

The Effect of Birth Order on Personality and Leadership

Courtney Tricarichi
Long Island University-Post

David S. Jalajas
Long Island University-Post

Research has shown birth order influences aspects of a person's life. Among them are intelligence, personality, and leadership. In this study we explored whether birth order influences personality and leadership style in a group activity. We used the Big Five Inventory to measure personality, the Multifactor Leadership Questionnaire to assess leadership style, and administered a questionnaire to gather birth order and other personal information. Participants completed the personality and leadership scales and were then assigned to a group to perform a group task. Contrary to expectations, we found no differences between firstborns and laterborns regarding either personality or leadership styles.

INTRODUCTION

Research has shown that birth order influences numerous aspects of a person's life. Among them are intelligence, personality, and leadership. Children in one family unit living in the same environment, born at different times, experience life differently. Firstborn children receive their parents' attention undivided. They experience love and obtain material goods unencumbered by the needs of their parents to be fair or to conserve resources (Black, Devereux & Salvanes, 2005). Unlike the firstborns, laterborn children compete with the needs and personalities of their siblings, in order to meet their emotional and physical needs. Firstborn children have an established position in the family which allows them to develop confidence, a trait many world leaders are observed to display (Hudson, 1990). Laterborn children have a tendency to distinguish themselves by being rebellious and playful, traits that lead to unconventional ideas and innovation (Sulloway, 1996).

As these conditions persist, for perhaps 15 to 20 years, there is a profound influence on the manner in which a child views the world and their own capabilities. Compared to natural capabilities, perceived capabilities are often what determines our actions, even if the two are at odds (Ehrlinger and Dunning, 2003). Without the ability to observe a person throughout the course of their entire life, it is difficult to understand whether birth position, natural capabilities, and perceived capabilities can accurately determine whether a person will achieve positions of leadership and achieve long-term success. However, for the purposes of enterprise and finding the best suited candidates for leadership, we can look at measurable and observable performance indicators. In this paper we explore how a person's birth order influences their personality and their predisposition to display leadership behaviors in a group setting.

THEORY AND HYPOTHESIS

In previous research, birth order's influence on personality has been studied using the Five Factor Model (i.e., Big Five) (Jefferson, Herbst and McCrae, 1998). The traits included in the Big Five are: conscientiousness, openness to experience, extraversion, agreeableness, and neuroticism (also known as emotional stability). For companies that choose to administer pre-employment aptitude tests, the Five Factor Model is a popular choice. There are several scales that can be used to measure these traits (Colbert, Judge, Choi & Wang, 2012); the most common is the Big Five Inventory (i.e., BFI). The BFI is a self-assessment exam originally designed in 1961 (Poropat, 2009) to determine the relationship between personality and academic behaviors (Tupes and Christal, 1961). Since then the model has been further developed and is used more frequently to understand traits instead of actual behaviors (Mershon and Gorsuch 1988). For employers this type of insight can be invaluable. Although the BFI cannot predict behaviors, if an employee displays undesirable behaviors, traits can determine whether an employee will be receptive to mediation. Employees that "don't fit" cost companies money through turnover hiring costs, decreased performance, and a constant search for motivation tools. Traditional non-monetary fringe benefits that motivate workers don't work on employees that dislike their work. Dan Ariely and his coauthors examined the relationship between emotional output and realized satisfaction in workers. They determined that if workers felt good about what they do (regardless of their industry and their pay), they will continue to do so and feel satisfied (Ariely, Norton, and Mochon, 2012). If companies could use demographic information combined with aptitude tests to understand current and potential employees, they could make more informed hiring and development decisions, in turn, saving them money. When studying the BFI with regards to birth order, some research has shown that firstborn children show no significant relationship to neuroticism, extraversion, and openness. Laterborns have been found to have a significant relation to openness and agreeableness (Jefferson, Herbst & McCrae, 1998). Hypothesis 1 is thus:

Hypothesis 1: Laterborns will have lower levels of openness and agreeableness than will firstborns.

Less often, researchers have tried to predict who would become leaders based on birth order. A common leadership theory has been the transformational and transactional leadership model. The model, researched heavily by Bass and Avolio (1990), among others, has been the subject of many studies (e.g., House and Aditya, 1997). Several important meta-analyses have been conducted to ascertain the dispositional basis for leadership. Notable among them were those conducted by Judge, Bono, Ilies, and Gerhardt (2002), who focused on leadership emergence and effectiveness, and Bono and Judge (2004), who focused on the dimensions of transformational and transactional leadership. Transformational leadership refers to the leader inspiring the follower to work beyond self-interests and transactional leadership refers to the exchange relationship between leader and follower in search of fulfilling self-interests (Bass, 1999). The eight dimensions of transformational and transactional leadership are 1) idealized leadership 2) inspirational motivation 3) intellectual stimulation 4) individual consideration 5) contingent reward 6) management by exception-active 7) management by exception-passive and 8) laissez-faire. These dimensions can be used to determine job performance and satisfaction (Bass, 1985). Transformational leaders inspire people to follow them, provide guidance, and share success. Dwight D. Eisenhower taught his generals this type of leadership using a chain. He told them to picture each link on the chain as representing their subordinates. If a general pushed the chain, there would be no way to determine where it would go. However, if generals pulled the chain, they would know exactly where the chain would go; it would follow them (Bacharach, 2013). Transformational leadership is seen to be the most valuable and effective type of leadership and therefore companies look to identify these candidates early on.

Hudson (1990) looked at the birth orders of 46 world leaders to determine if there was a relationship between their birth order and their attainment of national leadership. Hudson's study concluded that

firstborns and middleborns have no substantial trait differences, however lastborns do. Lastborns display extreme traits of nationalism, need for power, need for affiliation, distrust of others, and affectual orientation. These traits are more closely related to transactional leadership. Hypothesis 2 is thus:

Hypothesis 2: Laterborns will have higher scores on transactional leadership style than will firstborns.

METHOD

Participants and Procedure

The participants were 59 undergraduate and graduate students in a private, northeastern university (71% male, 29 % female). They were recruited from their classes through an offer of “extra credit” towards their class.

Participating students were asked to sign up for predetermined sessions. Upon arrival the students were individually asked to sign an informed consent document and then complete a Big 5 Personality scale, a transformational leadership scale, and a survey asking for demographic information. After completing the scales, the participants were randomly assigned to a group with a minimum of 2 other participants. To ensure anonymity, the students were assigned a letter to identify themselves among the other participants. This letter was also written on the participants’ scales. The participants then performed a leaderless group activity. In this case, they were asked to perform the Marshmallow Challenge. The activity, popularized in a TED.com video by Tom Wujec, asks the participants to build the tallest structure they can, in 18 minutes, using only 20 strands of spaghetti, 3 feet of masking tape, 3 feet of string, and a marshmallow. The marshmallow must be at the top of the structure. At the conclusion of the exercise, the height of the tower is measured, and the participants are asked to complete another survey. In this last survey students are asked to rank the “leadership ability” of themselves and their team members. They were also asked to assess who spoke the most, who had the best ideas, and whom they would label as the leader of their group. Finally, the students voluntarily provided demographic information: age, gender, employment status, average family income, and a list of their siblings’ ages and birth positions. After completing the last survey, the participants are thanked and excused.

Measures

Personality. Personality was measured using the Big Five Inventory (BFI) developed by Oliver John (John & Srivastava, 1999). The survey is in the public domain and no permission to use it was needed. It contains 44 statements to which individuals need to provide an answer that best describes whether they disagree strongly, disagree a little, neither agree nor disagree, agree a little, or agree strongly represented on a numerical scale from 1 to 5 respectively. For example, one item is “Is talkative,” and the respondent would choose numerically which answer best describes them.

Leadership Style. Leadership was measured using the Multifactor Leadership Questionnaire (MLQ), developed by Avolio, Bass, and Jung (1999). The questionnaire is copy-written material owned by Mind Garden Inc. to which we were granted permission to use in this study. The questionnaire assesses transformational leadership, transactional leadership, and laissez-faire leadership. The questionnaire consists of 45 statements to which the respondent needs to provide an answer that best reflects how often each statement fits themselves. For example, one item is “I provide others with assistance in exchange for their efforts.” The respondents select: not at all, once in a while, sometimes, fairly often, frequently if not always. All answers are represented on a numerical scale of 0 to 4, respectively. The respondents are instructed to consider the word “others” to mean peers, clients, direct reports, and/or supervisors.

Leadership Emergence. The students participated in the Marshmallow Challenge. This challenge was used as a mechanism to measure leadership in the group. However, it could not address leader effectiveness. The directions state, “build the tallest structure you can.” In this case “effectiveness” could have multiple meanings and is, therefore, not a concrete indicator of ability and aptitude. It does lend insight into how groupmates perceive one another and therefore their tendencies to follow one person or

another. We did, however, ask each participant to indicate, privately, whom they felt was the leader of the group.

RESULTS

The first hypothesis compared birth order to personality, as measured by the BFI. We found, in an independent samples t-test, that there were no significant differences in the means of any of the five personality variables between firstborns and laterborns. The second hypothesis compared birth order with leadership style, as measured by the MLQ. In this analysis, again using an independent samples t-test, we would no significant differences in leadership styles between firstborns and laterborns.

In an additional analysis to assess whether firstborns were more likely to be perceived by others as leaders, we counted the number of times a firstborn was picked by a member of the group as the “leader,” and the number of times a laterborn was picked as a leader. We found the laterborns were almost twice as likely to be selected as the leader of the group (23 laterborns, 12 firstborns). These results provide further evidence disputing the notion that firstborns are more likely to be leaders.

Finally, we examined whether gender had a significant relationship with personality or leadership style. Using an independent samples t-test, we found no significant differences between males and females.

DISCUSSION

Through casual conversations about this study with peers and friends, people believe birth order should affect personality. Through their anecdotal experiences they have implicit expectations that the study should reveal a strong correlation between birth order, personality, and leadership attainment. However, the results from this study disconfirm that popular belief. In researching birth order, it appears that innate characteristics are believed to carry through to adulthood (Sulloway, 1996). However, there is research stating that personality can change completely over time (Siegler et al., 1990). Children that display rebellion in their adolescence can become conventional in their adult years. This contradictory research debunks the theory that birth order could be of any use to a company in their hiring and promoting practices, on the basis that people evolve over time based on experience and circumstance. Kristensen and Bjerkedal (2007) explored the relationship between birth order and IQ, and found that social rank in the family is more important than birth order especially in cases where a sibling has died. They concluded that people in those cases are at a disadvantage to people with no loss with regard to intelligence and aptitude. The differences in leadership styles among males and females has also been a popular topic of discussion. One study found that females leaders were more likely to be considered transformational and males more likely to be transactional (Eagly et al. 2003). However, we did not find any significant differences between males and females on leadership or personality.

Companies use the BFI to discover traits their candidates possess. Some believe these traits can help predict which current and potential employees will become a leader, however, it is not flawless (Jefferson, Herbst & McCrae, 1998). Birth order does not predict these same traits, leading us to understand that birth order cannot concretely predict if someone will become a leader, only whether or not employees possess traits consistent with leadership. Whether one actually achieves a leadership status in their life and career is dependent on other factors as well. In Cecile Ernst’s 1983 book entitled “Birth Order: Its Influence on Personality,” she writes there are many external factors in a person’s life that make personality prediction impossible. These factors include: family size, socioeconomic status, length of age gap between siblings, gender, and self-esteem. Due to the large number of factors that may affect personality, a simple look at birth order could not provide adequate insight with the absence of a large sample population, which would then introduce geographical factors. Her book also considers a family to be a mother, father, and natural-born male or female children. The American family make-up has changed in the past 35 years. Divorce, same-sex marriages, adoption, sexual identity, gender identity, and disabilities, to name a few,

were not discussed in the book. Based on the skepticism Ernst expressed, it leads us to believe the additional mentioned factors would also play a role. One limitation of our study was that we could not track students' long-term success. Also, because participants were college students with a median age of 20 years old, we could not gauge whether they would become leaders, if they could maintain leadership positions, or whether they would be effective leaders. Studying a group of students over a length of their academic careers could lend insight into this area. Also, researchers could learn more if they examined how birth order affects one's desire to seek positions of leadership by observing their behaviors across multiple group settings.

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