

**Are Birth Order and Gender,  
Good Predictors of  
Materialistic Values,  
Empathy, and Life Satisfaction?**

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### **Abstract**

The aim of the present study was to examine whether the order in which an individual is born into their family has an effect on their personality in later life, in particular looking at the psychological characteristics, materialistic values, empathy and overall life satisfaction. The sample comprised of 90 participants (m=30, f=60) who completed a questionnaire which was an amalgamation of three questionnaires, The Satisfaction with Life Scale, the Multi-dimensional Emotional Empathy Scale and The Aspiration Index. Analysis of the data found that there was no significant difference existing between birth order and the psychological variables investigated. Future research could look into examining the psychological birth order position instead of looking at the actual birth order in the family a perspective which the current study did not address.

## Introduction

According to Adler's birth order theory each child in a family is treated uniquely; he believed that this was related to the child's order of birth within the family. The notion of children being treated differently in accordance with their position in the family is currently popularised with phenomena such as 'middle child syndrome' which asserts that middle children in a family often feel invisible or left-out, currently there are also television shows such as 'Malcolm in the middle' which documents the life and trials of a middle child in an American family of boys. This study will be examining whether the order in the family which we were born has an effect on psychological well-being.

The order of birth within the family or the age rank between siblings is believed to have a profound and lasting effect on the development of personality and this study will begin by examining the empirical research which supports this theory. There are many different popular beliefs regarding birth order including oldest children being the high achievers, that they receive more attention, are better educated, resulting in them obtaining better, high-paying jobs. Middle children are lodged in between the oldest and the youngest and as a result often report that they feel invisible or left out. Youngest and only children being the baby of the family are reputed to be spoiled, not having to worry about taking care of younger siblings, they are more care-free and bigger risk-takers. The purpose of this study is not only to examine the research which is out there to see whether there is evidence to support these beliefs, but also to see if there is evidence of any relationship between birth order, materialistic values, empathy and life satisfaction.

### **Theory of Birth Order Effects**

Birth order theory is part of Alfred Adler's overall school of Individual Psychology which is a positive and optimistic theory of human personality. It posits that personality is largely influenced by social interest and is within the conscious control of the individual. This theory was very much at variance with the position of his one time associate Freud, whose theory of human motivation deriving from unconscious sexual and aggressive drives leaves people with little or no control in the formulation of their personality. The theory of birth order asserts that the future characteristics of personality are influenced by the order in which a person is born into their family, these differences between siblings are a striving on behalf of the Individual to stand out from the crowd and are an attempt to gain the love of their parents. One aspect of personality that both theorists were in agreement on was however that early childhood experiences play a pivotal role in the future development of personality.

Birth order theory while having to contend with the criticism of perhaps being simplistic, is nonetheless something that everyone can relate to, have an opinion on, and draw conclusions from their own subjective experiences of family interactions whether they were the oldest, middle, youngest or only child. The extent to which personal beliefs and stereotypes influence the social reality of the birth order effects was investigated in a study by Herrera et al., (2003) the results suggest that beliefs about birth order rank may influence decisions in a number of different areas. For example, the differing reactions to first born, middle and last born children may reinforce and shape behaviour that fits within the confines of certain stereotypes which in turn could strengthen the belief.

First born children tend to be more dominant and aggressive, thus we would expect first-borns to excel in intellectual activities and to attain higher levels of achievement and eminence. There is support for these predictions, Belmont and Marolla (1973) as cited in Ryckman (2008), found a positive correlation between birth order and intellectual performance. In accordance with the birth order theory second born children may set unrealistically high goals thus ensuring failure, have the fewest acting out problems and are the most sociable. Youngest children are overly dependent on others as a result of being spoiled by parents, and are also the most empathic. (Eckstein & Kaufman, 2012).

Birth order is not just determined by the order of birth in the family but by other factors such as 'family constellation' which also includes the gender of the siblings and the age spread between them. How big the age gap is will also have an impact as a child who is five and is of school going age will not have as much direct contact with a new born coming into the house as a younger child, from a cognitive point of view a new-born and a five year old are worlds apart in their development. The sex of the child can also play a part in the development of the characteristic traits of birth order, a child could be third born in the household but also be the first-born son (Eckstein, Aycock, Sperber, McDonald, Van Wiesner, Watts, & Ginsburg, 2010)

Older children in a family have an additional advantage as they can act as teachers to their younger siblings, two or three years after first born children gain a sibling they can begin tutorial functions which are beneficial for the older child as tutor and also for the younger child as tutee. As a result of having mainly adult influences around in the early years of life thus interacting in a highly intellectual family environment first born children score higher on intelligence and achievement

tests. These birth order effects are however age specific as there is a negative influence or no influence in children aged under twelve (Zajonc, 2001).

Some characteristics of middle children which were identified by Eckstein & Kaufman, (2012) were that they reported fewer acting-out problems, have a sociable nature, higher success rates in team sports and more likely to be faithful in monogamous relationships. Another characteristic which they identified were that they reported the greatest feeling of not belonging this could perhaps give some credence to the aforementioned 'middle child syndrome' where middle children can feel invisible. Middle born children are according to those surveyed by Herrera, Zajonc, Wieczorkowska, & Cichomski, (2003) considered to be the most envious, the least bold, and the least talkative.

A pampered style of life is what Adler believed to be at the heart of most neurosis, a problem which not only the youngest child can have but can be present in the case of only children. Contrary to what you might think pampered children have not received too much love but the opposite their parents have left them feeling unloved by doing too much for them and treating them as though they are incapable of doing anything for themselves. The result of this pampering can be a feeling that they are unable to fend for themselves and therefore may not have the confidence to believe that they have the ability to achieve their goals (Ansbacher & Ansbacher, 1956)

While actual birth order (ABO) is the term which Adler gave to the actual numerical position which siblings were born into the family; this will affect the way in which they attempt to achieve significance and a sense of belonging. Another position which the child may assume is the psychological position; this represents how they perceive their position in the family, the individual interpretation of a

situation is equally important as the actual situation which he termed the Psychological Birth Order (PBO) position. Relationships have been found in previous birth order studies, the effect size is more substantial and the results are more meaningful when using the PBO rather than the ABO, (Stewart, 2012)

### **Birth Order, Materialistic values and Psychological Characteristics**

It is hoped that this research will enhance what is already known in the field of birth order research and also see whether there is any relationship between birth order and materialistic values, “In Social science and common Parlance, the term Materialism refers to how important material goods are to a person s life” In their study Goldsmith & Clarke, (2012), showed that Materialism urges consumers to be status conscious so that they follow social norms in purchasing. Materialistic values are the value which is placed on material things over spiritual, cultural, or intellectual values; these include being wealthy, attractive, popular, and having many possessions. A message which has become synonymous with what advertising and media concerns would like us to believe, that the more possessions we have, the more attractive we are, the happier we will ultimately be.

Kasser, (2008) put forward that materialistic values develop through either developmental experiences where feelings of insecurity are created, or through the encouragement of materialistic values through exposure to social models. Kasser, who has extensive research in the area of materialistic values, has developed theories, into why and how materialistic values develop, their effect on psychological well-being, and measures which can be taken to counteract their negative effects. His research has found that when people believe materialistic values are important they report less

happiness and more distress, have poorer interpersonal relationships, and contribute less to the community. (Kasser, 2002) With this in mind it is hypothesised that people who score high in extrinsic, materialistic values will not score high in life satisfaction.

The relationship between birth order and materialism was investigated in a study by Zemanek, Claxton and Zemanek (2000) of 252 alumni from a South-Western university in the U.S. Analysis indicated that first-borns scored significantly lower on materialism than younger born participants. Their view on the measurement of materialistic values in individuals is that in order for the hypothesis to be tested, rather than it being seen as a cultural or family characteristic it should be looked on as an individual difference or a characteristic, specific to the individual. In light of this, it is hypothesised in the current study that oldest children in the family will score significantly lower on materialistic values than later born children.

Ahuvia and Wong, (2002) found that individuals who reported growing up exposed to materialistic values reported higher levels of materialism. Their study looked at the Inglehart model of materialistic socialization which posits the origin of materialistic values from experiences of insecurity and deprivation in formative years leads to a lifelong fixation with material, lower order needs at the expense of higher order needs. Their findings included breaking down materialism into two subsections of personality materialism: envy, non-generosity and possessiveness where there is support for a connection with felt formative deprivation but did not support a connection with personal values materialism: success, centrality and happiness and felt formative deprivation.

Kasser & Ryan (1993), found that valuing aspirations for financial success relatively more than self-acceptance, affiliation, or community feeling is associated with lower well-being, a finding consistent with organismically oriented

psychological theories (Deci & Ryan 1985b: 1991, Maslow 1954, Rogers 1964). A further study found support for the hypothesis that late adolescence that placed a high value on financial success compared with other values were found to have less nurturing mothers. (Kasser, Ryan & Sameroff, 1995)

A study looking at happiness in lottery winners compared with non-winners and with people who had suffered an accident which had left them, quadriplegic or paraplegic found that although the lottery winners happiness levels spiked immediately after winning these returned to pre-winning levels after just a few months. In terms of overall happiness the lottery winners were not significantly happier than the non-winners and the accident victims were only slightly less happy. (Brickman, Coates, & Janoff-Bulman, R. 1978). This would suggest that happiness is a fairly stable personality characteristic across the life span and while there will be ups and downs in accordance with life's experiences, happiness levels overall tend to remain relatively constant.

Gender differences and materialism were examined in a recent study by Segal and Podoshen, (2013) of 1180 Americans living four North-eastern states. The results showed that men scored higher than women in terms of materialism and conspicuous consumption. Possible explanations which they attach to men displaying higher levels of materialism than women are the higher levels of self-monitoring that men are thought to possess. Another possibility is that men may be more likely to feel that having more material possessions will promote self-expression and lead to greater happiness. This research supports the hypothesis for the current study that males will record higher scores than females for materialistic values.

The characteristic behaviours of an individual who places a high value on the pursuit of extrinsic or materialistic goals are that they report less happiness and are

less likely to engage in ecologically beneficial behaviours and are less likely to contribute to the community (Kasser, 2002). Hence, the participants in this study will be reporting empathic scores using the Caruso, Mayer (1998) Multi-Dimensional Emotional Empathy Scale and also their overall satisfaction with life using the Satisfaction with life Scale Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985) to see if there is any relationship.

### **Birth Order, Empathy and Life satisfaction**

Empathy is the ability to share and understand the feelings of others. Empathy makes it possible to understand other peoples' views and feelings, which includes the ability to feel similar emotions and understand their causes. Increasing interest from researchers in social cognition recently has given the role of empathy importance. Recent research found that rather than empathy being viewed as a singular component it is best measured by dividing into three components, emotional contagion, emotional disconnection and cognitive empathy using the Basic Empathy Scale (Carre et al, 2013).

In their research on the role of birth order and empathy Stotland and Dunn, (1963) found that later born children empathise more than first born and only children. A further study found that later born children also identify more with other people possibly they see a similarity between the recreation of their initial experiences of family and others whom they view as similar to themselves (Stotland & Dunn, 1962). First-born and only children rather than understanding the feelings of others, appear to use the other persons reaction as a guide to self-evaluate and do not really feel-with them.

Whether females are naturally more empathic than males is another aspect which Vicente, Moriera, Moran, Comfort, & Finley, (1983) in their study of ordinal

position in a sample of 370 females and 434 males from both public and private schools in Panama City, found that there were some gender differences. The study investigating first born children from later born children and their level of empathy found a gender difference in first born male versus females; where first born males were significantly less empathic than later born males and the opposite for females where the first born females were marginally higher in empathy. It is expected that results will show consistency with such findings and find there to be a significant correlation between empathy and birth order.

Life satisfaction refers to an individual's own perception of how satisfied they are that they have achieved the important things they want in life, how happy they are with the conditions of their life, or whether given the chance there are things that they would like to change. In a study to investigate birth order and happiness Allred & Poduska,(1988) found that last born male and female children showed the lowest scores in happiness. Adler's observations that last born children are pampered and spoiled could account for this as their expectations for their every need to be met by others in their adulthood with little effort on their own part leads them to experience cognitive dissonance when they experience little pampering from others. This is support for the hypothesis that there will be a significant difference between order of birth and overall life satisfaction.

Whether birth order was related to positive psychological constructs such as hardiness, happiness, general self-efficacy and emotional intelligence was investigated in a study using a sample of Iranian young adults and adolescents. Results showed that there were more negative outcomes for those with more sisters than brothers and also that life satisfaction was negatively related to family size. While there were no significant findings in relation to birth order and life satisfaction

the negative effects of family size could be as a result of less emotional, financial and time for those in larger families.

### **Rationale and Aims**

While using a convenience sample of people such as work colleagues, and friends, the current study also incorporates a wider spectrum of people from many different walks of life, as it was distributed to various people across the country. While there is an abundance of previous research in the area of materialism and birth order, life satisfaction and empathy individually there has not been anything which has compared all of these psychological variables in the one study. Materialistic values are increasing in today's western society with overconsumption due to advertising, media and government policies; it is important to understand why some people are motivated by extrinsic values and what can be done to encourage and promote intrinsic values such as interpersonal relationships.

### **Hypotheses**

The first hypothesis (H1) is that there will be a significant difference between first, middle, youngest and only children in relation to materialistic values, Life satisfaction and Empathy.

The second hypothesis (H2) is that there will be a significant difference between males and females in relation to materialistic values.

The third hypothesis (H3) is that there will be a significant negative correlation between materialistic values, and satisfaction with life.

## **Methodology**

### **Participants**

The present study comprised of a convenience sample of 90 participants: 30 male and 60 female, who were friends, work colleagues and also the friends and work colleagues of some of my siblings which included primary school teachers, civil servants and people from various other walks of life. The participants who took part did so on a purely voluntary basis and were advised of their right to withdraw at any stage. Participants did not receive any reward for their participation. The sample included a broad range of participants from different age categories in order to qualify participants had to be aged between 18 and 60. The sample contained 17 participants in 18-25 age category, 39 participants in the 26-40 age category and 34 participants in the 41-60 age category. These age categories supplied sufficient information as was necessary for the purpose of this study while also protecting the anonymity of its participants.

### **Design**

The design of this study is a quantitative mixed methods design; this includes a between groups, a quasi-experimental and co-relational design. The between groups aspect will be the birth order position and scores on materialistic values, empathy and satisfaction with life. The Quasi Experimental aspect will be differences between males and females where the dependent variable will be gender and the independent variable will be score on materialistic values. The co-relational aspect uses the predictor variable being the individuals score on materialistic values and the criterion variable is satisfaction with life.

## **Materials**

This study comprised the administration of a questionnaire booklet Appendix A which was an amalgamation of three separate questionnaires, The Satisfaction with Life Scale (Diener et al, 1985), was the first questionnaire in the booklet as it is the simplest and easiest to grasp, this was followed by the Multi-Dimensional Emotional Empathy Scale (Caruso & Mayer, 1998). The Aspiration Index, (Kasser & Ryan, 1996) which was the most complex of the questionnaires was the left to last as the questions in it are more thought provoking and may have been daunting for participants had it been the first questionnaire. A number of demographic questions such as gender, age category and order of birth within the family were included on the first page. A Covering note was also attached advising participant's who I am, the nature of the study, of its anonymity, and of their right to withdraw at any stage. In order to analyse the data it was necessary to have IBM SPSS statistics 21 installed on my laptop.

### The Aspiration Index

Materialistic values were measured using the Aspiration Index (Kasser & Ryan, 1996) this is a questionnaire compiled of 42 questions each of which have two component parts. The question is asked and the participants must then rate the importance of this to them and also the likelihood that this will happen for them in the future. For example you will feel good about your level of physical fitness, How Important is it that you will feel good about your level of physical fitness and what are the chances that you will feel good about your level of physical fitness. The Aspiration Index aims to distinguish between the type of goals that are important too participants, these are

extrinsic, materialistic goals such as financial success, popularity and attractiveness or intrinsic goals, such as personal growth, affiliation and community feeling.

There are seven subscales which Kasser & Ryan, (1996) identify as important to get an overall picture as to the level of intrinsic or extrinsic motivation these are community feeling, physical fitness, self-acceptance, affiliation, financial success, attractive appearance, and social recognition. Some examples of questions are, You will work for the betterment of society (community feeling) You will feel good about your level of physical fitness (physical fitness) At the end of your life, you will look back on your life as being meaningful and complete (self-acceptance) You will have people who care about you and are supportive (affiliation) You will have a lot of expensive possessions. (financial success) You will have people comment about how attractive you look. (attractive appearance) and You will do something that brings you much recognition (social recognition). When carrying out the analysis the aforementioned subcategories of aspirations were divided and a total was computed for importance, it was decided not to compute the scores for the chances.

#### The Satisfaction with life scale

The Satisfaction with life scale (Diener, Emmon, Larsen, & Griffin, 1985) is a short but robust five question questionnaire, which measures global satisfaction with life; it is suitable for use with different age groups. Questions include, In most ways my life is close to my ideal and, If I could live my life over, I would change almost nothing. There are seven response options, Strongly Agree, Agree, Slightly Agree, Neither agree nor disagree, Slightly disagree, Disagree, and Strongly disagree. The highest score on the satisfaction with life scale is 31-35 which is representative of someone

who is extremely satisfied, the lowest score is 5-9 which is representative of someone who is extremely dissatisfied, a score of 20 is neutral.

#### The Multi-Dimensional Emotional Empathy Scale. 1998

Empathy was measured using the Multi-Dimensional Emotional Empathy Scale, (Caruso & Mayer,1998) their 30 question scale incorporates a number of different dimensions of empathy. These are suffering, positive sharing, feel for others, responsive crying, emotional attention, and emotional contagion. Questions which form this scale are as follows, Seeing a hurt animal by the side of the road is very upsetting (suffering). I feel happy when I see people laughing and enjoying themselves (positive sharing). Its' easy for me to get carried away by other people's emotions, (feel for others). I don't cry easily (responsive crying). I find it annoying when people cry in public (emotional attention). When I'm with other people who are laughing I join in (emotional contagion). Participants responses to the questions were either Strongly agree, Disagree, Neither Agree nor Disagree, Agree, or Strongly Agree. In carrying out the analysis it was decided to look at empathy as a total score and it was not divided into the sub-categories.

#### **Procedure**

A proposal was submitted in October 2013 and it was given approval by the DBS School of Psychology Research Ethics Committee, all ethical principles were adhered to. Initially to begin collecting data it was necessary to receive permission from the manager in the office where I work in order to approach colleagues to take part. This was done at a time just after the busy Christmas when the office would not be busy and people would have time to fill in the questionnaires. When permission

was sanctioned E-mails were sent to all the staff in the office advising them that there would be questionnaires left out for them to fill in if they wished and advising them that they should complete them per the instructions and return them into a sealed box which was left out on my desk.

Participants were advised that the nature of the study was to investigate the effect of birth order in the family and associated psychological well-being, the information they supplied would be looked after anonymously and carefully and no information would be available to any third party. Various friends and family members were approached and given questionnaires to have their friends or acquaintances complete, which they could either give back to that person or send directly back to the tester. All questionnaires were amalgamated together to ensure the anonymity of all participants.

## Results

All data was input into SPSS Version 21 this was then recoded where necessary and total scores for the subscales were computed. Descriptive statistics such as mean and standard deviation were calculated, the normality of the data was checked for to see that it met the assumptions of using parametric tests. Inferential statistics test, such as one way analysis of variance, independent t test were carried out, a possible Pearson's R was explored and the results were as follows.

The descriptive statistics provided the background information on the participants in the study, of the 90 participants 30 were male 33.3%, and 60 were female 66.7%. Of these 30 were oldest children 33.3%, 23 were middle children 25.6%, 23 were youngest children 25.6%, 4 were only children 4.4% and 10 classed themselves as other 11.1%. In some cases the reason they had selected other was written on the form for example a sibling was deceased, they were a twin or had step siblings.

There were three categories of age these were the 18-25 age range of which there were 17 participants or 18.9%, 26-40 of which there were 39 participants or 43.3%, and finally the 41-60 age group had 34 participants or 37.8%. Participants were asked about the number of siblings in their family this ranged from 0 siblings to 11 siblings, the mean was 3.96 siblings, the median was 4, and the mode was 3. This shows that there was a relatively even spread of participants both across age groups and from varying sizes of family, the majority of participants had 3, 4, or 5 siblings.

All participants completed three questionnaires, The Satisfaction with Life Scale (Diener et al, 1985), the Multi-Dimensional Model of Emotional Empathy (Caruso & Mayer, 1998) and The Aspiration Index, (Kasser & Ryan, 1996). The table below contains the descriptive statistics which was obtained from these measures.

*Table 1 – Descriptive statistics for Psychological Characteristics*

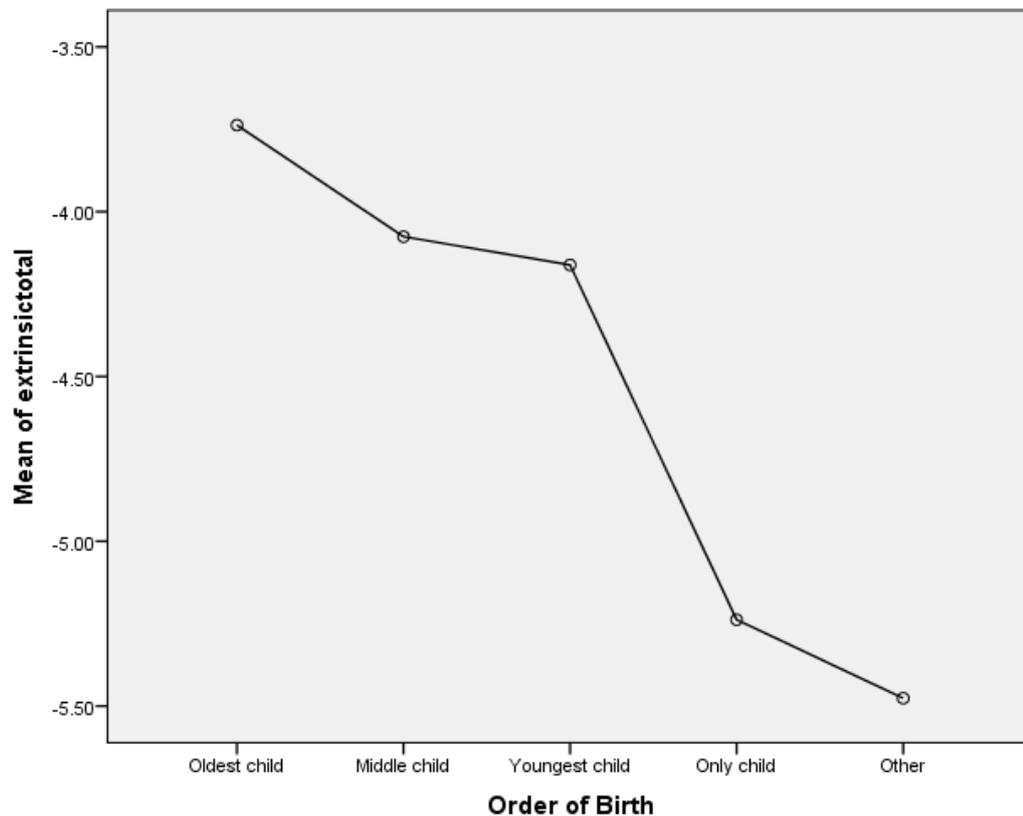
	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>Life Satisfaction Total</b>	89	8	35	24.14	5.86
<b>Empathy Total</b>	85	83	138	113.24	13.14
<b>Intrinsic Values Total</b>	85	-.54	5.89	3.14	1.32
<b>Extrinsic Values Total</b>	85	-7.86	.71	-4.19	1.76

Examining the data in table 1 above, it can be seen that the minimum score for life satisfaction is 8 and the maximum is 35, the mean life satisfaction score for respondents is 24.14 which is the higher end of the Slightly Satisfied category (21-25). The mean score for empathy is 113.24, the highest attainable score on the scale is 150: the scores in this sample for empathy therefore are relatively high. Intrinsic values include four subcategories, self-acceptance, affiliation, community feeling, and physical fitness the mean of which is 3.14. Extrinsic values which include financial success, attractive appearance and social recognition mean is -4.19 which show that overall the sample have placed a high level of importance on Intrinsic values compared with extrinsic values.

#### Hypothesis 1

A between groups one-way analysis of variance was run to see if there would be a statistically significant difference between birth order and materialistic values, these have been divided into a total intrinsic score and a total extrinsic score. A One-way analysis of variance found there was no significant difference between birth order and intrinsic values ( $F(4, 80) = 2.12, P > 0.05$ ). A One-way analysis of variance found there was no significant difference between birth order and extrinsic values ( $F$

(4, 80) = 2.12,  $P > 0.05$ ). Below in figure 1 is the plot of scores from extrinsic values and birth order, while the One-way analysis of variance did not yield significant results there appears to be higher scores among first born children.



*Figure 1 – Profiles the slightly higher levels of Extrinsic values which first-borns display compared with later born, only and others.*

A One-way analysis of variance found there was no significant difference between birth order and life satisfaction ( $F(4, 84) = .317, P > 0.05$ ).

A One-way analysis of variance found there was no significant difference between birth order and empathy ( $F(4, 84) = .289, P > 0.05$ ). This is contrary to previous research findings where youngest children displayed the highest scores for empathy; in this sample it is middle children who record the highest scores on the empathy scale.

Figure 2, below shows is a plot indicating that middle born children displayed the highest score for empathy.

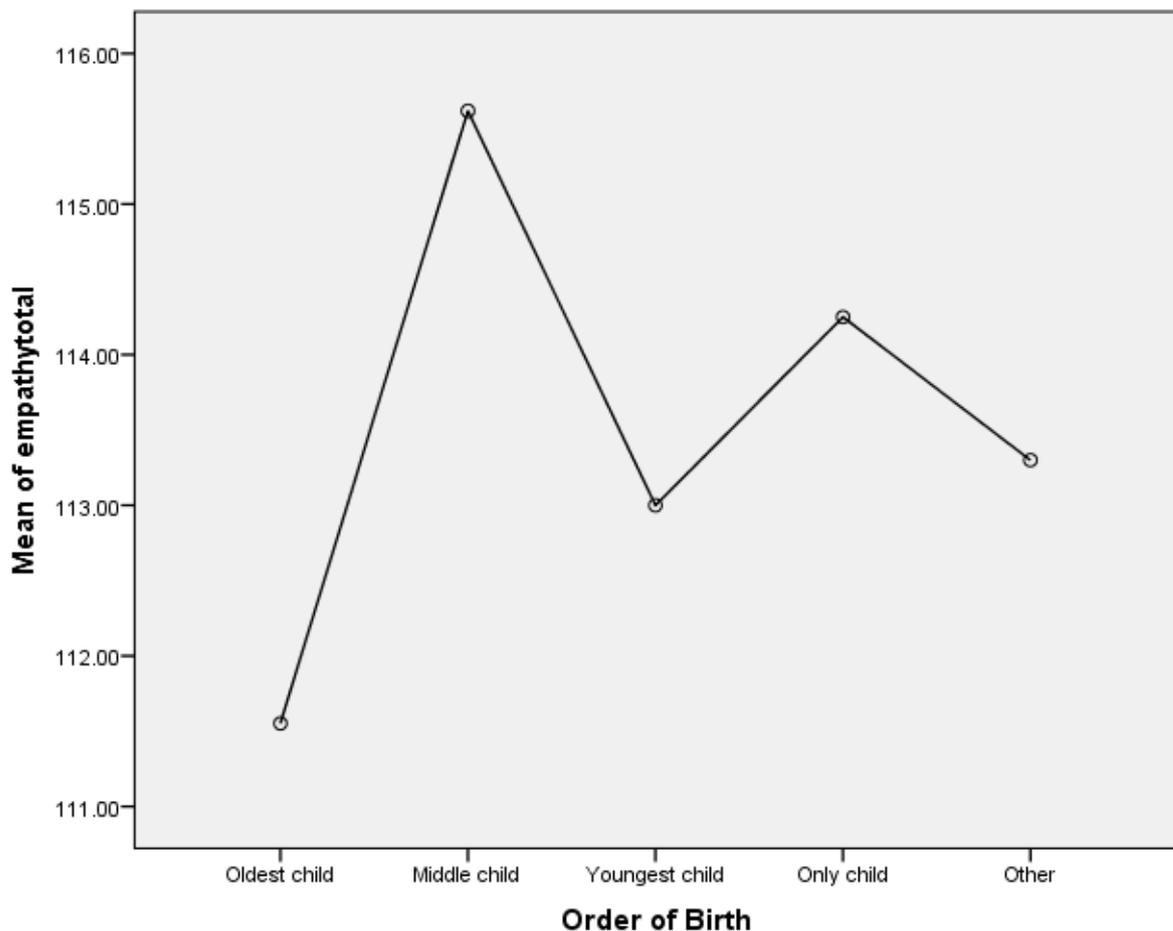


Figure 2

#### Hypothesis 2

An independent samples t test was run to investigate hypothesis 2, that there would be significant differences between males and females on materialistic values scores. The results showed that Females (mean = -4.31, SD = 1.75) were found to have higher scores on materialistic values than males (mean = -3.92, SD = 1.78). The 95% confidence limits show that the population mean difference of the variable lies somewhere between -.42 and 1.20. An independent samples t-test found that there was no significant difference between males and females ( $t(83) = .95, p = .345$ ).

Figure 2. Below, shows the breakdown of male and female participants and the order of their birth.

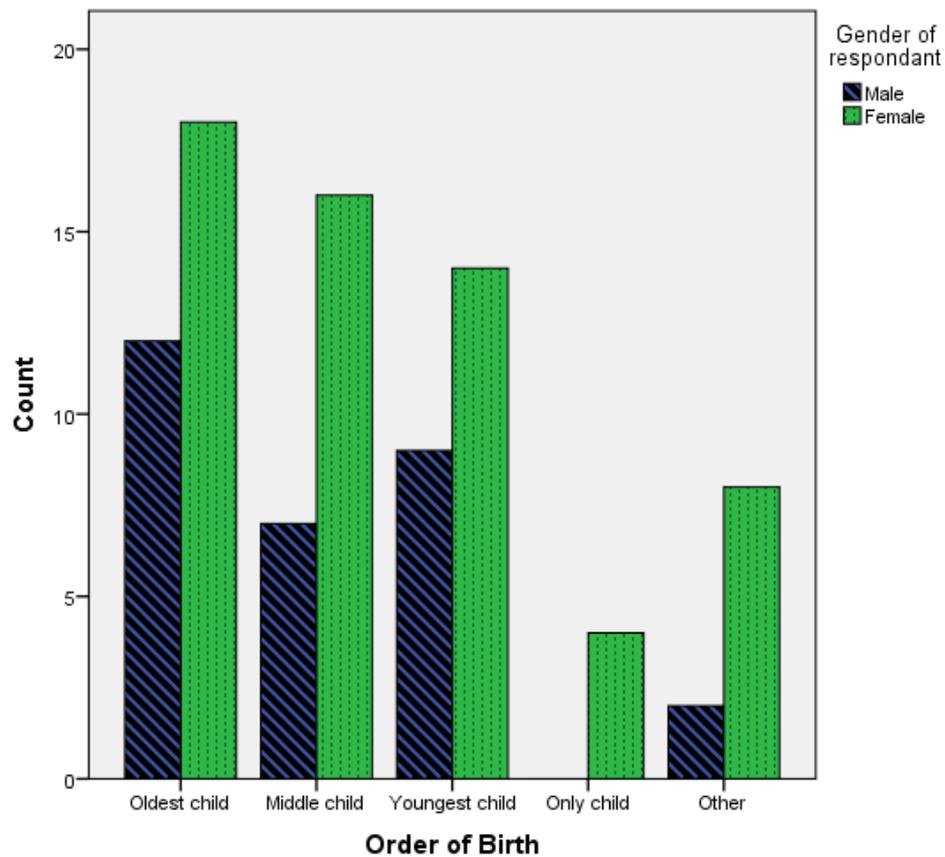


Figure 2

### Hypothesis 3

To test for a relationship as proposed in hypothesis 3 between materialistic values and satisfaction with life it was necessary to run a scatter-plot this showed that there was no relationship between the variables materialistic values and life satisfaction, the R<sup>2</sup> linear value of which was .009, it was decided therefore it was not necessary to proceed with the Pearsons correlation.

*Table 2 - Below shows the mean score for the three sub-categories of Extrinsic/Materialistic Values, Financial Success, Attractive Appearance, Social Recognition and the mean scores for Satisfaction with life.*

	Oldest child	Middle child	Youngest child	Only child	Other
Financial Success	-3.24	-3.95	-4.03	-4.32	-4.92
Attractive Appearance	-1.87	-2.22	-2.55	-3.32	-3.14
Social Recognition	-6.09	-6.04	-5.90	-8.07	-8.36
Life Satisfaction	24.83	24.13	24.04	24.0	22.4

The data in Table 2 above show the mean score attributable to Financial Success, Attractive Appearance, and Social Recognition which are the three sub-categories for Extrinsic Values, along with the mean score for Satisfaction with Life for each birth order position. While no significant relationship was found it can be seen that there are lower scores for social recognition across all birth order positions compared with financial success and attractive appearance in this sample.

## **Discussion**

The main purpose of this study was to see whether order of birth has an influence on psychological well-being in adulthood, in particular examining the psychological characteristics, materialistic values, empathy and overall life satisfaction. There are no previous studies investigating these important variables carried out on an Irish population. The first hypothesis included three elements; firstly that there would be a significant difference between birth order position and materialistic values, secondly that there would be a significant difference between birth order position and empathy and thirdly that there would be a significant difference between birth order position and life satisfaction. The second hypothesis stated that there would be a significant difference between male and female scores for materialistic values. The third hypothesis posited that there would be a significant negative correlation between materialistic values, and satisfaction with life.

### **Findings and Hypothesis 1**

The first element of Hypothesis 1, that there would be a significant difference between birth order positions and materialistic values, was not supported in the current study when a one-way analysis of variance was conducted it found that there was no significant difference. This was contrary to previous research in the U.S., Zemanek & Claxton, (2000), which found that older children showed lower levels of materialistic values compared with other birth order positions. Cultural differences could play a part in these results as the participants were all from the South-West of the U.S., and participants consisted exclusively of university alumni could have had a bearing on the results in this study. Future research could look at the Ahuvia and Wong, (2002) findings discussed in the introduction, which broke materialism into

two subcategories of materialism they found support for a connection between personality materialism and felt formative deprivation. Adler also posited that developmental insecurities can arise in childhood due to the birth order position. These developmental insecurities can also be a cause of materialistic values (Kasser, 2008).

The second element of Hypothesis 1, was that there would be a significant difference between birth order and empathy, this was also not supported when a one-way analysis of variance was conducted. Previous research had found that first born children had lower scores for empathy than other birth order positions, Stotland and Dunn (1963). While this research is quite old more current research found that rather than empathy being viewed as a singular component it is best measured by dividing into three components, emotional contagion, emotional disconnection and cognitive empathy using the Basic Empathy Scale (Carre et al, 2013). For the purpose of this study a total empathy score was calculated rather than it being broken down to separate components as discussed in the methodology. Future research could investigate empathy as discussed above by separating it into three components rather than a singular variable.

The third element of Hypothesis 1 was that there would be a significant difference between birth order position and life satisfaction, again this was unsupported by a one-way analysis of variance. Previous research has shown there to be evidence of a relationship with birth order position and life satisfaction In a study to investigate birth order and happiness Allred & Poduska,(1988) found that last born male and female children showed the lowest scores in happiness. Therefore the null hypothesis could not be rejected for any of the aspects of hypothesis 1.

## Hypothesis 2

The second hypothesis predicted that there would be a significant difference between males and females in relation to materialistic values, previous research had found that males scored significantly higher on materialistic values. This was not found to be the case as an independent t-test was carried out on these variables and the results showed there to be no significant difference between males and females in relation to materialistic values. As discussed in the introduction a current study by Segal and Podoshen, (2013) of 1180 Americans living in four North-eastern states found that males scored significantly higher than females on materialistic values. It should be noted that there were twice as many females as there were males in the sample (m=30, f=60), so it is possible that this gender imbalance could have had an impact on the results.

## Hypothesis 3

The third hypothesis predicted that there would be a significant negative correlation between materialistic values and life satisfaction. A multitude of research has found evidence of a significant negative correlation between these variables. Kasser & Ryan (1993) found that valuing aspirations for financial success more than intrinsic values are associated with lower well-being. And more currently Kasser, (2002) found that when people believe materialistic values are important they report less happiness and more distress and have poorer interpersonal relationships. His research on needs theory has found that basic psychological needs are left unfulfilled when behaviour is driven by the pursuit of materialistic goods, as they do not satisfy basic human needs for security, personal freedom or interpersonal connectedness.

### **Strengths and Weaknesses**

While this study had many strengths which will be discussed it was not without its limitations, some of which may have contributed to the results proving to be non-significant. One such limitation was the use of Actual Birth Order (ABO) rather than Psychological Birth Order (PBO), while operating within the confines of this type of study it is hard to establish a PBO without asking more detailed questions and using a more complex methodology. The benefits of using the ABO were discussed earlier in the introduction and previous research shows that relationships have been found in previous birth order studies, the effect size is more substantial and the results are more meaningful when using the PBO rather than the ABO, (Stewart, 2012). It is possible had this study been able to assess the participants PBO rather than ABO the results may have been different.

Another difficulty which presented during the researching stage of this study was the lack of previous research measuring the same variables. While there is an abundance of previous research in the area of birth order and other various psychological variables, namely academic achievement, and materialistic values compared with other variables there has not been anything done to measure these variables simultaneously in the one study. Therefore while strengths of this study include its unique nature, using an Irish sample, to compare these variables this in itself raised difficulties when trying to formulate hypothesis and ultimately being unable to reject the null hypothesis for any of the three hypotheses which were predicted.

Blended families are another familiar facet of modern day Ireland which was not looked at when conducting this research and which could be considered another limitation of this study. Where parents have separated, are with new partners who

may have children also as new additions which change the dynamics of a family could also have an implications where birth order is concerned. Future research should incorporate this when looking at birth order as it could have an impact on results if participants are the oldest child in their own genetic family and are at a later stage joined with another family where they are perhaps no longer the oldest.

A further limitation which arose during the study was some ambiguity with Question 3 in the questionnaire booklet which was worded, what is the order of birth in your family Oldest child, Middle child, Youngest child, Only child, and Other. This caused confusion for some people as a number of participants asked did middle child only refer to people who are in the actual middle of their family, for example the second child in a family of three, or the third child in a family of five. For the purpose of the study, middle children were considered to be any child born between the first and the last, and it cannot be said with certainty the amount of other participants who may also have been confused by this question.

The final questionnaire in the booklet was The Aspiration Index (Kasser & Ryan, 1996) this is quite an extensive 42 question questionnaire which has high reliability and validity and is a good measure of materialistic values. This can be seen a strength of this study due to the comprehensive questions but also may have posed difficulty for the participants when completing it as it is lengthy and time-consuming. The questions were divided into two dimensions as discussed in detail in the methodology section. The importance to the participant that they obtain the aspiration and the chances that they are likely to obtain it, for the purpose of this study the chances part was not scored. As participation in the study was purely on a voluntary basis and no pressure was put on any participants to partake, the type of people who

agreed to give their time are perhaps not by their nature governed by extrinsic or materialistic values.

A further strength of the study was that there was a wide diversity of participants which were not limited to college students as some previous studies have done. There was also a representative sample from the various birth order positions 30 were oldest children, 23 were middle children, 23 were youngest children, 4 were only children, and 10 classed themselves as other. There was a wide-ranging of ages between 18-60 in the sample and relatively even number of participants in each category. The sample contained 17 participants in 18-25 age category, 39 participants in the 26-40 age category and 34 participants in the 41-60 age category. The study was also thoroughly thought out and planned, from the timing of the questionnaires being administered to the selection of participants; members of testers own family were excluded from participating due to them being from a large family which may have affected results.

Future research could look at the dynamics of the family, whether the participant is the third in the family but perhaps the first born son could have an impact on birth order, or whether an individual is the only girl in a family of boys. It would be helpful if the age spread between the siblings was ascertained what affect this could have on results, as a child who is five or six years old is not going to be as impacted by the arrival of a new sibling as a younger child would be (Eckstein, Aycock, Sperber, McDonald, Van Wiesner, Watts, & Ginsburg, 2010). As participation in this study was purely voluntary perhaps people who were inclined to give their time and participate in it, are perhaps not by their nature driven by materialistic or extrinsic values.

In conclusion, the aim of this study was to examine whether birth order was a good predictor of certain psychological variables, namely, materialistic values, empathy, and life satisfaction. The measurement of the variables was achieved by utilising a number of questionnaires which are widely used and accepted as reliable and valid measures, that is, The Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985) as a measure of life satisfaction, The Multi-Dimensional Model of Emotional Empathy (Caruso & Mayer, 1998) as a measure of empathy and The Aspiration Index (Kasser & Ryan, 1996) as a measure of Materialistic Values. The questionnaires were administered to a convenience sample of 90 participants, resulting analysis found there to be no significant difference between birth order, gender, and materialistic values, empathy and life satisfaction. This said it would be premature at this stage to say that birth order does not therefore have any impact on these psychological characteristics and perhaps a future study which has rectified some of the weaknesses and limitations outlined could bring about different results.

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## **Appendices**

My name is Claire Smith and I am a final year BA Psychology student in Dublin Business School. I am conducting research into the relationship between order of birth in the family and associated psychological well-being.

Please take your time to answer all the questions as honestly as you can; there is no right or wrong answer and all data collected will be anonymous. You have the right to withdraw at any stage during the completion of the survey.

If you have any questions please ask.

**Please circle the answer to the following questions 1-3**

- 1. Age category:** 18-25  
26-40  
41-60
- 2. Gender:** Male / Female
- 3. Order of birth in your family:**  
Oldest child  
Middle child  
Youngest child  
Only child  
Other
- 4. How many siblings do you have?** \_\_\_\_\_

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.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

\_\_\_\_\_ In most ways my life is close to my ideal.

\_\_\_\_\_ The conditions of my life are excellent.

\_\_\_\_\_ I am satisfied with my life.

\_\_\_\_\_ So far I have gotten the important things I want in life.

\_\_\_\_\_ If I could live my life over, I would change almost nothing

Please circle the most appropriate response						
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree		
1	2	3	4	5		
1.	I feel like crying when watching a sad movie.			1 2 3 4 5		
2.	Certain pieces of music can really move me.			1 2 3 4 5		
3.	Seeing a hurt animal by the side of the road is very upsetting.			1 2 3 4 5		
4.	I don't give others' feelings much thought.			1 2 3 4 5		
5.	It makes me happy when I see people being nice to each other.			1 2 3 4 5		
6.	The suffering of others deeply disturbs me.			1 2 3 4 5		
7.	I always try to tune in to the feelings of those around me.			1 2 3 4 5		
8.	I get very upset when I see a young child who is being treated meanly.			1 2 3 4 5		
9.	Too much is made of the suffering of pets or animals.			1 2 3 4 5		
10.	If someone is upset I get upset, too.			1 2 3 4 5		
11.	When I'm with other people who are laughing I join in.			1 2 3 4 5		
12.	It makes me mad to see someone treated unjustly.			1 2 3 4 5		
13.	I rarely take notice when people treat each other warmly.			1 2 3 4 5		
14.	I feel happy when I see people laughing and enjoying themselves.			1 2 3 4 5		
15.	It's easy for me to get carried away by other people's emotions.			1 2 3 4 5		
16.	My feelings are my own and don't reflect how others feel.			1 2 3 4 5		
17.	If a crowd gets excited about something so do I.			1 2 3 4 5		
18.	I feel good when I help someone out or do something nice for someone.			1 2 3 4 5		
19.	I feel deeply for others.			1 2 3 4 5		
20.	I don't cry easily.			1 2 3 4 5		
21.	I feel other people's pain.			1 2 3 4 5		
22.	Seeing other people smile makes me smile.			1 2 3 4 5		
23.	Being around happy people makes me feel happy, too.			1 2 3 4 5		
24.	TV or news stories about injured or sick children greatly upset me.			1 2 3 4 5		
25.	I cry at sad parts of the books I read.			1 2 3 4 5		
26.	Being around people who are depressed brings my mood down.			1 2 3 4 5		
27.	I find it annoying when people cry in public.			1 2 3 4 5		
28.	It hurts to see another person in pain.			1 2 3 4 5		
29.	I get a warm feeling for someone if I see them helping another person.			1 2 3 4 5		
30.	I feel other people's joy.			1 2 3 4 5		

*This first set of these questions asks you about the future. Rate each item by circling how important it is to you that it happens in the future. Then circle the chances that it will happen in the future.*

<b>Importance</b>	not at all	a little	so/so	pretty important	very important
	1	2	3	4	5
<b>Chances</b>	very low	low	50/50	high	very high
	1	2	3	4	5

### **IN THE FUTURE...**

**1. You will be physically healthy.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**2. Your name will be known by many people.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**3. You will have people comment often about how attractive you look.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**4. You will have a lot of expensive possessions.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**5. You will be famous.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**6. You will donate time or money to charity.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**7. You will feel good about your level of physical fitness.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**8. You will be the one in charge of your life.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**9. You will have good friends that you can count on.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**10. You will keep up with fashions in hair and clothing.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**11. You will teach others the things that you know.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**12. You will have a job that pays well.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**13. You will exercise regularly.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**14. You will share your life with someone you love.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**15. You will be admired by many people.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**16. At the end of your life, you will look back on your life as meaningful and complete.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**17. You will avoid things bad for your health (such as smoking, excessive alcohol, etc.)**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**18. You will have people who care about you and are supportive.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**19. You will work for the betterment of society.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**20. You will be married to one person for life.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**21. You will be your own boss.**

Importance	1	2	3	4	5
Chances	1	2	3	4	5

**22. You will achieve the "look" you've been after.**

Importance	1	2	3	4	5
Chances	1	2	3	4	5

**23. You will deal effectively with problems that come up in your life.**

Importance	1	2	3	4	5
Chances	1	2	3	4	5

**24. You will feel energetic and full of life.**

Importance	1	2	3	4	5
Chances	1	2	3	4	5

**25. You will have a job with high social status.**

Importance	1	2	3	4	5
Chances	1	2	3	4	5

**26. You will have good, open relationships with your children.**

Importance	1	2	3	4	5
Chances	1	2	3	4	5

**27. You will work to make the world a better place.**

Importance	1	2	3	4	5
Chances	1	2	3	4	5

**28. You will successfully hide the signs of aging.**

Importance	1	2	3	4	5
Chances	1	2	3	4	5

**29. Your name will appear frequently in the media.**

Importance	1	2	3	4	5
Chances	1	2	3	4	5

**30. You will know people that you can have fun with.**

Importance	1	2	3	4	5
Chances	1	2	3	4	5

**31. You will be relatively free from sickness.**

Importance	1	2	3	4	5
Chances	1	2	3	4	5

**32. You will help others improve their lives.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**33. Your body shape and type will be fairly close to ideal.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**34. You will buy things just because you want them.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**35. You will know and accept who you really are.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**36. You will eat healthfully and moderately.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**37. You will be financially successful.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**38. You will do something that brings you much recognition.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**39. You will help people in need.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**40. You will have a couple of good friends that you can talk to about personal things.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**41. You will be talked about years after your death.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

**42. Your image will be one others find appealing.**

<b>Importance</b>	1	2	3	4	5
<b>Chances</b>	1	2	3	4	5

Thank you for taking the time to complete this survey, your participation is very much appreciated.