

**Investigating the effects birth order has on personality,  
self-esteem, satisfaction with life and age.**

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Submitted in partial fulfilment of the requirement of the Higher Diploma in Arts  
in Psychology at DBS School of Arts, Dublin.

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March 2014

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## **Acknowledgements**

Firstly I would like to thank all the participants for their valuable time filling out the questionnaires. I would also like to thank my supervisor Dr. Barbara Caska for her advice and guidance throughout this research project. A big thank you to my parents - Des and Penny and my brother Graham for whom it would not have been possible. Finally a special thank you to my boyfriend Stephen would has continuously encouraged and supported me.

**Abstract**

This study aims to investigate the controversial concept of birth order and its effects on personality, self-esteem and satisfaction with life between 18-40 years of age and over 40 years of age. Participants (n=200) completed online questionnaires measuring birth order, personality, self-esteem, satisfaction with life and age. Correlations examined relationships between personality, satisfaction with life and self-esteem. ANOVA's tested differences between birth order and personality and birth order, personality, self-esteem and satisfaction with life between ages. Satisfaction with life positively correlated with extraversion and self-esteem, and negatively associated with neuroticism. Last-borns scored significantly higher on openness to experience than middle-borns. No age differences were found between all variables. Differences were found between birth order and openness to experience. Satisfaction with life was positively correlated with extraversion and self-esteem, and negatively associated with neuroticism. Findings will be contributable to lifespan developmental psychology.

**Chapter 1:**  
**Introduction**

## **Introduction**

Birth order is an extensively researched and controversial concept in the social science literature which has attracted much debate through history (Eckstein et al, 2010). Birth order has been a consistent standard variable in psychological research since Alfred Adler first applied the idea in 1918 (Cervone & Pervin, 2008). From a historical point of view, it is likely that Alfred Adler was influenced by Charles Darwin and his theory of evolution and adaptation (Cervone & Pervin, 2008). Adler used the concept of birth order in his work, while combining it with other information in order to assess life-style (Ansbacher & Ansbacher, 1956 cited in Eckstein et al, 2010).

This study aims to investigate the effects birth order has on personality, self-esteem and satisfaction with life. It will also explore whether these effects significantly differ between two age categories, 18-40 years of age and over 40 years of age, through the use of online questionnaires which have been distributed to potential participants through social networking sites. Therefore, the purpose of this mixed design study is to investigate whether or not birth order is a predictor of personality, self-esteem, satisfaction with life and age. No known birth order studies testing these variables in relation to age have been carried out on an Irish population or worldwide. This study will contribute to the field of lifespan developmental psychology, while enforcing previous research in the area by finding significant differences and relationships between the chosen variables.

### **1.1 Birth Order**

Shulman and Mosak (1977) enunciated two definitions of birth order. The first definition, the ordinal position, is referred to as the actual birth order of sibling (Shulman &

Mosak, 1977). The second definition, the psychological position, is associated with the role adopted by the child in their interactions with others (Shulman & Mosak, 1977). Adler places particular importance on the psychological position of the child, he highlights that it is not the child's birth order number that influences their character, but rather the situation into which they are born and how they subsequently interpret it (Eckstein et al, 2010).

Both the ordinal position and the psychological position have been used in a vast range of research. Ernst and Angst (1983) conducted an extensive review of world literature from 1946 to 1980 and concluded that most established and accepted effects of birth order on personality were methodological artefacts of poor research design. Ernst and Angst stated that through lack of control for significant background factors such as family size and social class, researchers often confused differences in personality resulting from social background with differences due to birth order (Ernst & Angst, 1983).

Sulloway's (1996) publication of 'Born to Rebel' represented a response to Ernst and Angst, by offering a new theoretical perspective on birth order. Sulloway (2007) believed that a child's development is explained by functional and not biological birth order (Healey & Ellis, 2007) and his theory focuses within-family. He examined the strength and status attained by siblings of different birth order within families of differing sizes. He subsequently concluded that birth order influences the unique strategies adopted by children for increasing parental interest in their welfare (Healey and Ellis, 2007).

First-borns are presented with the first opportunity to create a personal niche within the family unit and tend to receive a greater investment from their parents (Paulhus et al, 1999). They tend to be responsible, ambitious, competitive, conservative, organized and often serving as surrogate parents for their younger siblings (Jefferson et al, 1998). In addition, they often attempt to please their parents by sharing their interests and show a strong

willingness to fulfil parental expectations and wishes (Healey & Ellis, 2007), often through academic success and responsible behaviour (Paulhus et al, 1999).

These characteristics can be seen in Fergusson, Horwood and Boden's (2006) summary of a 25 year longitudinal study from 1977 to 2002. This study examined a range of educational outcomes, including high school and university achievement and established that higher birth order resulted in higher academic achievement. Paulhus, Trapnell and Chen (1999) studies from both Canada and the United States of America using within-family designs, also found first-born child related to higher academic achievement. This theory is further supported by a study which highlighted that first-borns tend to be positioned in occupations which require higher levels of education and greater professional requirements (Ivancevich, et al, 1987).

Despite first-borns being afforded the first opportunity to establish their niche within the family, dethronement is felt by the first-born with the arrival of another sibling as they are no longer the primary focus of their parent's attention (Eckstein et al, 2010). Dethronement was observed in Adler's theory and Sulloway's (1996) findings on birth order characteristics and it is believed that dethronement arises more frequently in families viewed as being more competitive (Stein 1999).

According to Sulloway, the challenge for later-borns is to discover a valued family niche different to that occupied by an older sibling (Healey & Ellis, 2007). Middle-born children, even when parental investment is spread equally, still receive fewer resources compared to their first-born and last-born siblings (Sulloway, 2001). First-borns and last-borns often experience some period of their childhood as only children, in contrast middle children always share parental resources with another sibling (Sulloway, 2007). As a result, middle children are often described as being peer oriented and independent of the family

(Sulloway, 2007). Middle-borns have also been found to be less closely attached to the family, less likely to report having been loved during childhood and less willing to turn to parent when they are in need compared to first-born and last-born individuals (Salmon & Daly 1998).

Last-borns are generally described as being more adventurous, altruistic, cooperative easy going, empathic, open to experience, rebellious, risk-takers, sociable and unconventional (Eckstein et al, 2010). These characteristics which are associated with first-borns have been demonstrated in research and studies focusing upon birth order.

Zweigenhaft and Von Ammon (2000) tested Sulloway's hypothesis among a group of college students in the United States of America who had participated in civil disobedience as part of a labour dispute. Interviews were conducted with 17 of the 20 arrested individuals (Zweigenhaft & Von Ammon, 2000). The study discovered a relationship between birth order and the number of arrests (Zweigenhaft & Von Ammon, 2000). Furthermore, the results highlighted that of the 12 later-born individuals, 6 had been arrested once previously and all of those who had been arrested more than once were also later-borns (Zweigenhaft & Von Ammon, 2000).

A study which examined adolescent marijuana consumption found that higher consumption correlated with later-born adolescents (Zweigenhaft & Von Ammon, 2002). Argys, Rees, Averett and Witoonchart (2006) also found that birth order significantly correlated to adolescent behaviours, such as smoking, drinking, marijuana use and sexual activity through the use of data from National Longitudinal Survey of Youth (1997). The results illustrated that first-borns were less likely to participate in risky activities in comparison to last-borns (Argys et al, 2006). More interesting was the discovery that adolescent individuals with older siblings were more likely to engage in alcohol and tobacco use and sexual intercourse (Argys et al, 2006).

To ensure the validity, accuracy and value of this study and to avoid the pit-falls of poor research design as stated by Ernst and Angst (1983), this study will include family structure questions related to a respondent's number of siblings and academic achievement. Eligibility will be restricted to participants from families with seven siblings or less and a minimum academic achievement requirement of a secondary school leaving certificate education or equivalent.

## **1.2 Personality**

The Big Five Personality Traits are relatively consistent over the lifespan of an individual (Roberts & Del Vecchio, 2000). These include Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness (Cervone & Pervin, 2008). The meaning of the factors can be observed by examining trait adjectives that describe individuals who score high and low on each (Cervone & Pervin, 2008). Despite their theoretical differences, early personality theorists such as Sigmund Freud, Alfred Adler and Carl Jung agreed that the early formation of childhood experiences were significant for future adult implications (Eckstein & Kaufman, 2012) and subsequent academic research has provided adjectival explanations of the effect of birth order on personality.

Nyman (1995) found the first-born to be dominant-aggressive, intelligent, ambitious, responsible, caring and friendly. This was the only birth position that was found to be directly associated with leadership (Nyman, 1995). He described the eldest male as self-centred and both the eldest female and male as spoilt (Nyman, 1995). The first-born female scored high on nurturance and responsibility and the first-born male on dominance and independence (Nyman, 1995).

Nyman described the middle birth position as being sociable, thoughtful, responsible, ambitious and independent (Nyman, 1995). He linked open mindedness and dominant aggressive characteristics with middle-born males and intelligence with females (Nyman, 1995). Negative attributes such as insecurity, confusion, neglect and rebelliousness were associated with both males and females, while males were also seen as irresponsible (Nyman, 1995). The middle birth position was the only birth position which was not viewed as being 'spoilt' and middle-borns were further described as neglected or overlooked (Nyman, 1995).

Finally, the youngest was viewed as dependent, irresponsible, rebellious and immature (Nyman, 1995). In addition to this, males were portrayed as being self-centred, insecure and lazy while females were described as passive (Nyman, 1995).

Sulloway (1995) conducted a review of 196 personality studies and hypothesized specific traits which were associated with certain birth orders. Sulloway stated that first-borns exhibit greater respect for parental authority and consequently should score higher on conscientiousness (Sulloway, 1995). Jefferson, Herbst and McCrae (1998) found the traits of neuroticism, extraversion and conscientiousness were more highly associated with first-borns, however, they scored lower on openness to experience and agreeableness compared to later-borns.

Paulhus, Trapnell and Chen (1999) conducted four individual within-family studies. Their third study of 194 students (excluding only children) was a take-home study which included the Five-Factor Model traits (Paulhus et al, 1999). The researchers used four of the Big Five Traits, excluding neuroticism as they believed it had the weakest effect (Paulhus et al, 1999). They found that the pattern was consistent across sibling sizes (Paulhus et al, 1999). First-borns were found to be most conscientious and higher achieving, supporting Sulloway's theory and later-borns were found to be associated higher as more liberal,

agreeable and rebellious (Paulhus et al, 1999). A possible explanation of these result forwarded by the researchers related to the last-born of the family being most likely to be in their teenage years and therefore of an age where rebelliousness is common (Paulhus et al, 1999). This explanation gave rise to a fourth study to challenge this explanation.

This study involved 309 adults in Vancouver, Canada who were provided with take-home packages (Paulhus et al, 1999). As all participants were over 40 years of age, it was considered that they would be beyond their 'rebellious' teenage years (Paulhus et al, 1999). Significantly, the study provided similar findings to that of the third study, supporting previous research and supporting the concept of consistency of personality over an individual's lifespan (Paulhus et al 1999).

Healey and Ellis (2007) also found similar findings in their first study of 161 second year personality psychology students at the University of Canterbury. The results indicated that first-borns scored significantly higher on consciousness compared to their second-born siblings and lower on openness to experience (Healey & Ellis, 2007).

Similar to Paulhus, Trapnell and Chen's third study (1999), criticism were raised highlighting that many of the second-born siblings were possibly still in their teenage 'rebellious' stage and therefore were more likely to fall within the 'openness to experience' category and as the first-borns were at the university stage they were more likely to be considered for consciousness (Healey & Ellis, 2007).

Healey and Ellis (2007) developed a second study which included 750 mailed questionnaires sent to participants on the South Island of New Zealand. Of the 237 questionnaires that were returned, 174 were correctly completed (Healey & Ellis, 2007). The study required first-born and second-born siblings to be 18 months to 5 years apart and all siblings were required to have been born and raised in the same family environment, with the

exclusion of step or half siblings (Healey & Ellis, 2007). The results again supported their previous study, whereby the first-borns scored significant higher than their second-born siblings on conscientiousness and lower on openness to experience (Healey & Ellis, 2007).

Saroglou and Fiasse's (2003) study examined 122 young adults aged between 22-29 years from three-sibling families in Belgium. Sixty percent of the participants possessed a university education and the remaining thirty-four percent had a higher non university education (Saroglou & Fiasse, 2003). All participants were of the same socio-economic status, middle class, and were living in urban areas or the environs (Saroglou & Fiasse, 2003). Participants with deceased and adopted siblings were excluded (Saroglou & Fiasse, 2003). Saroglou and Fiasse (2003) discovered that first-borns were more conscientious, conventional, and are often considered achievers, whereas later-borns were considered to be more open and rebellious. Interestingly, this study found the middle-born to be the 'rebel' of the family, a personality characteristic which is usually associated with the last-born (Saroglou & Fiasse, 2003). Furthermore, middle-borns scored lowest on conscientiousness, academic performance and religion and highest on impulsiveness and openness to fantasy and values (Saroglou & Fiasse, 2003). Finally, the last-born was found to score highest on agreeableness (Saroglou & Fiasse, 2003).

Jefferson, Herbt and McCrae (1998), Paulhus, Trapnell and Chen (1999) and Saroglou and Fiasse (2003) made significant findings which illustrate that first-borns score higher on extraversion and conscientiousness and lower on openness to experience and agreeableness compared with later-born individual. This study will investigate birth order categories in relation to these specific personality traits. The study will also divide participants into separate groups of 18-40 years of age and over 40 years of age, similar to the studies of Paulhus, Trapnell and Chen (1999). A further requirement, as used by Healey and Ellis

(2007), is that participation will be limited to individuals whose closest sibling is 18 months to 5 years apart.

### **1.3 Self-Esteem**

As previously noted, studies have supported the view that birth order has an effect on the personality (Healey & Ellis, 2007; Jefferson et al, 1998; Nyman, 1995 and Saroglou & Fiasse, 2003) and an individual's subsequent achievements (Fergusson et al, 2006 and Paulhus et al, 1999). Another key area of interest is whether birth order influences self-esteem.

Alfred Adler suggested that birth order is related to many aspects of an individual's life including his/her self-esteem (Ansbacher & Ansbacher, 1956 cited in Eckstein et al, 2010). Adler believed that each individual's role within the family is unique, with varying associated expectations, issues and challenges, however when these are met or overcome the end result equates to positive self-esteem (Ansbacher & Ansbacher, 1956 cited in Eckstein et al, 2010).

Falbo (1981) suggested that birth order affects self-esteem in adolescents and young adults. The study, consisting of 841 males and 944 female undergraduate university students, examined the relationship between birth order and personality traits (Falbo, 1981). Falbo (1981) used several personality instruments, a background questionnaire and the Rosenberg Self-Esteem Scale. The results revealed first-borns tended to have higher self-esteem compared to later-born children, with the lowest self-esteem occurring in middle-born females (Falbo, 1981).

Birth order may also relate to how an individual understands how they are viewed and perceived by others (Schwab & Laudgren, 1978). Schwab and Laudgren (1978) carried out two relevant studies, involving 236 female and 236 male undergraduate college students, examining the relationships between birth order, perceived evaluations of self by others and self-esteem. The study found first-borns to have a higher self-esteem compared to later-borns and these characteristics are greater again in females compared to males (Schwab & Laudgren, 1978). It was also found that perceived appraisals of significant others are important in explaining differences in birth order (Schwab & Laudgren, 1978). Furthermore, they suggested that perceived appraisals of authority figures, for example fathers, are most influential for first-born females, while perceived appraisals of close peers are of most importance for first-born males (Schwab & Laudgren, 1978).

Several studies have demonstrated that the parent-child relationship is amongst the most significant indicators of self-esteem (Parker & Benson, 2004). Parker and Benson (2004) suggested the perceptions of closeness with parents are positively correlated with adolescent self-esteem.

Kidwell (1982) published findings indicating that middle-born children acquire lower self-esteem, along with an unstable sense of identity, in comparison to their first or last-born siblings. Kidwell highlighted that a child's self-esteem is a consequence of a parents reflected appraisal of the child's intrinsic value, which occurs during parent-child interaction (Kidwell, 1982). Therefore, if the parent-child interaction is equal among all siblings within a family, the result should represent equal self-esteem levels among all siblings (Kidwell, 1982).

Zervas and Sherman's (1994) study examined 91 college students on the topic of perceived parental favouritism regarding their own personal self-esteem. The results illustrated those who considered themselves as 'favoured' in the family demonstrated higher

self-esteem (Zervas & Sherman, 1994). The study also highlighted a relationship between this high self-esteem and birth order in the family (Zervas & Sherman, 1994). The survey found 62% of students stated that parental favouritism occurred in respect of birth order and therefore impacted on their self-esteem (Zervas & Sherman, 1994).

Bulanda and Majumdar (2008) used data from the National Longitudinal Study of Adolescent Health in the United States of America to investigate the independent and interactive relationship of maternal and paternal parenting in respect to adolescent self-esteem. The results showed the participants' accounts of both mothers' and fathers' availability, involvement and quality of relations were both independently significant and impacted upon their self-esteem (Bulanda & Majumdar, 2008). They also discovered a positive association with parental involvement and a high quality relationship with self-esteem, which further develops with the involvement of a second parent (Bulanda & Majumdar, 2008).

It has been suggested that children who experience multiple changes in family structure may succumb to poorer developmental outcomes compared with children raised in stable two parent families (Fomby & Cherlin, 2007). With a prevalence in rates of divorce, these effects are become more established (Fomby & Cherlin, 2007). Single parent families have also been found to have less economic resources, which also impacts upon self-esteem (Fomby & Cherlin, 2007).

Baker and Ben-Ami (2011) conducted an internet study of 118 adults whose parents divorced before the age of 15 years. They discovered those who experienced parental alienation exhibited low self-esteem, insecure relationship attachments, higher rates of depression and decreased self-sufficiency in adulthood (Baker & Ben-Ami, 2011).

As we have previously noted, there is a possible relationship between birth order and personality traits. It is not surprising, therefore, that there is evidence to suggest there is a correlation between personality and self-esteem.

Robins, Tracy, Trzesniewski, Potter and Gosling's (2001) study examined the relationship between self-esteem and the Big Five personality dimensions. Their study consisted of 326,641 individuals ranging between the ages of 9-90 years who completed online questionnaires globally (Robins et al, 2001). The researchers used the Single-Item Self-Esteem Scale and the Rosenberg Self-Esteem Scale (1965) to test for self-esteem and a 44 item Big Five Inventory to test for personality (Robins et al, 2001). The study found individuals who possess high self-esteem to be emotionally stable, extraverted and conscientious and somewhat agreeable and open to experience (Robins et al, 2001).

It is universally accepted that high self-esteem produces significant positive effects against stress, negative emotions and enhance personal adjustment (Rashid et al, 2011). Abraham Maslow described an individual with high self-esteem as being psychologically happy and healthy (Maslow, 1970). Past research, such as Campbell (1981), has highlighted self-esteem to consistently positively correlate with satisfaction with life in western countries.

Diener and Diener (1995) investigated this association in a large cross-national group of 13,118 college students from 31 nations. They identified a positive correlation between self-esteem and satisfaction with life, not only in the group of 13,118 participants, but also around most nations (Diener & Diener, 1995).

One study demonstrates that this significant correlation is not confined to western countries (Rashid, Nordin, Omar and Ismail, 2011). Their questionnaire was distributed to 710 married female nurses working in the Malaysian public health care services (Rashid et al, 2011). Most respondents were over 40 years of age with diploma qualifications (Rashid et al,

2011). From the 97% correctly completed questionnaires, self-esteem was found to directly influence satisfaction with life, with a significant positive effect (Rashid et al, 2011).

The current study will investigate whether birth order categories are significantly correlated with self-esteem as suggested by Falbo (1981) and Schwab and Laudgren (1978). Both studies found first-borns to have higher levels of self-esteem compared with their later-born siblings. Baker and Ben-Ami (2011) discovered that adults with parents who divorced before early adolescence were found to exhibit lower self-esteem compared with those with a two-parent family living environment. Therefore, the third requirement for participation is based on Baker and Ben-Ami's findings. This study will alter the age range to respondents requiring a two-parent family between the ages of 0 to 12 years of age enabling us to focus purely on the childhood affects.

#### **1.4 Satisfaction with life**

Since the time of Aristotle, the pursuit of happiness has been a fundamental part of psychology explored by philosophers and theologians (Proctor et al, 2009). In recent years, a large body of research has emerged on the topic of happiness, referring to subjective well-being, satisfaction with life, or happiness across different categories of people (Proctor et al, 2009; Ho, Cheung, & Cheung, 2008 & Joshanloo & Afshari, 2011). Cross-sectional, longitudinal and experimental data studies have illustrated that well-being and happiness positively correlate with personal, psychological, behavioural and social outcomes (Lyubomirsky et al, 2005).

There are many definitions of this topic. Diener, Sandvik, Pavato and Jujita (1992) defined satisfaction with life as a personal judgement of prosperity, success and quality of life

which are dependent upon an individual's selected criteria. Inglehart (1990) stated life satisfaction is a sense of personal fulfilment which results from a balance between an individual's dreams and wishes and their real life situation. Many elements contribute to the degree of life satisfaction, including demographic factors such as sex, quantity of peer friendship, age and educational level (Tavangar et al, 2013).

Chow (2005) measured satisfaction with life by way of questionnaire surveys on university students in Regina, Canada. Of the 315 student participants, 76.2% were found to be satisfied with life (Chow, 2005). Participants reported being most satisfied with their relationship with their mother, relationships with peers, relationships with siblings, living environment and living arrangement (Chow, 2005). Interestingly, those with a higher socio-economic status and a higher level of academic performance were more satisfied with their academic experience, self-esteem, romantic relationship, and living conditions which demonstrated a greater level of satisfaction with life (Chow, 2005).

Several studies have also highlighted family factors as predictors of satisfaction with life (Henry, 1994; Onyishi & Okongwu, 2013). Henry (1994) highlighted that parental support, such as encouragement, praise and physical affection was associated with greater family life satisfaction. The study also found that adolescences who reported living in single parent families reported a lower life satisfaction with their family life, compared to those with two parent families (Henry, 1994).

Different theoretical perspectives offer different explanations of the determinants of satisfaction with life (OECD, 2013). Early classical theories of subjective well-being suggest an individual's happiness results most directly from the objective circumstances in an individual's own life (Baird et al, 2010). More recently, an essentialist perspective has been forwarded (Baird et al, 2010). Diener and Lucas (1999) argued that demographic

characteristics and objective circumstances, rather than influencing satisfaction with life directly, possibly affect well-being through an array of subjective processes.

In support of this idea, researchers such as Shimmack, Oishi, Furr and Funder (2004) have noted subjective well-being to significantly correlate with personality traits. Their research involved 136 students from the University of Illinois (Shimmack et al, 2004). The sample included 100 female and 36 male participants with a mean age of 20 (Shimmack et al, 2004). Their results demonstrated that extraversion and neuroticism were significant predictors of satisfaction with life (Shimmack et al, 2004). They discovered that extraversion was positively correlated with satisfaction with life, whereas neuroticism was negatively correlated with satisfaction with life (Shimmack et al, 2004).

Diener and Seligman's (2002) study screened a sample of 222 undergraduates in the University of Illinois. They compared the upper 10% of consistently 'very happy' participants with 'average' and 'very unhappy' participants (Diener & Seligman, 2002). The 'very happy' group were found to score higher on extraversion, agreeableness and lower on neuroticism (Diener & Seligman, 2002). Diener and Seligman (2002) concluded that good social relations were necessary for happiness.

In contrast to the classical and essentialist perspectives, the socio-emotional selectivity theory suggests that individuals may become happier over their lifespan. However, there has been a variety of cross-sectional studies that have found stable levels of satisfaction with life across different cohorts (Costa, McCrae, & Zonderman, 1987). Veenhoven (1996) conducted a cross-cultural study from 1980 to 1990 which examined the relationship between the age range of 18-90 years of age and social well-being in eight European countries. They discovered almost no change in the level of life satisfaction between young and old (Veenhoven, 1996).

Diener and Suh (1998) used the World Values Survey II (1994) of approximately 60,000 participants from 43 nations to measure satisfaction with life. They reported an almost perfect flat line from the age of 18 to 90 years of age when plotting levels of life satisfaction (Diener & Suh, 1998). Similarly Hamarat, Thompson, Aysan, Steele, Matteny and Simons (2002) found no differences satisfaction with life scores across groups of people between 45 to 89 years of age. In addition, research conducted by Inglehart (1990) in the 1980's found that 80% of young adults and 81% of individuals over the age of 65 years noted high levels of satisfaction with life (Inglehart, 1990). Therefore, satisfaction with life in both age groups showed relatively similar levels (Inglehart, 1990).

A recent study conducted by Realo and Dobewall (2011) examined the relationship between age and satisfaction with life over a 27 year period (1982-2009) in Estonia, Finland, Latvia and Sweden. The study titled 'Does life-satisfaction change with age?' included 39,420 participants aged 15-100 years of age from the European Value Survey, the World Values Survey, and the European Social Survey (Realo & Dobewall, 2011). The first result showed no relationship between age and satisfaction with life in both Finland and Sweden supporting Thompson, Aysan, Steele Matteny and Simons (2002) and Inglehart (1990) findings (Realo & Dobewall, 2011).

In contrast, Realo and Bobewall's (2011) findings in both Estonia and Latvia could be described by a U curve, with young and old participants having higher satisfaction with life compared to participants in the middle age group (Realo & Dobewall, 2011). This age difference, they suggested, was due to an interaction of cohort and period differences (Realo & Dobewall, 2011). Prenda and Lachman (2001) study of adults aged 25 to 75 years also found age to be positively correlated with satisfaction with life.

Baird, Lucas and Donnellan (2010) used two large-scale studies to assess changes in satisfaction with life over the lifespan, the German Socio Economic Panel Study and the British Household Panel Study. Their study revealed two notable results. The first was that satisfaction with life does not decline dramatically throughout adulthood (Baird et al, 2010). The second result, however, showed a steep decline in life satisfaction with individuals over the age of 70 years (Baird et al, 2010). Chen (2001) also found age to be negatively related to life satisfaction in a sample of individuals aged 60 years and over.

Henry (1994) highlighted that lower satisfaction with life is associated with those living in a single parent environment. Shimmack, Oishi, Furr and Funder (2004) and Diener and Seligman (2002) found the personality trait extraversion to positively correlate with satisfaction with life and neuroticism to negatively correlate with satisfaction with life. Finally Costa, McCrae and Zonderman, 1987, Diener and Suh (1998), Hamarat, Thompson, Aysan, Steele, Matteny and Simons (2002) found no differences in satisfaction with life scores across individuals lifespan.

Therefore, one requirement for participation in this study includes growing up in a two-parent family between the ages of 0 – 12 years and this study will seek to explore the relationship between specific personality traits and satisfaction with life.

### **1.5 Hypotheses / Expected Findings**

Upon reviewing the literature, I was unable to find a published research paper using the variables of birth order, personality, self-esteem and life satisfaction between two different age groups. Psychological databases such as psycARTICLES, psycEXTRA, psycCRITIQUES, psycINFO and PubMed were searched for the period from 1990 to 2014

using key words such as '*birth order*', '*personality*', '*self-esteem*' '*satisfaction with life*' and '*age*'.

Based on the previously reviewed research, the following patterns in the current study are expected:

- **Hypothesis 1:** There will be a significant difference between birth order categories and personality traits. It is hypothesised first-borns will score higher on conscientiousness and extraversion, while later-borns will score higher on agreeableness and openness to experience;
- **Hypothesis 2:** There will be a significant correlation between personality and satisfaction with life. It is hypothesised extraversion will be positively correlated with life satisfaction and neuroticism will be negatively correlated with satisfaction with life;
- **Hypothesis 3:** There will a significant correlation between birth order categories and self-esteem;
- **Hypothesis 4:** There will be a significant difference between birth order on personality, self-esteem and satisfaction between the age groups of 18-40 years of age and over 40 years of age; and
- **Hypothesis 5:** There will be a significant relationship between self-esteem and satisfaction with life.

**Chapter 2:**  
**Methodology**

## 2.1 Materials and Instruments

The cover page included the researcher's personal college contact details, the aims and objectives, requested consent, participation eligibility, while highlighting that participation was to be voluntary, anonymous and confidential. The first page of the questionnaire consisted of demographic and background questions relating to the participant's family structure, including age, gender, birth order, number of siblings and level of education.

Three scales, The Big Five Inventory Scale (Goldberg, 1993), The Rosenberg Self-Esteem Scale (Rosenberg, 1965), and The Satisfaction with Life Scale (Diener, Emmons, Larsen and Griffin, 1985), were employed. In compliance with the ethical code of conduct of the Psychological Society of Ireland (**PSI**), the final page contained a list of contact groups for participants affected by elements in the study.

Finally, the last instrument used in this study was a statistical package for the social science (**SPSS**, version 18 for Windows). **SPSS**, a windows based program, was used to perform data entry, analysis and to create tables and graphs.

### *Big Five Inventory Scale:*

The first scale, The Big Five Inventory Scale (**BFI**), consists of 44 items measuring the five trait dimensions of personality (John & Srivastava, 1999). The five measured traits, often referred to as OCEAN, are Openness to experience (9 items), Conscientiousness (9 items), Extraversion (8 items), Agreeableness (9 items) and Neuroticism (8 items) (John & Srivastava, 1999). The scale uses a 5-point Likert scale ranging from 1 = Strongly Disagree

to 5 = Strongly Agree (John & Srivastava, 1999). Cronbach's alpha coefficient for BFI has been found ranging from 0.69 to 0.81 (Kline, 2000).

Individuals with high scores in extraversion are considered sociable, forceful, energetic, adventurous, enthusiastic and outgoing (John & Srivastava, 1999). In comparison, those individuals scoring low on extraversion are perceived as being introverted (John & Srivastava, 1999). Examples of questions measuring extraversion include Question 16 'Generates a lot of enthusiasm' or Question 26 'Is outgoing, sociable' (John & Srivastava, 1999).

High scores on agreeableness are associated with being straightforward, warm, compliant, modest, sympathetic and forgiving (John & Srivastava, 1999). Low scores indicate being analytic and detached (John & Srivastava, 1999). Questions associated with agreeableness are Question 17 'Has a forgiving nature' and Question 42 'Likes to cooperate with others' (John & Srivastava, 1999).

Conscientiousness is linked with being efficient, organized, dutiful, thorough, self-disciplined and non-impulsive (John & Srivastava, 1999). Question 3 'Does a thorough job' and Question 33 'Does things efficiently' are examples of conscientiousness (John & Srivastava, 1999).

Neuroticism relates to anxiety, irritability, depression, self-consciousness, impulsiveness and vulnerability (John & Srivastava, 1999). Questions include Question 29 'Can be moody' and Question 4 'Is depressed, blue' are questions relating to neuroticism (John & Srivastava, 1999), with low scores in such questions suggesting emotional stability (John & Srivastava, 1999).

Finally, openness to experience highlights curiosity, imaginatively, artistic attributes, wide interests, excitability and being unconventional (John & Srivastava, 1999). Openness to experience expresses the degree of intellectual curiosity, creativity and preference for novelty and variety a person possesses (John & Srivastava, 1999). It also illustrates the degree to which an individual is imaginative or independent while portraying personal preference for a range of activities in contrast to strict routine (John & Srivastava, 1999).

Reverse scoring is required in each section and is subsequently recoded (John & Srivastava, 1999). These questions included: Extraversion: Questions 6, 21 and 31; Agreeableness: Questions 2, 12, 27, and 37; Conscientiousness: Questions 8, 18, 23, and 43; Neuroticism: Questions 9, 24 and 34; and Openness to Experience: Questions 35 and 41. Therefore, scoring changed to 5 = Strongly Disagree and 1 = Strongly Agree.

#### *The Rosenberg Self-Esteem Scale:*

Self-esteem was assessed using the Rosenberg Self-Esteem Scale (**RSES**) which measures global self-worth. The RSES scale is comprised of 10 statements, five positive and five negative about the self (Rosenberg, 1965). Question 3 is an example of a positively worded statement 'I feel that I have a number of good qualities' compared with Question 6, a negatively worded statement, 'I certainly feel useless at times' (Rosenberg, 1965). Participants rated the extent to which they agreed with each statement using a 4-point Likert scale, ranging from Strongly Agree to Strong Disagree (Rosenberg, 1965). Total scores were retrieved, with Questions 2, 5, 6, 8 and 9 reverse scored before totalling all responses (Rosenberg, 1965). Total scores ranged between 0-30, with higher scores indicating higher self-esteem (Rosenberg, 1965). Cronbach's alpha coefficient for RSES has been reported to be between 0.78 and 0.90 (Rosenberg, 1965).

### *The Satisfaction with Life Scale:*

The Satisfaction with Life Scale (**SWLS**) is a 5-item self-referencing scale designed to measure global cognitive judgements of one's satisfaction with life (Diener et al 1985). Satisfaction with life is one factor in the more general construct of subjective well-being (Diener et al 1985). All items are answered using a 7-point Likert scale format ranging from 1= Strongly Disagree and 7= Strongly Agree (Diener et al 1985). Higher scores suggest a greater degree of life satisfaction ranging from 31-35 = Extremely Satisfied to 5-9 = Extremely Dissatisfied (Diener et al 1985). Cronbach's alpha coefficient for SWLS has been reported .82 and .87. (Diener et al, 1985).

## **2.2 Participants**

A total of 200 participants completed the questionnaire voluntarily. These individuals consisted of both males (n=47) and females (n=153). Eligibility required participants to be over the age of 18 years, from a two parent home environment between the age of 0-12 years, have siblings, a sibling age gap between 18 months to 5 years and a minimum requirement of a secondary school qualification. The participants were divided into two separate age groups, 18-40 years of age (n= 132) and over 40 years of age (n= 68). The questionnaire was uploaded and distributed online through the means of social networking sites so as to avoid participants having previous knowledge of the variables involved, in particular birth order.

## **2.3 Design**

A cross-sectional design was used for this study and was completed through a quantitative mixed method. Google.docs was used to design the four section online

questionnaire. A setting was placed on each question to ensure all questions were answered continuously before progressing to the next sections. At the bottom of each page a completion bar was installed showing the percentage completed. The criterion variables used in this study were self-esteem and satisfaction with life and the predictor variables were birth order and personality.

## **2.4 Procedure**

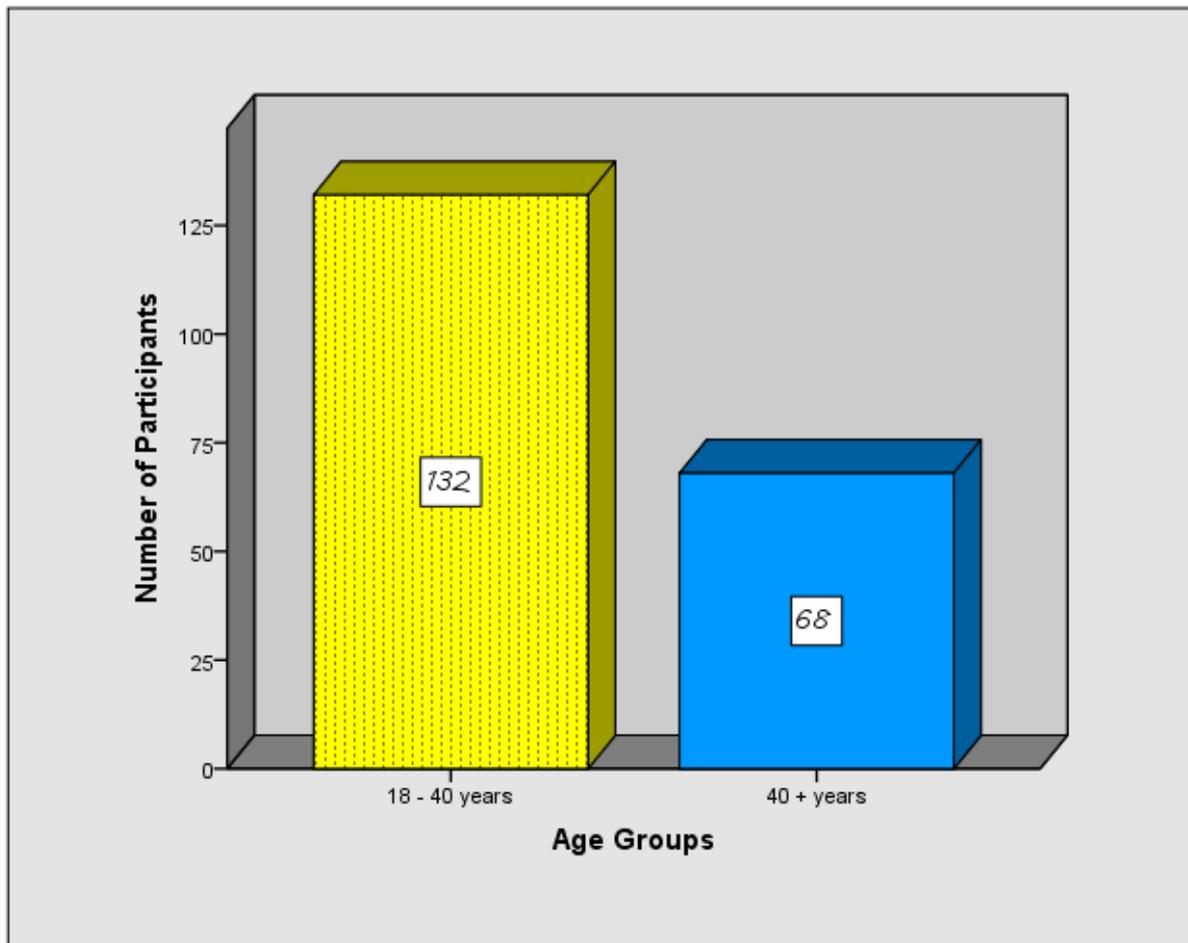
The online questionnaires were distributed between the months of January to February 2014. Participation time was approximately 10-15 minutes. The cover page explained voluntary participation, with the right to withdraw up and until the time of submission. Extra information included the researcher's personal contact details, aim of the study and requirements for participation. The questionnaire required completion of demographic and background questions, the RSES, SWLS and the BFI. The last page provided participants with relevant support contacts following its completion. Data was received into an excel spreadsheet, on February 18<sup>th</sup> the questionnaire closed and all data was transferred into SPSS. All data was then recoded in SPSS and prepared for later analysis and safely stored in a password protected folder.

## **Chapter 3:**

### **Results**

### 3.1 Descriptive Statistics

The sample consisted of 200 participants, males ( $n = 47$ , 23.50%) and females ( $n = 153$ , 76.50%). Participants also categorised themselves into two age categories, 18-40 years of age and over 40 years of age.

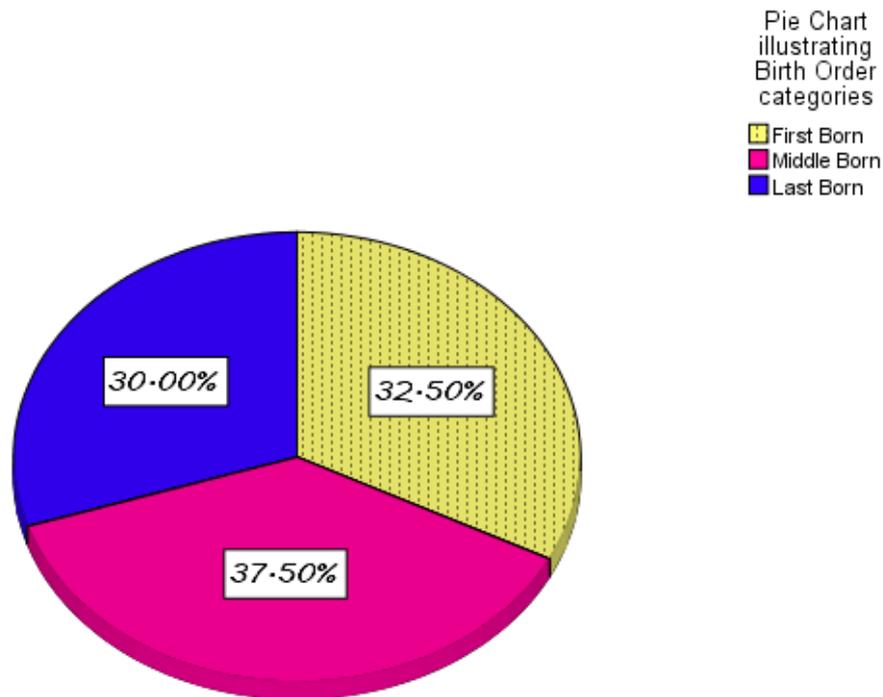


**Figure 1** - *Number of participants in different age groups.*

Of the 200 respondents, the 18 – 40 years age group consisted of 132 participants (66%), compared with the over 40 years of age which consisted of 68 participants (34%).

The questionnaire required completion of demographic and background questions, The Rosenberg Self-Esteem Scale (Rosenberg, 1965), The Satisfaction with Life Scale (Diener, Emmons, Larsen and Griffin, 1985) and the Big Five Inventory Scale (Goldberg,

1993). Participants were asked to categorize themselves into three different birth orders, first-born, middle-born and last-born.



**Figure 2 – Different Birth Order Categories.**

Of the 200 participants the first born category represented 32.50% ( $n = 65$ ), the middle-born category represented 37.50% ( $n = 75$ ) and last-born category represented 30% ( $n = 60$ ).

Before running any tests to check for significant relationships, a number of descriptive statistics were measured to determine any trends in the scoring of the variables.

The mean (M) and standard deviation (SD) of the predictor and criterion variables are visible in the table below.

**Table 1:** Means and Standard Deviations for Predictor and Criterion variables.

Variable	N	M	SD
Self-Esteem Total	200	21.00	4.54
Satisfaction with life Total	200	26.16	5.20
Personality Total	200	153.63	13.70

The possible scores for satisfaction with life range from 5 to 35, with 5-9 being 'Extremely Dissatisfied' and 30-35 being 'Extremely Satisfied'. The mean score for life satisfaction, as measured by the Satisfaction with Life Scale, was 26.16 (SD = 5.20), indicating that respondents had above average levels of Satisfaction with life.

### 3.2 Inferential Statistics

#### Hypothesis 1

A one-way Analysis of Variance (ANOVA) was conducted to compare the effects of birth order on personality in first-borns, middle-borns and last-borns. There was no statistically significant between birth order and extraversion ( $f(2, 197) = .470, p = .273$ ), agreeableness ( $f(2, 197) = 1.306, p = .273$ ), conscientiousness ( $f(2, 197) = 2.534, p = .082$ ) or neuroticism ( $f(2, 197) = 2.332, p = .100$ ). Therefore, the null hypothesis can be accepted.

A one-way Analysis of Variance was conducted to compare the effect of birth order on openness to experience in first-borns, middle-borns and last-borns. There was a statistically significant difference between birth order and openness to experience as determined by a one-way Analysis of Variance ( $f(2, 197) = 3.589, p < 0.05$ ). Therefore the null hypothesis can be rejected. Post hoc comparisons using the Tukey HSD test indicated that the mean scores for middle-borns ( $M = 32.87, SD = 6.50$ ) were significantly different to last-borns ( $M = 35.82, SD = 6.57$ ). Therefore, last-borns were found to have higher levels of openness to experience than middle-borns. First-borns ( $M = 34.29, SD = 6.01$ ) did not significantly differ from middle-borns or last-borns.

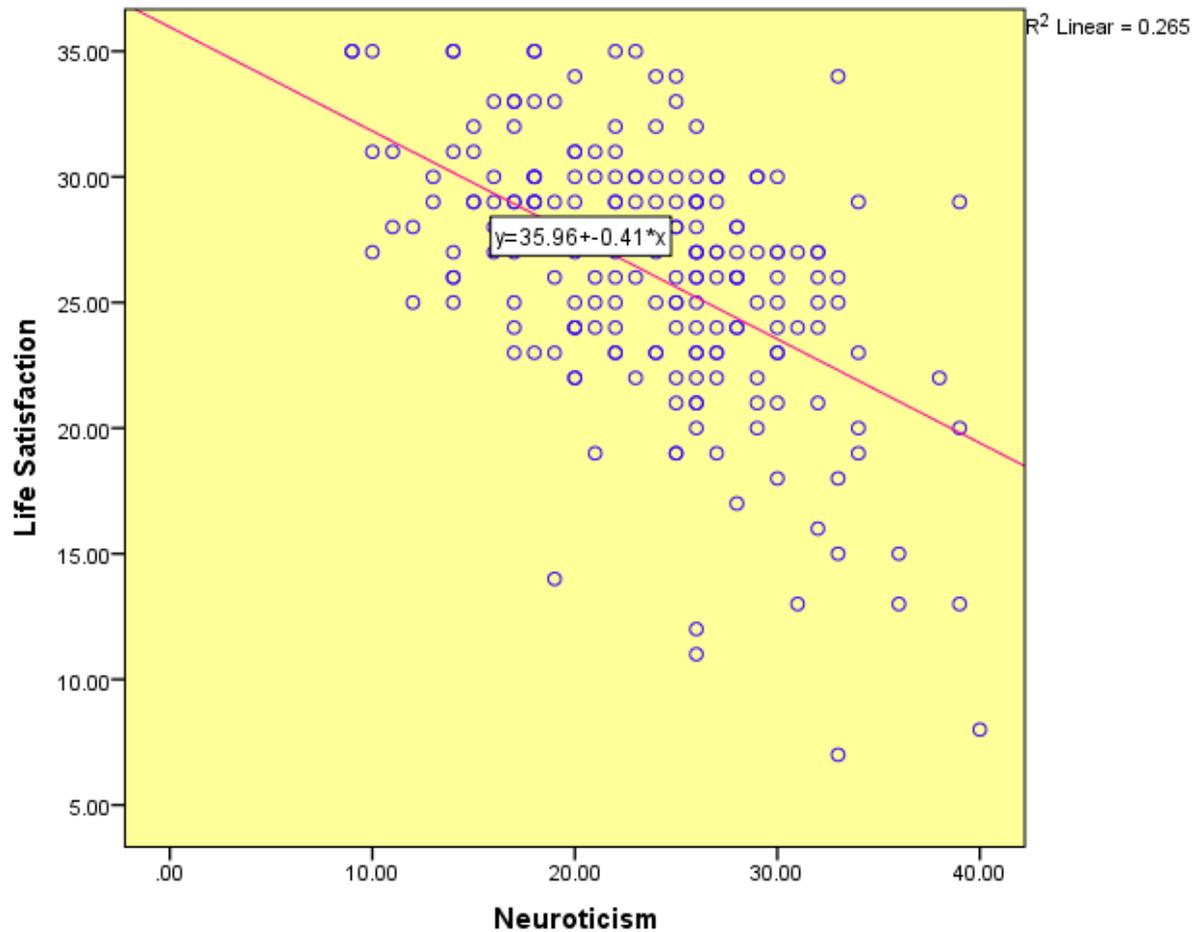
**Table 2** - *Illustrating the means and standard deviations of birth order categories on the personality trait Openness to Experience.*

<b>Variables</b>	<b>Groups</b>	<b>M</b>	<b>SD</b>	<b>f</b>	<b>df</b>	<b>p</b>
Openness to Experience	First-born	34.30	6.01	3.59	2	.029
	Middle-born	32.87	6.50	-	197	-
	Last-born	35.81	6.57	-	-	-
	Total	34.22	6.45	-	199	-

## **Hypothesis 2**

A Pearson correlation coefficient was used to test significant correlations between specific personality traits and satisfaction with life. The mean score for satisfaction with life was 26.16 ( $SD = 5.20$ ) and for neuroticism was 23.69 ( $SD = 6.47$ ). A Pearson correlation coefficient found that there was a strong negative significant relationship between satisfaction

with life and neuroticism ( $r(198) = -.514, p < .01, 1\text{-tailed}$ ). Therefore, the null hypothesis is rejected.



### The Relationship between Satisfaction with life and Neuroticism

**Figure 3** – Scatterplot indicating as levels of satisfaction with life increase, levels of neuroticism decrease.

The mean score for satisfaction with life was 26.16 (SD = 5.20) and for extraversion was 26.83 (SD = 6.16). A Pearson correlation coefficient found that there was a moderate positive significant relationship between satisfaction with life and extraversion ( $r(198) -$

.325,  $p < .01$ , 1-tailed). As scores in satisfaction with life increase, levels of extraversion also increase. Therefore, the null hypothesis is rejected.

**Table 3** - *Pearson correlation coefficient illustrating the significant relationship between Extraversion and Satisfaction with life.*

Scales		Life Satisfaction Total	Extraversion
Satisfaction with life	Pearson Correlation	1	.325**
Total	Sig. (2-tailed)		.000
	N	200	200
Extraversion	Pearson Correlation	.325**	1
	Sig. (2-tailed)	.000	
	N	200	200

\*\* Correlation is Significant at the 0.01 level (1-tailed)

### Hypothesis 3

A one-way Analysis of Variance was conducted to compare the effect of birth order on self-esteem in first-borns, middle-borns and last-borns. There was no statistically significant difference between birth order and self-esteem as determined by one-way analysis of variance ( $f(2, 197) = 1.808$ ,  $p = .167$ ). First-borns showed slightly higher levels of self-esteem ( $M = 21.86$ ,  $SD = 4.21$ ) compared to middle-borns ( $M = 20.48$ ,  $SD = 4.17$ ) and last-borns ( $M = 21.00$ ,  $SD = 4.54$ ). Therefore, the null hypothesis can be accepted.

#### Hypothesis 4

**Table 4** – Independent t-test illustrating no significant differences between first-borns on personality, self-esteem, satisfaction with life and age.

Variables	Groups	Mean	t	df	p
Personality	18 – 40	156.56	1.58	55.48	.121
	Over 40	150.90			
Self-esteem	18 – 40	21.33	-1.11	54.81	.272
	Over 40	22.52			
Satisfaction with life	18-40	25.78	-1.63	61.15	.107
	Over 40	27.76			

Independent samples t-tests found that there was no statistical significant differences in first-born participants for personality, self-esteem and satisfaction with life between the groups 18-40 years of age and over 40 years of age. Therefore, the null hypothesis for all of the above can be accepted.

**Table 5** – *Independent t-test illustrating no significant differences between middle-borns on personality, self-esteem, satisfaction with life and age.*

<b>Variables</b>	<b>Groups</b>	<b>M</b>	<b>t</b>	<b>Df</b>	<b>P</b>
Personality	18-40	153.54	.234	56.10	.816
	Over 40	152.90			
Self-esteem	18-40	20.11	-1.174	33.21	.249
	Over 40	21.43			
Satisfaction with life	18-40	25.87	-.330	29.66	.743
	Over 40	26.33			

Independent samples t-tests found that there was no statistically significant differences in middle-born participants for personality, self-esteem and satisfaction with life between the groups 18-40 years of age and over 40 years of age. Therefore, the null hypothesis for all of the above can be accepted.

**Table 6** – *Independent t-test illustrating no significant differences between last-borns on personality, self-esteem, satisfaction with life and age.*

<b>Variable</b>	<b>Groups</b>	<b>M</b>	<b>t</b>	<b>df</b>	<b>p</b>
Personality	18-40	152.10	-1.102	28.97	.279
	Over 40	156.83			
Self-esteem	18-40	20.67	-.077	34.35	.939
	Over 40	20.78			
Satisfaction with life	18-40	26.12	.593	27.98	.558
	Over 40	25.06			

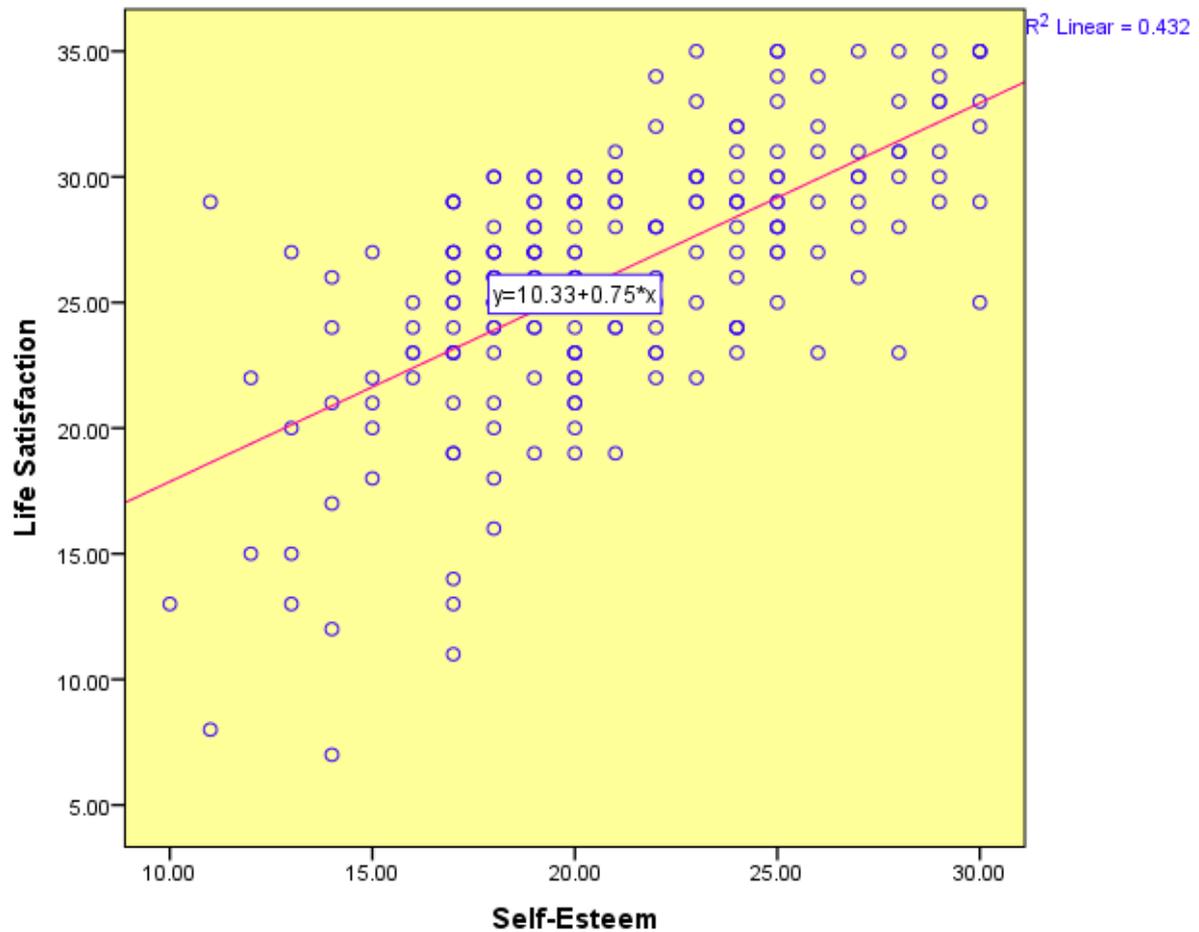
Independent samples t-test found that there was no statistical significant differences in last-born participants for personality, self-esteem and satisfaction with life between the groups 18-40 years of age and over 40 years of age. Therefore, the null hypothesis for all of the above can be accepted.

### **Hypothesis 5**

A Pearson correlation coefficient was used to test significant correlations between self-esteem and satisfaction with life.

The mean score for satisfaction with life was 26.16 (SD = 5.20) and for self-esteem was 21.00 (SD = 4.54). A Pearson correlation coefficient found that there was a strong

positive significant relationship between satisfaction with life and self-esteem ( $r(198) = .657, p < 0.01, 2\text{-tailed}$ ). Therefore, the null hypothesis is rejected.



**The Relationship between Satisfaction with life and Self-esteem.**

**Figure 4** – Scatterplot indicating as scores in satisfaction with life increase, levels of self-esteem also increase.

## **Chapter 4:**

## **Discussion**

## 4.1 Overview

This study aimed to investigate the effects birth order had on personality, self-esteem and life satisfaction and age. It also explored these effects through the use of online questionnaires which were distributed to potential participants through social networking sites. While there have been an extensive number of studies exploring birth order in relation to personality, self-esteem and satisfaction with life, this is the first study that focuses on these variable regarding the chosen age groups. No known birth order studies testing these variables in relation to age have been carried out on an Irish population or worldwide. As a result, the chosen topic was explored.

Sulloway (1996) was the first to highlight the importance of family structure on a child's development. Since then there has been an abundance of birth order research investigating behavioural effects, such as academic achievement and rebelliousness within family environments. Early theorists agreed that early childhood experiences set the foundation of future adult implications. Previous research suggests each birth order category is associated with scoring higher and lower on specific personality traits. The findings in this study are partly consistent with the literature, noting that last-borns score significantly higher on openness to experience, compared with their middle born siblings. In addition, many researchers have found associations between specific personality traits and satisfaction with life. The current study found evidence supporting such findings, as extraversion was found to positively correlate, and neuroticism to negatively correlate, with satisfaction with life. Abraham Maslow (1970) noted high self-esteem forms a direct relationship to an individual's psychological happiness and health. Supporting this statement, a strong positive association was found between the variables of self-esteem and satisfaction with life, which supports the majority of previous literature.

This chapter begins with a summary of the main findings with the respect to the stated objectives. The significance of these findings will then be examined using previous research in order to evaluate their contribution. Limitations and strengths will then be explored and finally suggestions for future research will be investigated.

## **4.2 Summary of results**

### *Birth order and personality type:*

Historically, numerous researchers have found associations between birth order categories and personality traits. Theorists such as Jefferson, Herbst and McCrae (1998) and Paulhus, Trapnell and Chen (1999) discovered that first-borns were associated with extraversion and conscientiousness. In addition, Paulhus, Tranell and Chen (1999) noted that later-borns were associated with agreeableness, whereas Healey and Ellis' (2007) results indicated later-borns, and Saroglou and Fiasse (2003) middle-borns, scored higher on openness to experience compared to their first-born siblings.

The first hypothesis in the current study proposed that there would be significant differences between birth order categories and specific personality traits. It was hypothesised first-borns would score higher on conscientiousness and extraversion and later-borns would score higher on agreeableness and openness to experience. This hypothesis was partially supported.

A one-way ANOVA was carried out on the birth order categories, first-born, middle-born and last-born on the personality subscales, neuroticism, extraversion, agreeableness, openness to experience and conscientiousness. The results showed no statistically significant differences between birth order categories and extraversion, agreeableness, conscientiousness

and neuroticism. There was however a statistically significant difference between birth order categories and openness to experience ( $f(2, 197) = 3.589, p < 0.05$ ). Last-borns ( $M = 35.82, SD = 6.57$ ) were found to have higher levels of openness to experience compared to middle-borns ( $M = 32.87, SD = 6.50$ ), while first-borns ( $M = 34.29, SD = 6.01$ ) did not significantly differ from middle-borns or last-borns. These findings are consistent with those of Healey and Ellis (2007), indicating later-borns score significantly higher on openness to experience compared to their first-born siblings.

*Personality and satisfaction with life:*

The pursuit of happiness has long been of importance to philosophers since the time of Aristotle. More recently, emerging research has focused on subjective well-being, life satisfaction and happiness across different categories of people.

The second hypothesis suggests there would be a significant correlation between personality and life satisfaction. It was hypothesised that extraversion would be positively correlated with life satisfaction and neuroticism would be negatively correlated with life satisfaction. This hypothesis was supported. A Pearson's correlation coefficient was used to test the personality traits of extraversion and neuroticism against satisfaction with life ( $r(198) = -.514, p < .01, 1$ -tailed). Extraversion was found to have a moderate positive significant relationship with satisfaction with life ( $r(198) = .325, p < .01, 1$ -tailed). In contrast, neuroticism was found to have a strong negative association with satisfaction with life. These results support previous researchers Shimmack, Oishi, Furr and Funder (2004) and Diener and Seligman (2002) who also found extraversion to positively correlate and neuroticism to negatively correlate with satisfaction with life.

*Birth order and self-esteem:*

Extensive research has been conducted exploring difference in birth order categories and levels of self-esteem. Falbo (1981) and Schwab and Laudgren (1978) suggested first-borns have higher levels of self-esteem compared to their later-born siblings. In addition, Kidwell (1982) highlighted middle-borns displayed lower self-esteem in comparison to their first and last-born siblings.

The third hypothesis proposed there would be a significant difference between birth order categories and self-esteem. A one-way ANOVA was used to test the birth order categories, first-born, middle-born and last-born against the variable of self-esteem. This hypothesis was not supported. The results found birth order categories to have no significant differences on self-esteem. First-borns showed slightly higher levels of self-esteem ( $M = 21.86$ ,  $SD = 4.21$ ) compared to middle-borns ( $M = 20.48$ ,  $SD = 4.17$ ) and last-borns ( $M = 21.00$ ,  $SD = 4.54$ ). This finding, although not significant, supports Falbo (1981) and Kidwell (1982) results, highlighting that middle-borns have significantly lower self-esteem compared with their first and last-born siblings.

*Birth order, personality, self-esteem, life satisfaction and age:*

While there have been a significant number of studies exploring birth order in relation to personality, self-esteem and satisfaction with life, no previous literature was found including the chosen age categories, 18-40 years of age and over 40 years of age.

The fourth hypothesis stated there would be significant difference between birth order and its effects on personality, self-esteem and satisfaction with life between the two age groups. Independent samples t-tests were used to test the birth order categories, first-born,

middle-born and last-born on personality, self-esteem and life satisfaction in the chosen age categories. This hypothesis was not supported.

No significant differences were found between birth order participants in personality, self-esteem, life satisfaction between the two age groups. These results are consistent with the findings from Diener and Suh (1998), Hamarat, Thompson, Aysan, Stelle, Matteny and Simon (2002) and Inglehart (1990), who reported stable levels of life satisfaction across all ages. In addition, Roberts and Del Vecchio (2000) and Paulhus, Trapnell and Chen (1999) both reported personality traits to be relatively consistent over an individual's lifespan.

*Self-esteem and satisfaction with life:*

It has been suggested that high self-esteem produces significant positive effects against stress, negative emotions and enhance personal adjustment (Rachid et al, 2011).

The fifth hypothesis proposed that there would be a significant relationship between self-esteem and life satisfaction. It was hypothesised self-esteem would be positively correlated with satisfaction with life. A Pearsons correlation coefficient was used to test for a significant relationship between self-esteem and satisfaction with life. This hypothesis was supported.

The results found a strong positive significant relationship between self-esteem and satisfaction with life. Campbell (1981) found similar results in his study in the United States of America. Diener and Diener discovered similar findings in their large cross-national study and Rashid, Nordin, Omar and Ismail in their Malaysian study. These results show the positive correlation between self-esteem and satisfaction with life and illustrate that such findings are not confined to westernized countries.

### **4.3 Significance of findings**

The purpose of this research study was to investigate whether birth order influenced individual's personalities, self-esteem, satisfaction with life between the ages of 18-40 years of age and over 40 years of age. From analysing the results, it can be concluded birth order has been proven to influence personality traits. This study found last-borns to have higher levels of openness to experience compared to their middle-born siblings. This finding, while supporting previous literature, can be of assistance in an occupational setting when individuals are contemplating their future career choices.

The significance of extraversion and self-esteem correlating positively, and neuroticism correlating negatively, with satisfaction with life can be implicated in many domains of psychology. These include personality psychology, abnormal psychology and clinical psychology. They can also provide useful information to counsellors who help individuals gain a better understanding of themselves and as a result are able to better assess and manage their personal strengths and weaknesses.

Although no significant differences were found on the effects of birth order between personality, self-esteem, satisfaction with life and age, these findings are of significance. This study extended previous literature regarding the different individual variables, while focusing on narrow sibling age gaps and ensuring all individuals' were from a two-parent family between the ages of 0-12 years. These findings can assist in the area of lifespan developmental psychology.

#### 4.4 Strengths and Weaknesses

There were a number of strengths and weaknesses affiliated with the current study. No apparent research was found on the variables birth order, personality, self-esteem, satisfaction with life and age. Therefore, this study sought to fill a lacuna in the academic literature and further the research in the area of lifespan developmental psychology.

The online questionnaire itself was quite robust and straightforward. As it was distributed through social media networks, it allowed the researcher to include individuals from diverse backgrounds, cultures, age groups and gender.

Eligibility of participants (n=200) required an age gap of 18 months to five years between their nearest sibling, from a two parent family between the ages of 0-12 years and at least a leaving certificate level educational qualification or equivalent. As noted, these measures were implemented to avoid a repetition of previous research which highlighted the possible effects of one-parent families which resulted in lower self-esteem and satisfaction with life scores.

A methodological strength of this study was the high internal reliability of the three scales employed. All three scales have been found to be consistently reliable measures. Therefore, the use of these measures strengthens the validity and academic merits of the current study.

This research project however has not been without its limitations. Firstly, in regards to family structure, participation required all respondents to have at least one sibling and therefore only children were excluded. Previous research has found only children to differ again from individuals with siblings in terms of sociability and academic performance (Chen & Liu, 2014). Another aspect of family structure this study failed to monitor for was the

concept of step-siblings and half-siblings. As the prevalence of divorce is rising the blended family is becoming more common (Cancian & Reid, 2009). This blended family construct can have large effects on children. For example individuals who were once the oldest child may suddenly become the middle child and individuals who were the youngest may become middle-children.

Ernst and Angst (1983) stated a lack of control for background factors such as social class often confused differences in personality, resulting from social background, with difference due to birth order. This study failed to account for social class, instead it only accounted for educational level. The research also failed to ask individual about their nationality and ethnicity. Therefore, it cannot be discarded that the finding that last-borns obtain higher levels of openness to experience is possibly due to social background factors.

Previous research has shown the effect of perceived parental favouritism as a factor influencing low self-esteem levels (Zervas & Sherman, 1994 & Bulanda & Majumdar, 2008). Research suggests parental involvement and quality of relations are both independently significant to an adolescent's self-esteem. This study failed to account for these measures.

The research project contained unbalanced gender and age group sizes. Participants (n = 200) included males (n= 47, 23.50%) and females (n = 153, 76%) and the 18 – 40 years group (n = 132, 66%) and the over 40 years group (n = 68, 34%).

Two family structure questions, perceived highest academic achiever and most rebellious, were not reliable as they did not account for accurate information and therefore could not be used.

#### **4.5 Further Research**

Despite the limitations discussed, the majority of the hypotheses were successfully proved and the research results can contribute to our understanding of the effects of birth order.

Future replication of this study could benefit from examining these measures longitudinally. Longitudinal measures could be used to determine more accurate results regarding whether an individual's birth order category effects personality, self-esteem and satisfaction with life over an extended period of time, rather than comparing similarly grouped individuals between two different age groups.

A further replication which may be more constructive would separate participants into three age group categories instead of two. This would allow for the testing of these measures by the means of a U curve, as outlined by Realo and Bobewall (2011), testing individuals in the categories young, middle and old age participants. Researchers could therefore gain a better understanding of if and when any of these measures change throughout an individual's lifespan.

Finally, the family structure questions could be altered to include more accurate background information, as stated by Ernst and Angst (1983), such as social class, ethnicity, nationality and questions regarding step-siblings or half-siblings. This could provide more well-rounded information about each individual's family background and beliefs.

These findings can assist in the area of lifespan developmental psychology to acquire a more descriptive insight into the effects birth order has on personality, self-esteem, satisfaction with life over an individual's lifespan. These finding could be used to assist

counselling techniques by providing more accurate descriptions regarding variations on these variables at different stages throughout an individual's life.

#### **4.6 Conclusion**

This study sought to investigate the influence birth order has on personality, self-esteem, satisfaction with life and age. Personality was measured using the Big Five Inventory Scale (John & Srivastava, 1999), self-esteem using the Rosenberg Self-Esteem Scale (1965) and satisfaction with life using the Satisfaction with Life Scale (Diener et al, 1985). Collectively these scales along with the inclusion of demographic and background questions were administered through the use of online questionnaires, which were distributed to 200 participants through social networking sites. The current study found statistically significant differences between birth order and the personality trait openness to experience. Other statistical findings included a positive significant relationship between extraversion and satisfaction with life, a negative significant relationship between neuroticism and a positive significant relationship between self-esteem and satisfaction with life. Finally no significant age differences were found between birth order, personality, self-esteem and satisfaction with life.

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## **Appendix**

**Cover sheet:**

My name is Sharon Johnson and I am conducting research in the Department of Psychology in Dublin Business School, 13-14 Aungier Street, Dublin 2 that investigates family structure. I am looking for participants over the age of 18 years, who have completed secondary/high school education, have siblings within 18 months to 5 years and from a two-parent family environment between 0-12 years of age. This research has been granted ethical approval from Dublin Business School and is being conducted as part of my studies and will be submitted for examination.

You are invited to take part in this study and participation involves completing and returning the attached anonymous survey. While the survey asks some questions that might cause some minor negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included on the final page.

Participation is completely voluntary and so you are not obliged to take part. Participation is anonymous and confidential. Thus responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected. The questionnaires will be securely stored and data from the questionnaires will be transferred from the paper record to electronic format and stored on a password protected computer. It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Should you require any further information about the research, please contact

Sharon Johnson,

**Question 1: Family Structure****Q1. Gender:**

Male \_\_\_\_\_

Female \_\_\_\_\_

**Q2. Age group:**

18-40 years \_\_\_\_\_

Over 40 years \_\_\_\_\_

**Q3. Number of siblings:**

1 \_\_\_\_\_

2 \_\_\_\_\_

3 \_\_\_\_\_

4 \_\_\_\_\_

5 \_\_\_\_\_

6 \_\_\_\_\_

7 \_\_\_\_\_

**Q4. Number of years between you and your closest sibling:**

\_\_\_\_\_

**Q5. Who is the highest academic achiever?**

\_\_\_\_\_

**Q6 Who do you consider the rebel of the family?**

\_\_\_\_\_

**Q7. What birth order are you?**

Older \_\_\_\_\_

Neither oldest nor youngest \_\_\_\_

Youngest \_\_\_\_

**Q8. Number of parents in the home between your first 0 – 12 years?**

\_\_\_\_\_

**Q5. Highest level of education completed:**

\_\_\_\_\_

**Question 2:****SATISFACTION WITH LIFE SCALE**

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>Stongly</b>	<b>Agree</b>	<b>Slightly</b>	<b>Neither</b>	<b>Slightly</b>	<b>Disagree</b>	<b>Strongly</b>
<b>Agree</b>		<b>Agree</b>	<b>Agree nor</b>	<b>Disagree</b>		<b>disagree</b>
			<b>disagree</b>			

1. In most ways my life is close to my ideal\_\_\_\_\_
  
2. The conditions of my life are excellent\_\_\_\_\_
  
3. I am satisfied with my life\_\_\_\_\_
  
4. So far I have gotten the important things I want in life\_\_\_\_\_
  
5. If I could live my life over, I would change almost nothing\_\_\_\_\_

**Question 3:****THE ROSENBERG SELF-ESTEEM SCALE**

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
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1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I'm a person of worth, at least on an equal plane with others.

8. I wish I could have more respect for myself.
  
9. All in all, I am inclined to feel that I am a failure.
  
10. I take a positive attitude toward myself.

**Question 4:****THE BIG FIVE INVENTORY SCALE**

Please select the number next to each statement to indicate the extent to which you agree or disagree with that statement.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Disagree</b>	<b>Disagree</b>	<b>Neither agree</b>	<b>Agree</b>	<b>Agree</b>
<b>Strongly</b>	<b>a little</b>	<b>nor disagree</b>	<b>a little</b>	<b>strongly</b>

**I am someone who...**

1. \_\_\_\_\_ Is talkative
2. \_\_\_\_\_ Tends to find fault with others
3. \_\_\_\_\_ Does a thorough job
4. \_\_\_\_\_ Is depressed, blue
5. \_\_\_\_\_ Is original, comes up with new ideas
6. \_\_\_\_\_ Is reserved

7. \_\_\_\_\_ Is helpful and unselfish with others
8. \_\_\_\_\_ Can be somewhat careless
9. \_\_\_\_\_ Is relaxed, handles stress well.
10. \_\_\_\_\_ Is curious about many different things
11. \_\_\_\_\_ Is full of energy
12. \_\_\_\_\_ Starts quarrels with others
13. \_\_\_\_\_ Is a reliable worker
14. \_\_\_\_\_ Can be tense
15. \_\_\_\_\_ Is ingenious, a deep thinker
16. \_\_\_\_\_ Generates a lot of enthusiasm
17. \_\_\_\_\_ Has a forgiving nature
18. \_\_\_\_\_ Tends to be disorganized

19. \_\_\_\_\_ Worries a lot
20. \_\_\_\_\_ Has an active imagination
21. \_\_\_\_\_ Tends to be quiet
22. \_\_\_\_\_ Is generally trusting
23. \_\_\_\_\_ Tends to be lazy
24. \_\_\_\_\_ Is emotionally stable, not easily upset
25. \_\_\_\_\_ Is inventive
26. \_\_\_\_\_ Has an assertive personality
27. \_\_\_\_\_ Can be cold and aloof
28. \_\_\_\_\_ Perseveres until the task is finished
29. \_\_\_\_\_ Can be moody
30. \_\_\_\_\_ Values artistic, aesthetic experiences
31. \_\_\_\_\_ Is sometimes shy, inhibited

32. \_\_\_\_\_ Is considerate and kind to almost everyone
33. \_\_\_\_\_ Does things efficiently
34. \_\_\_\_\_ Remains calm in tense situations
35. \_\_\_\_\_ Prefers work that is routine
36. \_\_\_\_\_ Is outgoing, sociable
37. \_\_\_\_\_ Is sometimes rude to others
38. \_\_\_\_\_ Makes plans and follows through with them
39. \_\_\_\_\_ Gets nervous easily
40. \_\_\_\_\_ Likes to reflect, play with ideas
41. \_\_\_\_\_ Has few artistic interests
42. \_\_\_\_\_ Likes to cooperate with others
43. \_\_\_\_\_ Is easily distracted

44. \_\_\_\_\_ Is sophisticated in art, music, or literature

**FINAL PAGE****Support services:**The Irish Hospice Foundation:

- <http://hospicefoundation.ie>
- +353 1 679 3188

Aware:

- <http://www.aware.ie>
- 1890 303 302

THANK YOU FOR YOUR TIME