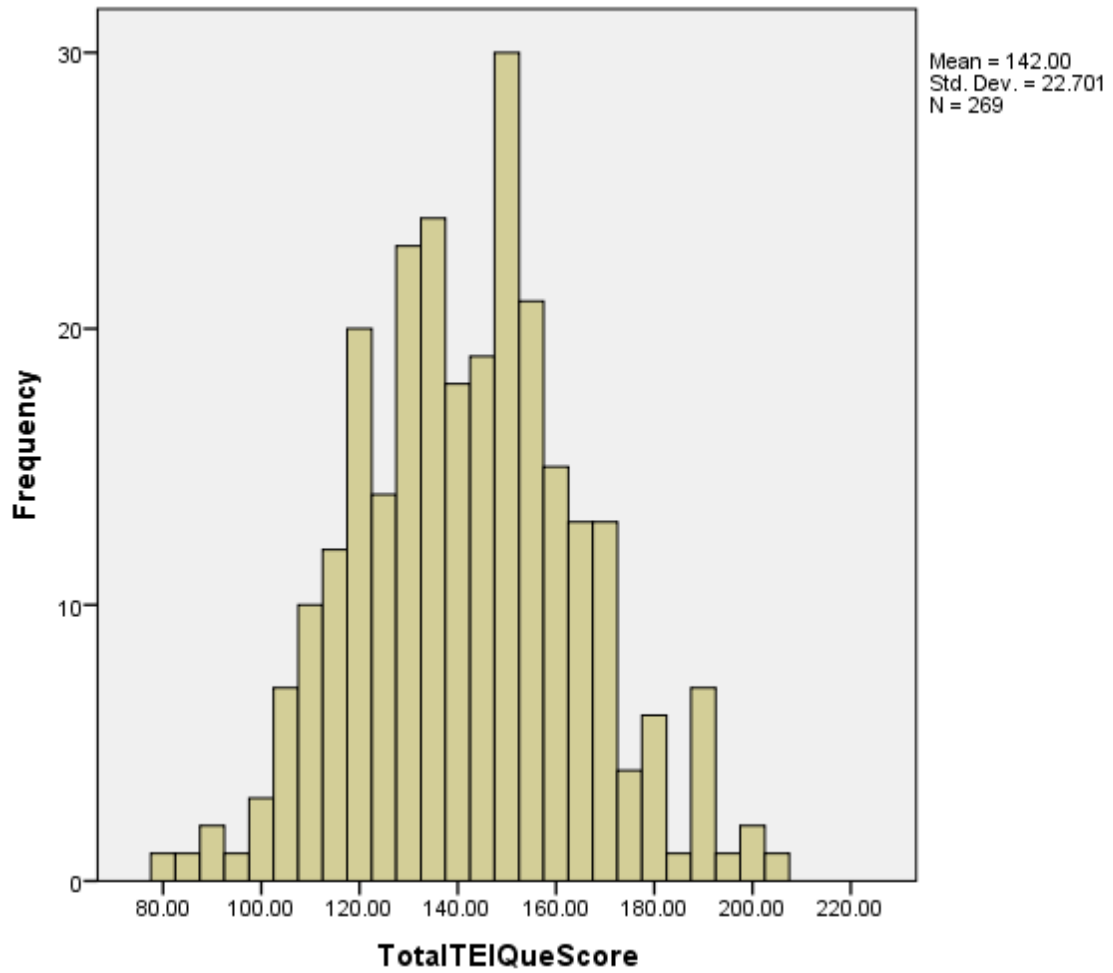48. Can you get a party going?

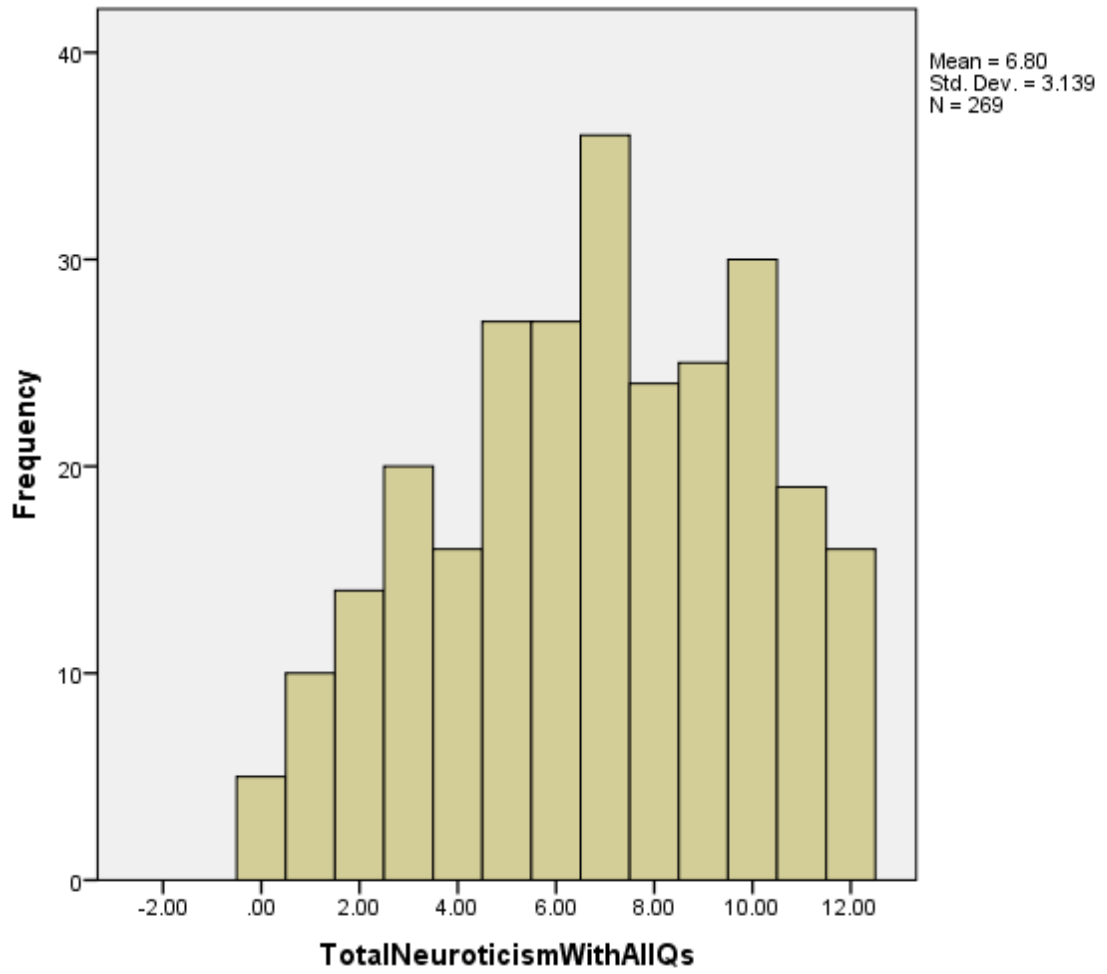**TEIQue Short Form (Petrides & Furnham, 2006b).**

1. Expressing my emotions with words is not a problem for me.
2. I often find it difficult to see things from another person's viewpoint.
3. On the whole, I'm a highly motivated person.
4. I usually find it difficult to regulate my emotions.
5. I generally don't find life enjoyable.
6. I can deal effectively with people.
7. I tend to change my mind frequently.
8. Many times, I can't figure out what emotion I'm feeling.
9. I feel that I have a number of good qualities.
10. I often find it difficult to stand up for my rights.
11. I'm usually able to influence the way other people feel.
12. On the whole, I have a gloomy perspective on most things.
13. Those close to me often complain that I don't treat them right.
14. I often find it difficult to adjust my life according to the circumstances.
15. On the whole, I'm able to deal with stress.
16. I often find it difficult to show my affection to those close to me.
17. I'm normally able to "get into someone's shoes" and experience their emotions.
18. I normally find it difficult to keep myself motivated.
19. I'm usually able to find ways to control my emotions when I want to.
20. On the whole, I'm pleased with my life.
21. I would describe myself as a good negotiator.
22. I tend to get involved in things I later wish I could get out of.
23. I often pause and think about my feelings.
24. I believe I'm full of personal strengths.
25. I tend to "back down" even if I know I'm right.
26. I don't seem to have any power at all over other people's feelings.
27. I generally believe that things will work out fine in my life.
28. I find it difficult to bond well even with those close to me.
29. Generally, I'm able to adapt to new environments.
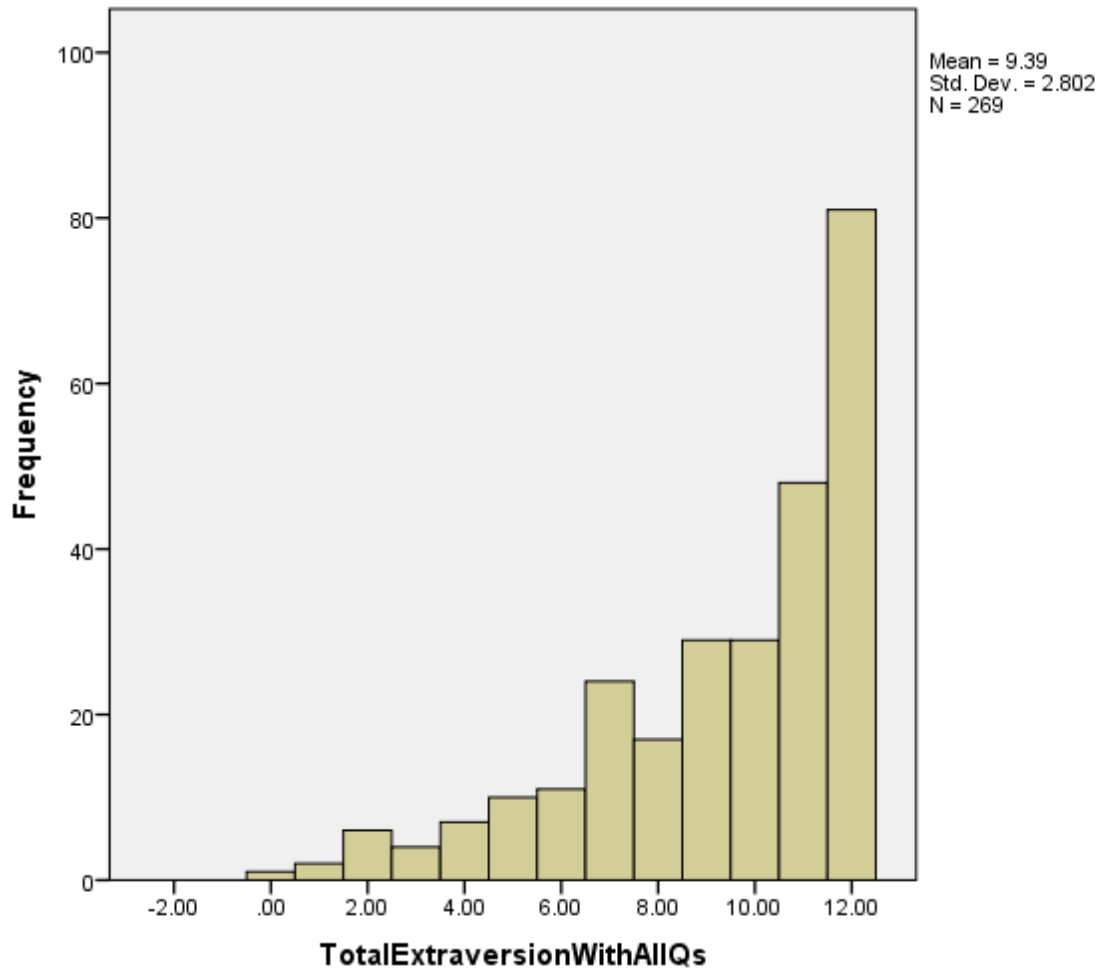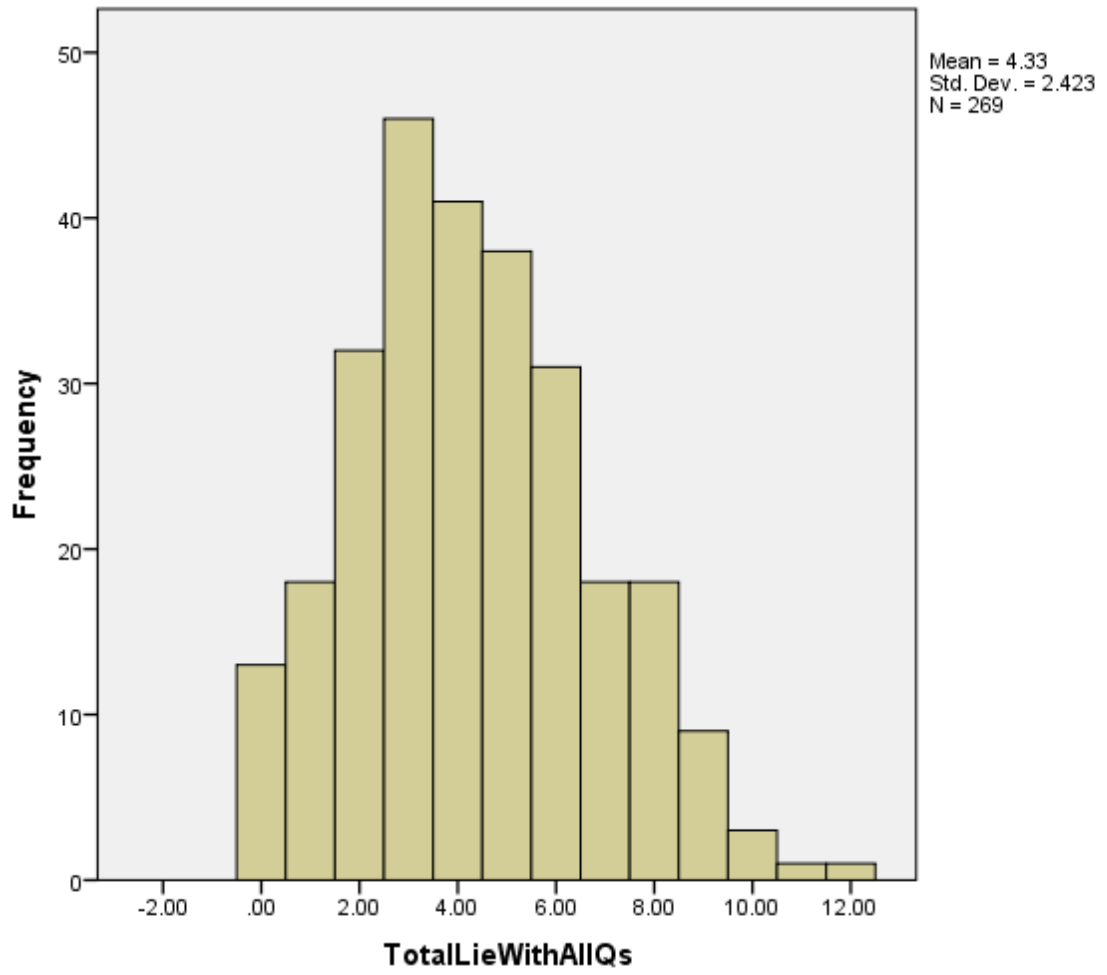30. Others admire me for being relaxed.
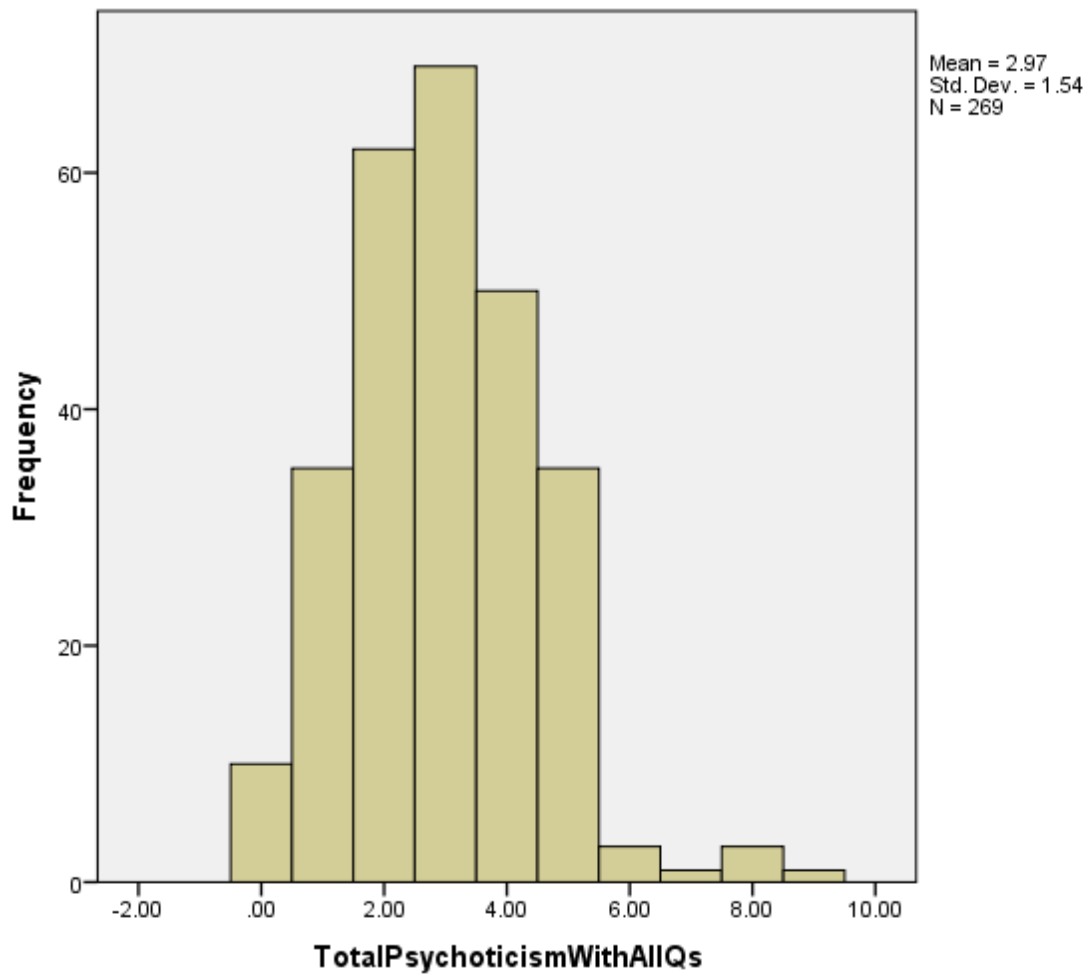
Appendix Two

(Visual Displays; Histograms)

Emotional Intelligence Scale and Original EPQ Scales

Mean = 6.80
Std. Dev. = 3.139
N = 269

TotalNeuroticismWithAllQs

Mean = 9.39
Std. Dev. = 2.802
N = 269

Mean = 4.33
Std. Dev. = 2.423
N = 269

Mean = 2.97
Std. Dev. = 1.54
N = 269

Revised Scales

Mean = 7.57
Std. Dev. = 2.853
N = 269

Mean = 7.72
Std. Dev. = 2.495
N = 269

Mean = 3.50
Std. Dev. = 1.939
N = 269

Mean = 3.31
Std. Dev. = 1.078
N = 269