An evaluation into birth order, gender and their relation to personality traits

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Abstract

In Psychology, birth order has remained a controversial issue with regards to its suspected link to personality. By using a quantitative questionnaire, the present research aimed to reveal whether an individual’s birth order and gender prepositions them to develop certain behaviours. With reference to existing literature, specific traits thought to be connected to birth ranks were measured. 90 participants from first (N=30), middle (N=30) and last (N=30) ranks of birth and both genders were measured on leadership, self-esteem and rebelliousness. Participants were recruited from three child families and consisted of 45 males and 45 females. A 2x3 ANOVA indicated a significant main effect of birth order on all three personality traits. However, a significant main effect of gender was only found for rebelliousness. Subsequently, three participants engaged in a semi-structured interview which disclosed self-report experiences influenced by birth order and gender. The data was then transcribed and analysed in a thematic manner. Thematic analysis revealed 4 master themes: acceptance of the self, personal feelings, stereotypes and personal experiences. Such analysis allowed exploration of questionnaire findings, adding a qualitative outlook to results. Developed themes can be applied to previous research on the treatment of individuals.
Introduction

Birth order has been a standard variable within psychological research for many years. An early prominent study conducted by Galton (1874) concluded that the disproportionate number of first born sons amongst eminent scientists was due to parents treating first borns differently. This was because they had a closer relationship with parents and were given more responsibility. However, such research was only conducted on men, leading results to be gender specific. The present study was conducted on both genders which enabled comparison of males and females.

Many researchers have continued to revise this Phenomenon. Adler (1925) alongside other authors such as Berglin (1982), Greene (1987) and Ostroff (1993) hypothesised that birth rank impresses characteristics stamps upon personality development. Sulloways’s (1996) Born to Rebel book is a key piece of literature within this area under discussion. It provides a focal synthesis of personality psychology and Darwin’s (1859) evolutionary theory. He argues that children compete for parental resources by creating unique niches. First borns tend to be conventional and responsible. However, last borns differentiate themselves by being playful and especially rebellious.

The present research aimed to build on Sulloway’s claims by predicting that first borns will score significantly higher on leadership traits. Additionally, such research explored last borns and rebelliousness. However, Sulloway fails to mention middle borns and associated personality traits; this led to the inclusion of middle borns within the present analysis.

There are conflicting discourses regarding the theory of birth order. Siegler et al (1990) argue that Sulloway’s theory appears to be conflicting with recent findings. Critics note that Sulloway assumes personality traits developed in childhood are retained into adulthood. Block (1993) conducted a longitudinal study and found that there is a change in rank-ordering of traits between childhood and adulthood. More significantly, previous reviews of birth patterns and personality such as Zweigenhaft (1975) and Somit, Peterson & Arwine (1994) have reported little and weak associations.

Some existing literature tends to scrutinise the link between birth order and personality. Ernst and Angst (1983) examined over a 1000 birth order studies and concluded that birth rank is not a strong influence in moulding personality. Nonetheless, birth order effects arose when parents and siblings assessed the subject’s personality. Harris (1998) used self-report personality tests and argued that birth order does not have a significant effect on personality, supporting critics of this theory. However, the present study aimed to gain evidence by using the self-report survey method to establish a significant affect of birth position on personality traits.

In relation to the present study, there is a substantial amount of research on first borns and leadership qualities. Eckstein (1978) revealed that first born women were more likely to be leaders of campus organisations compared to last borns and men. Such research supports the notion that first borns are more likely to posses’ leadership characteristics. Furthermore, it gives rise to the idea that
gender has a significant effect on traits. However, Dagenaise (1979) used a leadership opinion questionnaire and found a weak association between first borns and leadership. Similar studies have also been carried out cross culturally. Fung et al (2003) distributed a personality survey to Hong Kong students. They found significant differences between birth orders on leadership. First borns average score was 3.68, middle borns was 3.41 and last borns was 3.22 respectively. Additionally, they found mean scores for both genders were highly similar on leadership. However, plenty of research points to females scoring higher on leadership as opposed to males, (Eckstein 1978, Sandler & Scalia 1975).

In regards to self-esteem, Fung et al (2003) found significant differences in average scores; first borns was 3.31, middle borns was 3.05 and last borns was 3.26. Such research indicates that middle borns are more likely to score lower on self-esteem. The present study aimed to measure whether birth order and gender have a significant effect on self-esteem. With reference to gender, females had a slightly higher mean compared to males (Fung et al, 2003); thus, providing insight into the effect of gender differences on self-esteem.

Falbo (1981) examined 1785 undergraduates with the Rosenberg Self-Esteem Scale (Rosenberg, 1965). He found that self-esteem was highest amongst first born males and lowest in middle born females, providing supporting results on this phenomenon. Berglin (1982), Bossard & Boll (1955) and Brunori (1998) support the idea that middle children have more problems such as self-esteem issues. Such empirical evidence has led to literature on the middle child syndrome for instance, Adams (1972), Forer (1976) and Isaacson (1988). Such literature indicates that low self-esteem is a key symptom of the syndrome.

Sulloway (1996) discovered a significant link between last born children and rebelliousness. He proposed that last borns are more likely to develop a ‘revolutionary personality’. In terms of gender, Boggiano & Barrett (1992) note that males possess a greater tendency for rebelliousness and engage in conflict against authority. Female behaviours such as seeking common ground are oppositional to stereotypical male behaviour, for instance rebelliousness and competitiveness, (Campbell & Werry 1986). The present study tested such notions on last borns and rebelliousness, whilst looking at the effect of gender also.

Anderson (2004) used the kinetic family drawing assessment to investigate birth order, gender and family dynamics. They brought to light that sibling rivalry was a common theme throughout responses. Rivalry was especially prevalent between first and middle borns and siblings of the same gender. Furthermore, Pollet et al (2011) concluded that sibling rivalry is wide-spread; children compare themselves and compete for parent’s affection, time and attention. Additionally, they discovered that sibling rivalry is dependent on contextual factors such as reproductive value, birth position and gender. However, Dagenais (1979) argues that many other moderating variables for instance, family size, socio-economic class, temperament and parents impact the degree of conflict between siblings and affect developed personality.
Plenty of research concerning birth order has come from the parent’s perspective. Fung et al (2003) conducted a follow-up interview which revealed that parenting styles was a key indirect influence of birth order on one’s personality. Parents had the greatest expectations of first borns to take care and lead the younger siblings. Researchers concluded that the distinction in treatment lead to the growth of diverse personalities among children. Moreover, Weinraub et al (1984) note that parental treatment also affects stereotypes children hold in regards to gender and such stereotypes may affect behaviours like toy preference or career choice.

Additionally, Keller & Zach (2002) explored parental treatment through observations on the presence of parents and facial exchange between parents and children. In addition to a birth order effect, findings revealed that mothers preferred daughters and fathers favoured their sons. These findings give rise to a significant gender effect within this focus. However, observations have been criticised methodologically. Anastasi (1988), reports that the presence of the researcher can affect the validity of results in observations.

Ring et al (1965) reported that parents unconsciously treat children differently in regards to birth position and gender. This may lead children to evaluate themselves through association with others. Such inconsistent parental treatment may affect behaviours such as accepting their self image, (Schwab and Lundgren 1978). The present research aimed to explore conclusions made by previous literature on themes such as parental treatment and sibling rivalry via a semi-structured interview. Additionally, the interview aimed to highlight other experiences that may lead on from one’s birth constellation and gender from the child’s perspective, as research seems to lack in this area; therefore implicating the use of a qualitative method.

Nonetheless, Hudson (1992) alongside Wagner and Schubert (1977) argue that, systematic research on birth order has been loaded with incoherent classifications of birth order complicating analysis. In order to prevent complication and increase representativeness, the present research only used three child families. Kenny & Zaccaro (1983) claim that such literature on this topic shares inconsistent findings and conflicting methodologies. The present research aimed to discover whether birth order and gender significantly affect personality measures. This was established by performing the conjunction of the survey method and semi-structured interview. As previous literature in this domain is relatively dated, it is perhaps timely to see if findings on birth order and personality differ in the 21st century.

**Research Hypotheses**

H1; First borns will score significantly higher on leadership compared to middle and last borns. H2; Birth order will have a significant affect on self-esteem. H3; Last borns will score significantly higher on rebelliousness compared to first and middle borns. H4; Gender will have a significant affect on personality measures.
Methodology

Part one

Design
The design was a 2x3 two-way ANOVA; this revealed whether the independent variables of birth order and gender had an affect on the dependent variable of personality measures. Findings were gathered via a questionnaire. The between-subjects variable was birth order; first, middle or last born and gender; male or female. Extraneous variables were attempted to be controlled via standardised instructions on the questionnaire and by using the same environment for each participant.

Participants
Participants were recruited by quota sampling within Manchester Metropolitan University. This selection process allowed specific groups of first (N=30), middle (N=30) and last borns (N=30) to be researched, giving a total of 90 participants. Additionally, quota sampling was used to obtain an equal amount of males (N=45) and females (N=45). Each birth order group consisted of 15 males and 15 females. However, Myors and Carstairs (2001) scrutinise this sampling method as they believe it is subjectively biased. Nonetheless, it allowed results to be representative of target groups being studied. The present research used the student population, as these individuals were more likely to have recently shared the same environment as their siblings.

Materials
The consent form (Appendix 1), questionnaire (Appendix 2) and debrief sheet (Appendix 7) were used in the first phase of the study.

Methodology
A structured questionnaire was formulated by the researcher to establish whether birth order and gender had a significant effect on personality measures. Matveev (2002) argues that quantitative methods offer a high level of measurement, statistical power and precision. The questionnaire consisted of 30 closed ended IPIP items (Goldberg et al, 2006). The items were responded to on a 5-point Likert scale. A pilot study was conducted on a small sample of participants to establish the appropriate amount of items. 30 items were agreed to be appropriate as more items may have ran the risk of participants loosing interest.

10 of the items were personality scales on leadership; such choice was based on previous literature which reports that birth order has a significant effect on leadership (Eckstein 1978). 10 items were scales on self-esteem based on previous literature which argues that middle borns score significantly lower on self esteem (Falbo, 1981). The last 10 items were scales on rebelliousness based on existing literature which highlights last borns and rebelliousness (Sulloway 1996). Additionally, the questionnaire included two questions asking participants to report their birth position and gender in order to fulfil the purpose of the study.
Watson and Noble (2008) note that using Likert scales not only show the individual’s response to each item but also the strength of their feeling. When devising the questionnaire, the researcher had to consider readability in order to increase the reliability of responses (Baker 1993). According to Myors & Carstairs (2001) close ended questions are easy to formulate and therefore give a brief sample of someone’s behaviour under standardised conditions. However, Frank (2000) argues that questionnaires ignore the subjective experience of humans. Questionnaires need a follow-up interview for results to acquire meaning (Hutchinson et al 1994). Thus, the present research conformed to such ideas by conducting a follow-up interview.

**Procedure and Ethical Considerations**

Whilst on the university campus, the researcher approached students and briefly explained the nature of the study. Individuals who fitted the research quota were administered the questionnaire which consisted of a 5-point Likert scale; strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. Anastasi (1988) emphasises the importance of having a neutral option in Likert scales as this inclusion leads to reliable responses. Subsequently, at the end of the questionnaire, participants were encouraged to leave their email address; to participate in the interview. However, leaving this detail was optional. After completion, participants were notified of the researchers email address in order to request a debrief sheet. Participants were made aware of the withdrawal process and thanked for participation.

Before consenting, participants were verbally informed that collected data would remain anonymous and confidential. This information was also given to participants as part of the consent form at the start of the questionnaire. Participants were made aware that by completing the questionnaire, they were consenting to participate in the study; thus a signature was not required in order to help keep anonymity. Munhall (1988) argues that it is essential to have a code of ethics to guide the entire research process.

**Data analysis**

To determine each participant’s score, responses to each statement were added together; strongly disagree=1, disagree=2, neither agree nor disagree=3, agree=4 and strongly agree=5. However, some questionnaire items were negatively keyed (Appendix 3), so participant’s responses were reversed. For instance, a response of strongly agree=1 would score as a 5. This reversion of items was employed to obtain high interest levels of respondents whilst completing the questionnaire. As 10 items constituted each personality measure, participants could score a maximum of 50 and a minimum of 10. A score between 10-20 indicated a low score on a personality measure, between 20-30 indicated a medium score and between 30-50 indicated a high score. Argyrous’s (2000) SPSS guide was used to analyse data. A 2x3 two-way ANOVA was conducted for each personality measure to discover whether birth order and gender had a significant effect on traits. Many researchers support the ANOVA as it allows two or more samples to be statistically analysed at once (Belle 2008). The ANOVA also allowed any interaction effects between birth order and gender on personality traits to be explored. As the present research found that birth order had a significant effect on personality measures, a post
hoc tukey test was conducted to establish where exactly the significance lay between the three birth orders (Seaman et al 1991). As the post hoc test only allows comparison of three or more groups, this test was not conducted for gender.

Part two

Design
Subsequently, a semi-structured interview was conducted to disclose subjective experiences that may lead on from a specific birth position or gender. The interview method consists of an experience where researchers and respondents create a framework of conversational intimacy and rapport, (Ramos, 1989).

Respondents
In total three respondents participated in the interview. Participants from phase one of the study who left their email address, who also obtained high scores on personality measures were used to establish the three interviewees. A random number generator was used to select respondents, thus they were selected via random sampling. According to Myors & Carstairs (2001) this selection method gives all participants an equal chance of being selected, thus reducing researcher bias. All respondents were recruited from the student population. Respondent one was a first born male; respondent two was a middle born female and respondent three was a last born female.

Materials
The schedule (Appendix 6) for the interview was created in light of the conclusions drawn from previous literature. Areas explored in a qualitative manner were birth position, gender and their relation to specific traits, parental treatment, sibling rivalry and interaction. The schedule consisted of 10 questions which included prompts that were utilised and based on previous literature. Prompts were intended to be spontaneous and instigate further responses.

The researcher conducted a pilot study using the schedule on a small number of respondents. The purpose of this was to ensure that respondents felt comfortable and to establish the schedule efficacy. Small changes were made; questions which appeared leading were re-considered. The pilot study also enabled the researcher to develop their interviewing technique.

Responses were recorded using a dictator phone which enabled the researcher to transcribe responses at a later date.

Methodology
A semi-structured interview was chosen, as their nature makes them divergent to quantitative processes of objectiveness, control and distance (Frank 2000). Hutchinson et al (1994) noted that interviews increase self awareness and give voice to the voiceless. However, Lee and Renzetti (1990) argue that depending upon the context; topics can be sensitive which may affect the validity of disclosure. It was acknowledged in the current study, topics of differential parental treatment could be a sensitive issue. However, the withdrawal process was explained to all participants to make them aware that they could withdraw
themselves and data at any time. Thus, the researcher complied with ethical guidelines.

**Procedure and ethical considerations**

Each respondent was emailed the details of the interview (Appendix 4). On the day of the study, respondents were given a consent form (Appendix 5) and interviewed individually for 30 minutes in a quiet room on the university campus. Respondents were thanked for their thought and participation. They were given an opportunity to raise any questions and were given the researchers email address to request a debrief sheet (Appendix 8).

**Data analysis**

Transcript data (Appendix 15, 16 and 17) was read several times in order for the researcher to familiarise themselves with the data. A set of coded master themes were established and data was re-read in regards to these themes. Further examination lead to sub categories by looking deeper into the master themes. Supplementary examination gave a more sophisticated understanding of qualitative data.

Thematic analysis was implemented in order to understand subjective experiences. The researcher used a flexible, independent of theory approach created by Braun and Clarke (2006) to analyse data. This consisted of; becoming familiar with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report.

**Reflexivity**

This research project was an enthusiastic interest of the researcher due to personal experience of living with many siblings and experiencing differential parental treatment. It is recognised that admission to the respondent’s world in psychological research will always be influenced by the researchers own thoughts and experiences. However, the researcher made every effort to avoid researcher bias. It is acknowledged that the researcher’s interpretation plays a considerable role in analysis and Fine (2002) emphasises the importance of not subscribing to a realist view where the researcher simply ‘gives voice’ to participants in qualitative research.

**Results**

**Quantitative findings**

According to Nunnally (1978) the minimum reliability co-efficient for questionnaire scales to be regarded as reliable is 0.7. However, some researchers use a minimum alpha of 0.8 (Cronbach, 1951). As scales in the present study were taken from the IPIP website, tests of internal consistency have previously been conducted. For the leadership scale ($\alpha=0.82$), the self-esteem scale ($\alpha=0.84$) and the rebelliousness scale ($\alpha=0.80$), (Goldberg et al, 2006). Thus, all three scales are considered reliable; as their values are higher than Nunnally’s suggestion.
Descriptive Statistics

Leadership

Table 1

Showing the mean scores for the leadership scale for birth order

<table>
<thead>
<tr>
<th>Birth order</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>First born</td>
<td>38.03</td>
<td>7.50</td>
</tr>
<tr>
<td>Middle born</td>
<td>28.43</td>
<td>9.73</td>
</tr>
<tr>
<td>Last born</td>
<td>27.27</td>
<td>10.09</td>
</tr>
</tbody>
</table>

The means in table 1 reveal that first borns scored higher $M=38.03$ than middle borns $M=28.43$ and last borns $M=27.27$ on leadership.

Table 2

Showing the mean scores for the leadership scale for gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>32.40</td>
<td>9.99</td>
</tr>
<tr>
<td>Female</td>
<td>30.09</td>
<td>10.57</td>
</tr>
</tbody>
</table>

The means in table 2 reveal that males scored higher $M=32.40$ than females $M=30.09$ on leadership.

Figure 1: A graph showing birth order, gender and their relation to leadership
Looking at figure 1, the means show that first born males scored highest on leadership, $M=39.93$. However, last born females scored lowest on leadership, $M=26.33$.

**Inferential statistics**

A 2x3 two-way Anova was conducted to reveal whether birth order and gender had an effect on personality. Additionally, the ANOVA allowed any interaction effects to be explored.

**Table 3**

<table>
<thead>
<tr>
<th>Variables</th>
<th>F value</th>
<th>df</th>
<th>Error</th>
<th>sig. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth Order</td>
<td>12.25</td>
<td>2</td>
<td>84</td>
<td>.000</td>
</tr>
<tr>
<td>Gender</td>
<td>1.41</td>
<td>1</td>
<td>84</td>
<td>.239</td>
</tr>
<tr>
<td>Birth Order</td>
<td>.154</td>
<td>2</td>
<td>84</td>
<td>.858</td>
</tr>
</tbody>
</table>

The ANOVA findings in table 3 show a significant effect of birth order on leadership, $F(2,84) = 12.25$, $p<0.05$. However, the ANOVA indicated a non-significant effect of gender on leadership $F(1,84) = 1.41$, $p>0.05$. Thus, hypothesis four can not be supported. Furthermore, the ANOVA found no significant interaction effect between birth order and gender on leadership, $F(2,84) = .154$, $p>0.05$. (Appendix 9).

As a significant effect of birth order was found on leadership, a post hoc tukey test established where exactly the significance lies between the three birth orders (Seaman et al 1991). The post hoc comparisons (Appendix 12) indicated that first borns significantly differed from middle and last borns $p<0.05$, as shown in figure 1. Such results suggest that being first born may lead to higher leadership, therefore supporting hypothesis one.
Descriptive Statistics

Self-esteem

Table 4

Showing the mean scores for the self-esteem scale for birth order

<table>
<thead>
<tr>
<th>Birth order</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>First born</td>
<td>37.73</td>
<td>7.79</td>
</tr>
<tr>
<td>Middle born</td>
<td>29.13</td>
<td>9.04</td>
</tr>
<tr>
<td>Last born</td>
<td>29.67</td>
<td>7.55</td>
</tr>
</tbody>
</table>

The means in table 4 reveal that middle borns scored lower $M=29.13$ than first borns $M=37.73$ and last borns $M=29.67$ on self-esteem.

Table 5

Showing the mean scores for the self-esteem scale for gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>33.58</td>
<td>8.40</td>
</tr>
<tr>
<td>Female</td>
<td>30.78</td>
<td>9.41</td>
</tr>
</tbody>
</table>

The means in table 5 reveal that males scored higher $M=33.58$ than females $M=30.78$ on self-esteem.
Looking at figure 2, the means show that first born males scored highest on self-esteem, $M=39.53$. However, last born females scored lowest on self-esteem, $M=27.67$.

**Inferential statistics**

**Table 6**

Showing the results of the 2x3 ANOVA for self-esteem

<table>
<thead>
<tr>
<th>Variables</th>
<th>F value</th>
<th>df</th>
<th>Error</th>
<th>sig. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth Order</td>
<td>10.46</td>
<td>2</td>
<td>84</td>
<td>.000</td>
</tr>
<tr>
<td>Gender</td>
<td>2.65</td>
<td>1</td>
<td>84</td>
<td>.107</td>
</tr>
<tr>
<td>Birth Order</td>
<td>.086</td>
<td>2</td>
<td>84</td>
<td>.918</td>
</tr>
</tbody>
</table>
The ANOVA findings in table 6 show a significant effect of birth order on self-esteem, $F(2,84) = 10.46, p<0.05$. The ANOVA indicated a non-significant effect of gender on self-esteem, $F(1,84) = 2.65, p>0.05$. Thus, hypothesis four can not be supported. Furthermore, the ANOVA found no significant interaction effect between birth order and gender on self-esteem, $F(2,84) = .086, p>0.05$. (Appendix 10).

The post hoc comparisons (Appendix 13) indicated that first borns significantly differed from middle $p<0.05$ and last borns $p<0.05$ on self-esteem, as shown in figure 2. Such findings support hypothesis two.

**Descriptive Statistics**

**Rebelliousness**

**Table 7**

**Showing the mean scores for the rebelliousness scale for birth order**

<table>
<thead>
<tr>
<th>Birth order</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>First born</td>
<td>30.03</td>
<td>8.52</td>
</tr>
<tr>
<td>Middle born</td>
<td>25.27</td>
<td>9.81</td>
</tr>
<tr>
<td>Last born</td>
<td>31.43</td>
<td>12.36</td>
</tr>
</tbody>
</table>

The means in table 7 reveal that last borns scored higher $M=31.43$ than first borns $M=30.03$ and middle borns $M=25.27$ on self-esteem.

**Table 8**

**Showing the mean scores for the rebelliousness scale for gender**

<table>
<thead>
<tr>
<th>Gender</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>33.38</td>
<td>10.29</td>
</tr>
<tr>
<td>Female</td>
<td>24.44</td>
<td>8.92</td>
</tr>
</tbody>
</table>

The means in table 8 reveal that males scored higher $M=33.38$ than females $M=24.44$ on rebelliousness.
Looking at figure 3, the means show that last born males scored highest on the rebelliousness trait $M=34.33$. However, middle born females scored lowest on rebelliousness, $M=21.00$.

**Inferential statistics**

**Table 9**

*Showing the results of the 2x3 ANOVA for rebelliousness*

<table>
<thead>
<tr>
<th>Variables</th>
<th>F value</th>
<th>df</th>
<th>Error</th>
<th>sig. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth Order</td>
<td>3.50</td>
<td>2</td>
<td>84</td>
<td>.035</td>
</tr>
<tr>
<td>Gender</td>
<td>20.05</td>
<td>1</td>
<td>84</td>
<td>.000</td>
</tr>
<tr>
<td>Birth Order and gender</td>
<td>0.034</td>
<td>2</td>
<td>84</td>
<td>.967</td>
</tr>
</tbody>
</table>
The ANOVA findings in table 9 show a significant effect of birth order on rebelliousness, $F(2,84) = 3.50$, $p<0.05$. The ANOVA indicated a significant effect of gender on rebelliousness, $F(1,84) = 20.05$, $p<0.05$. Such findings support hypothesis four. However, this hypothesis was only proved in respect to rebelliousness. Additionally, the ANOVA found no significant interaction effect between birth order and gender on rebelliousness, $F(2,84) = .034$, $p>0.05$. (Appendix 11).

The post hoc comparisons (Appendix 14) failed to discover a significant difference between the birth orders $p>0.05$, thus hypothesis three can not be supported.

**Analysis and discussion of qualitative findings**

The chosen approach to research qualitative data was thematic analysis. Such analysis allowed main themes to emerge around the phenomenon. The first step of analysis was to generate codes in the data. The structure of themes is displayed in table 10.

**Table 10**

**Showing the compositional structure of themes**

<table>
<thead>
<tr>
<th>Thematic level</th>
<th>Theme one Code</th>
<th>Theme two Code</th>
<th>Theme three Code</th>
<th>Theme four Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub categories</td>
<td>Attitudes towards birth order</td>
<td>1.1</td>
<td>Feelings of jealousy</td>
<td>2.1 Gendered stereotypes</td>
</tr>
<tr>
<td>Sub categories</td>
<td>Gender identity</td>
<td>1.2</td>
<td>Feelings of favouritism</td>
<td>2.2 Stereotypes of success</td>
</tr>
</tbody>
</table>

**Acceptance of self (Table 10: code 1)**

According to Baumeister (1999), acceptance of the self is the ability of an individual to accept beliefs about themselves, including who and what the self is. The analysis found that accepting the self was connected to one’s attitude towards their birth order (code 1.1) and gender identity (code 1.2).
“I would keep my position as the first child…. I like being the eldest boy because I feel like one of the main men”. (Participant one; lines 7-9).

“I fit well into the traditional views of being a male being the breadwinners”. (Lines 50-51)

“… As a man I get respected more”. (Lines 68-69)

Participant one indicates an optimistic attitude towards his birth position and gender identity. The description of being a ‘breadwinner’ and gaining ‘respect’ in relation to his gender, perhaps demonstrates a level of acceptance of the self. However, this level of acceptance was not universal throughout responses.

“I’d choose the first child cause they get all the toys and stuff”. (Participant two; line 7).

“I’d be the one that my parents would treat the best”. (Lines 16-17).

“I’m quite happy being female”. (Line 40).

“Females are allowed to be emotional and cry”. (Line 42).

The reactions encountered by participant two display an un-accepting attitude towards being a middle child. She wishes to have the eldest title which appears influenced by experiences such as differential parental treatment (code 4.1), which may generate feelings of jealousy (code 2.1). However, her reflection of stereotypical (code 3) behaviours indicates that she accepts her gender identity. The levels of acceptance continued to differ across responses.

“I’d probably pick the first child as everyone looks up to them”. (Participant three; line 7).

“If I was the eldest… id be the one doing well academically”. (Lines 14-15).

“…you know work or family you’re seen as an an advantage when you’re a man”. (Lines 38-39).

Participant three appears to have a rejecting nature towards her birth position and gender. Her reference to others in the workplace and the family seems to influence her views on gender. Therefore, her rejecting attitude may have been affected by experiences such as differential parental treatment or stereotypes.

Such responses transpired controversial views on accepting the self. Such data could provide support for Schwab and Lundgren (1978) who report that an individual’s birth position or gender may affect acceptance of self image. However, the qualitative manner of analysis means that responses are affected by the researcher’s interpretation (Fine, 2002). Furthermore, all three participants expressed a desire to have the first born title. Whilst there were mixed responses towards gender identity, a reliable conclusion would be that an individual’s birth position and gender may lead to differential parental treatment.
Perhaps creating awareness of differential parental treatment may help decrease stereotypes or feelings of jealousy; as such factors appear linked to accepting one’s self.

**Personal feelings (Table 10: code 2)**

An emotional state or disposition experienced by an individual. The analysis transpired that personal feelings were connected to feelings of jealousy (2.1) and favouritism (2.2).

“We all use to get a bit jealous if my parents were giving more attention to the other”. (Participant one; lines 147-148).

“My sister she got a big 18th party... I just got whatever my mum and dad could afford at the time”. (Participant two; lines 8-10).

“She’s got to have the bond... which she didn’t have to share”. (Participant two; lines 85-86).

“I always got babied my brother sometimes gets a bit jealous because I get more attention off my parents”. (Participant three; lines 103-104).

Responses were concurrent with each other’s perspective on differential parental treatment. The universal references to their parents indicate that this difference in treatment may generate feelings of jealousy or favouritism. Reflecting on experiences such as parental ‘attention’, parental ‘time’ and sharing appear to influence processes of sibling comparison (code 4.2). Such data provides support for Ring et al (1965) who reported that individual’s birth ranks and gender affect parental treatment. This inconsistent treatment from parents leads to constant evaluations of the self through association with others. However, Guess (2012) argues that themes discovered during analysis may lack reliability due to varying interpretations from multiple researchers. The present research used an independent second person to review and interpret linguistic responses, in order to help increase reliability.

**Stereotypes (Table 10: code 3)**

A fixed over generalised belief about a specific group of people, (Cardwell, 1996). The analysis found that stereotypes were connected to gender (code 3.1) and to the notion of success (code 3.2).

“...their expectations of me are set to set a good example to my younger siblings ... be successful”. (Participant one; lines 119-121).

“It’s comforting to know that... I’m not really going against society’s norms”. (Participant two; lines 50-52).

“... they expect me to be successful in school”. (Participant three; Line 92).
“… People... think you’re more capable like men get paid more”. (Participant three; lines 39-41).

According to Eagly (1987), stereotypes have always been associated with one’s gender. The analysis highlighted that all participants held fixed beliefs linked to gender and the idea of achieving success. References to the workplace, school and teachers expectations emphasise the existence of societal norms. Such norms demonstrate the manner in which gender is portrayed in traditional ideologies.

Stereotypes held appear affected by parental treatment, and therefore provide support for Weinraub et al (1984) who argue that children internalise parental gendered messages; which can lead to stereotypes affecting toy preference and career choice. Throughout the analysis, there appeared to be a preoccupation with fitting into societal norms and becoming successful. Perhaps this preoccupation indicates a need to increase awareness of differential parental treatment and the impact it can have.

**Personal experiences (Table 10: code 4)**

Active participation in events leading to the accumulation of knowledge. The analysis found personal experiences to be connected to differential parental treatment and sibling comparison.

“…Compared to my other siblings... I’m much closer to my parents”. (Participant one; lines 12-13).

“… They always go on about how I should set a good example”. (Lines 94-96).

“My little brother compares himself to me…. He’s always asking to wear my clothes”. (Lines 167-169).

Participant one’s reference to setting a ‘good example’ again links to the theme of stereotypes of success. Such stereotypes appear affected by parental factors. The notion of comparison is an evident process expressed in his responses. Sibling comparison appears universal across responses.

“She’s like the perfect one”. (Participant two; line 13).

“I’ve always compared myself to this angel”. (Lines 135).

Participant two’s reference to an ‘angel’ and ‘the perfect one’ discloses that she too experiences sibling comparison. This experience appeared linked to parental treatment and feelings of favouritism. Such responses indicate that parents may have a lack of awareness of the impact differential treatment of siblings can have.

“I get to do less stuff compared to my eldest brother.” (Participant three; lines 21-22).

“I compare myself a lot to my sister”. (Line 122).
“Sometimes I feel like they may prefer her over me”. (Lines 165-166).

Participant three also talks about the experience of sibling comparison. Her comparison to her brother indicates that differential parental treatment is influenced by gender. Additionally, she discloses that she feels her parents may prefer her sister which highlights the theme of feelings of favouritism.

The analysis transpired that one’s birth order and gender were factors that influenced the probability of sibling comparison occurring and the type of treatment received from parents. Such findings support Keller and Zach (2002), Galton (1874) and Fung et al (2003) who found that birth order and gender affect parental treatment. The theme of sibling comparison could offer support to Anderson (2004) and Pollet et al (2011) who claim that differential parental treatment leads to sibling rivalry as children compete for their parent’s time, affection and attention; therefore siblings compare themselves against each other (Ring et al 1965). However, such interpretations may appear open to question, as themes discovered throughout thematic analysis can be affected by the theoretical standpoint of the researcher (Boyatzis, 1998).

**Final Discussion**

The aim of the study was to establish whether birth order and gender have an affect on personality. Personality was tested based on three measures of leadership, self-esteem and rebelliousness. Such traits were chosen in accordance to existing literature on this phenomenon. As existing literature is dated, it is timely to see if findings on birth order and personality differ in the 21st century.

The between subjects effects found birth order to have a main significant effect on leadership, thus replicating Eckstein (1978), Fung et al (2003) and Galton’s (1874) findings. However, such findings also dispute research by Dagenais (1979) who reported that birth order does not influence leadership qualities. Additionally, the post hoc comparisons indicated that first borns significantly differed from middle and last borns on leadership. As such findings indicate that first borns scored highest on leadership, the present findings are consistent with existing literature.

Another main finding discovered was that gender had a non-significant effect on leadership. These results are contradictory to Eckstein (1998), Sandler and Scalia (1975) who report that females score higher on leadership than males. However, personality was tested with relatively short forms of personality scales. It may be beneficial for future research to study birth order with additional personality scales with added items. Using longer forms may help increase reliability between associated variables.

Between subjects effects found birth order to have a main significant effect on self-esteem. Thus, the present research offers support for Fung et al (2003) and Falbo (1981). Furthermore, the post hoc comparisons indicated that first borns significantly differed from middle and last borns on self-esteem. Such results indicate that first borns have higher self-esteem, consistent with Falbo (1981)
and Fung et al's (2003) findings on this topic. Additionally, the present results suggest that middle borns have the lowest self-esteem, providing supporting evidence for Berglin (1982) and Brunori (1998). Such findings may help strengthen literature on symptoms of the middle child syndrome such as Adams (1972) and Isaacson (1988). However, another main finding revealed was; gender had a non-significant effect on self-esteem. This non-significant effect contradicts research, for instance Falbo (1981) and Fung et al (2003) who report that gender effects self-esteem.

Furthermore, the statistical test found that birth order had a main significant effect on rebelliousness. However, the following post hoc comparisons revealed that all three groups did not significantly differ from each other. Such findings indicate that birth order does not affect rebelliousness. Conversely, these findings appear inconsistent with Sulloway (1996) who argues that last borns score significantly higher on rebelliousness, compared to other siblings. Perhaps the current results provide evidence for disputers of birth order theory such as Zweigenhaft (1975), Harris (1998), Ernst & Angst (1983), Somit, Peterson & Arwine (1994). Moreover, the between subjects effects revealed a significant effect for gender on rebelliousness; thus, supporting Boggiano and Barrett (1992) who report that males possess a greater tendency for rebelliousness compared to females.

In summary, birth order has a main significant affect on all three personality measures. Thus, the present research offers support to literature which argues that birth order impresses characteristic stamps upon personality development (Adler 1925; Berglin 1982 and Greene 1987). However, a limitation of the study is that the sample used for questionnaires was a small size of 90 participants. Therefore, data cannot be generalised or representative of the general population. It may be worthwhile if research was conducted on a larger sample, as this may give findings increased validity in representing the general population. Fleiss (1981) emphasises the importance of using a large sample as it gives additional power to results.

With gender, a main significant effect was only established for rebelliousness. This is inconsistent with literature reporting that gender affects leadership (Eckstein 1998) and self-esteem (Falbo 1981). However, another limitation of the present research is that findings may be regarded as culturally specific. It would be interesting to replicate research in different cultures to see if any cultural variations arise; as different cultures may have diverse definitions of personality traits. Hofstede (2001) argues that incorporating cultural models into research allows further understanding of data. Nonetheless, the current study does provide evidence for birth order effects on personality in the 21st century.

A further limitation of the present study is that, as some of the data was analysed in a qualitative manner; this makes it difficult to draw generalisations to the general population. Although, throughout the thematic analysis, several key areas surrounding the phenomena became evident. Such analysis allowed meaningful qualities of human experience to be represented. The research aimed to develop a comprehensive set of themes reflecting experiences that lead on from one's birth and gender constellation. Four master themes were established; acceptance of self (code 1); personal feelings (code 2); stereotypes
(code 3) and personal experiences (code 4). During the analysis, it became evident that the themes were interlinked.

The current study allowed the analysis to uncover experiences associated to one’s birth order and gender, from the respondent’s perspective. Research in this area appears limited compared to research conducted on the parent’s perspective (Keller and Zach 2002). Experiences disclosed such as differential parental treatment or favouritism, emphasise literature that reveals the negative impact birth order can have such as, the middle child syndrome (Adams 1972; Forer 1976 and Isaacson 1988).

Whilst it is acknowledged that qualitative methods can be limiting, the quantitative links discovered between birth order, gender and personality indicated a need for further understanding individual’s personal insights. Thus, thematic analysis allowed findings from the questionnaire to be explored. For instance, throughout responses the first born interviewee demonstrated leadership tendencies. However, the middle born interviewee consistently expressed comparison of her and her sister, which appeared to affect her ability to accept the self. Additionally, the last born interviewee disclosed that her parents restrictive nature influence her to rebel against their way of life; perhaps reflecting quantitative findings.

Furthermore, thematic analysis allowed for developed awareness of aspects which may influence the treatment of individuals with specific birth ranks or gender. Data could be used in gaining further understanding in future research or existing theories concerned with the treatment of individuals, for instance Social Learning Theory (Bandura 1977) and Labelling Theory (Becker 1963). However, an absence of clear and concise guidelines around thematic analysis means that the ‘anything goes critique (Potter 2001) may apply in qualitative research; affecting the reliability of findings.

References


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