



## **The effect of birth order on learning a second or foreign language**

## **L'effet de l'ordre de naissance sur l'apprentissage d'une langue seconde ou étrangère**

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**The effect of birth order on learning a second or foreign language**

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**Abstract**

Psychologically, birth order has the most essential influence on the way children in a family take different roles. Studies show the difference among the siblings in different viewpoints such as cognitive maturity, motivation and so on. What has not been clarified is the relationship that may exist between birth order and the procedure of learning a second or foreign language for the children. Different attitudes bring various types of perspectives toward learning a second or foreign language, we can refer to the study that Saunders (2003) mentioned in his book in which positive attitudes to language learning was observed, thus children being born in different orders may have different views toward learning a second or foreign language. This paper tries to shed as much light as possible on the concept of birth order and seeks to find a relationship that already hasn't been cleared up between birth order and the effect it might have on learning a second or foreign language. In order to come to this conclusion, the relationships between birth order and personality traits, intelligence, educational attainment and cognitive maturity have been scrutinized. Finally some studies which exclusively have been worked on the effect of birth order and vocabulary development are presented. As a result we found that there is a conventional relationship between birth order and learning a second or foreign language.

**Abstrait**

Psychologiquement, l'ordre de naissance a l'influence la plus essentielle sur la façon dont les enfants dans une famille prennent des rôles différents. Les études montrent la différence entre les frères et soeurs dans différents points de vue tels que la maturité cognitive, la motivation et ainsi de suite. Ce qui n'a pas été clarifié, c'est la relation qui peut exister entre l'ordre de naissance et la procédure d'apprentissage d'une deuxième langue ou d'une langue étrangère pour les enfants. Différentes attitudes apportent divers types de perspectives vers l'apprentissage d'une seconde langue ou d'une langue étrangère, on peut se référer à l'étude que Saunders (2003) a mentionnée dans son livre dans laquelle les attitudes positives à l'apprentissage des langues ont été observées; L'apprentissage d'une langue seconde ou étrangère. Cet article s'efforce d'apporter autant de lumière que possible sur le concept de l'ordre de naissance et cherche à trouver une relation qui n'a pas encore été éclaircie entre l'ordre de naissance et l'effet qu'il pourrait avoir sur l'apprentissage d'une langue seconde ou étrangère. Pour arriver à cette conclusion, les relations entre l'ordre de naissance et les traits de personnalité, l'intelligence, le niveau de scolarité et la maturité cognitive ont été examinées. Enfin, certaines études qui ont exclusivement été étudiées sur l'effet de l'ordre des naissances et du développement du vocabulaire sont présentées. En conséquence, nous avons constaté qu'il existe une relation conventionnelle entre l'ordre de naissance et l'apprentissage d'une langue seconde ou étrangère.

**Keywords**

Birth order; Learning language; Educational attainment; Language development

**Mots clés**

Ordre de naissance; Apprendre la langue; Niveau de scolarité; Développement du langage

## 1. Introduction

Researchers across the social sciences have been studying the relationship between birth order and a variety of outcomes for more than a hundred years (Galton, 1874). First we need to clarify what we mean by birth order based on Carlson & Englar-Carlson's (2008). Specific birth order positions are classified as either First-Born, Middle-Born (positions including second and third born), Youngest-Born, and Only Child. While birth order positions start with First-Born and end with Youngest-Born, positions start over with the First- Born position and subsequent to the following positions in families that have over four siblings.

As Murphy (2012) Says, it is important to look at how a person interprets his or her birth order. Where do they see themselves fitting into their family? Just because they were a Second-Born child does not mean that they relate to being a Second-Born child. It is important to try and see how a person perceives themselves because the characteristics of a child determines how they react to things and people in their environments in which they are born into and it can determine the kind of adult he or she may become (Hartshorne, Salem-Hartshorne & Hartshorne, 2009). It is important to look at the age differences between the siblings.

Large number of studies have been done to determine the relation of birth order and other factors such as educational attainment, creativity, personally trait, cognitive maturity and achieving goals. As Gecas & Pasley (1983) mention in their article, the most conspicuous feature of the sibling system is that it is hierarchical in regard to such things as power, competencies, and responsibilities.

Typically, older children are bigger, stronger, more competent, and are given more responsibilities than young children in the family. While the evidence is fairly consistent with regard to achievement motivation, in which First-Borns have higher achievement motivation and tend to do better at school (Adams, 1972).

Interaction with both parents and siblings is affected by one's position in the sibling order. First-Born children have an advantageous position in this regard (which is the main reason that, in most of the research on birth order effects, the major comparison is between First-Born and later-born children).

Carette, Anseel & Van Yperen (2011) proposed that during a brief period, First-Borns are the only child within the family. Without siblings, parents have few standards available to evaluate their child's competence. As the firstborn child is the main point of reference, parents may tend to evaluate their firstborn's progress primarily by self-referenced standards.

Consequently, it's hypothesized that First-Borns have developed a preference for mastery goals. In contrast, when evaluating the competence of Second-Borns, the older sibling is available as a reference. Hence, parents may be more likely to evaluate their Second-Born's progress by standards set by the older sibling which in both cases can have influences on motivation.

As Kantarevic & Mechoulan (2005) mention that based on studies being First-Born or even among the First-Born does confer an advantage, while being Last-Born or among the Last-Born actually confers none. Kantarevic & Mechoulan (2005) noted that whether siblings of specific birth order perform differently has been an open empirical question for decades, but there's no significant claim regarding language learning, but other studies show a contrast to this belief. Interestingly, Pine (1995) investigated the relationship between birth order, language learning

and vocabulary development in children. The results emphasized the extent to which Last-Borns showed a significant disadvantage in vocabulary composition relative to First-Borns.

This paper tries to take advantage of all the previous studies in order to show the relation that exists between birth order and learning a second or foreign language. It has used three concepts of personality, educational attainment and cognitive maturity in order to find any connection between birth order and learning a language. Some studies as Pine (2005) observed some precious experiences but they need more investigation.

## 2. Birth order and personality trait

The first factor that each learner necessarily brings to the process of learning a second or foreign language is his very own personality traits. It can vary even in every family across the siblings who are in general, born into the same family and surrounded by the same environment. Despite this fact each one has a unique and different personality. What accounts for this difference? As far as birth order goes the concept of personality needs to be taken into consideration. as Zyrianova N. M., Chertkova Yu. D., Pankratova A. A. (2013) mention in their article about the influence of birth order on peronality tarits, A great number of studies were devoted to analysis of the influence of the family structure and children birth order on the development of personality traits.

The effect of birth order upon personality development continues to be a lively topic in the family socialization literature. Much of the appeal of birth order as a family structural variable stems from the intuitive sense that children occupying different positions in the sibling order experience different patterns of interaction with parents and siblings, and these differences have personality consequences. (Gecas. V., & Pasley. K. 1983)

The importance of birth order in personality development was first proposed by Alfred Adler (1956). The scholar contended that First-Born children differ from Last-Born children. Adler's theory was later supported by Sulloway's (1996). As Faraon. M. (2009) says, the more comparable the siblings are to each other in terms of character, the more will they try to differentiate themselves. However, it is noteworthy that children decide for themselves, along with the environment they live in, what role they want to hold in the family hierarchy. According to Adler (1927) and Sulloway (1996) a child holds a certain position in a family. The most common ones are: only child, First-Born, Middle-Born, and Last-Born. Each one of these positions has particular characteristics that express the family situation and the child's characteristics as presented in table one. In the table below you can have the overview of Adler's birth order characteristics.

**Table 1.**

An overview of Alfred Adler's birth order characteristics

<b>Position</b>	<b>Family Situation</b>	<b>Child's Characteristics</b>
<b>Only child</b>	Overprotected	Close to partnts, mature, leader, demanding
<b>Firstrborn</b>	High expectations	Authorization, strict, organized, obeys the rules
<b>Middle-Born</b>	Non-privileged	Flexible, easy-going, social, secretive, generous
<b>Last-Born</b>	Never dethroned	Risk-taker, outgoing, creative, competitive

It has been theorized that unique family experiences shape people's personalities and foster certain traits more than others (Adler, 1927). Adler proposed one of the earliest formal theories of birth order to explain the personality differences seen among siblings. He described the firstborn as more dependent, neurotic, and problematic as a result of being "*dethroned*" by later siblings. The Second-Born child, according to Adler, enjoys the advantages of an older model without the pressure to excel that weighs upon the firstborn child. Despite the appeal of birth order theories, empirical research has produced results that are at best inconsistent.

Birth order indicates the position of a child in a family relative to their siblings. In the contention of Sulloway (1996), Last-Born children are often rebels whose views center on changing the world, while First-Born children simply stick to the "*status quo*". In consonance with the above, MacDonald (1971) argued that Last-Born children were likely to have external-locus of control, meaning they believe that external forces control their behaviour, while First-Born children he argued have internal-locus of control, which implies they believe that they themselves, and not the external ecosystem, control their behaviour.

Nevertheless as compared with later-born children, First-Born, are usually expected to be adult models and to conform to adults' expectations and pressure (Baskett, 1985). Hence, parents have more expectations towards the First-Born as compared to their Last-Born. Therefore, First-Born children may feel controlled by parents. Parental control weakens from First-Born to Last-Born, while the Last-Born continues to enjoy some advantage. Parents tend to discipline First-Born children more than other siblings in the family in most societies. In this regard, the theory of differential discipline contends that Last-Born children face more lenient disciplinary environment as compared to First-Born children (Hotz & Pantano, 2011).

For example, Ernst and Angst determined that findings of higher IQ and greater socialization in First-Born were the result of between-family differences in sibship size, social class, religious denomination, and ethnicity, and not the result of differential parental treatment. Because family size is negatively correlated with socioeconomic status, First-Born are more likely to be found in smaller, higher status families. Consequently, when Ernst and Angst (1983) gave greater consideration to studies that controlled for the effects of family size in their review, the effects of birth order position were negligible across a wide array of personality variables.

In terms of different personality traits shown by different siblings in the study of McArthur (1956) showed First-Born to be more serious and sensitive. To account for the birth order effects seen with parent ratings, Ernst and Angst (1983) suggested that "*first- and later-borns have specific parent-related behaviors because the attitude acquired toward them is different, without their personality being profoundly affected*". Consistent with Ernst and Angst's (1983) observations, getting the perspectives of family members led to support of Sulloway's (1996) birth order theory; later-borns in the Paulhus et al. (1999) studies were nominated as the more rebellious, liberal, and agreeable members of their sibships.

A new stage in studies devoted to birth order effects began after publication of *Born to Rebel* by F. Sulloway (1996). Based on analysis of intellectual and social revolution the author concluded that First-Born children were different from other children: they stood out for maintaining the existing order whereas younger children stood out for its change. Therefore, First-Born children and younger children differ from each other for personality traits.

Consequently First-Born have been characterized as more intelligent, verbal and dominant (Sampson, 1965) than later borns. Evidence is also beginning to accumulate that birth order

may have a significant effect on sibling interaction patterns. Preschoolers are more likely to hit, offer toys, and take toys from their younger, infant siblings (Lamb, 1978a, 1978b), while infants are more likely simply to watch the older children (Abramovitch, Corter, & Lando, 1979; Lamb, 1978a, 1978b), to imitate the older children's actions (Lamb, 1978a, 1978b), and to submit to the older children's aggression (Abramovitch et al., 1979). Brody et al. (1982) have found that during a board game older school-aged children are more likely to take a teaching role while their younger siblings adopt a more submissive role. We know relatively little, however, about how birth order may affect school-aged siblings' interactions in other situations.

Robinson, Gabriel & Katchan (1993) conclude that there is strong evidence that personality differences play an important role in second language acquisition, therefore birth order can have a major role in the process of learning a second or foreign language. Based on the studies already mentioned siblings show different characteristics when they have had different birth order so clearly it will account for different ways of learning a second language.

### 3. Birth order and intelligence

Already it has been postulated that birth order plays a major role in determining personality traits of siblings in a family hence it has a direct influence of learning a second language. The second factor which has been studied in a vast number is intelligence. Previous research has found birth order to affect intelligence (Kristensen & Bjerkedal, 2007) and personality (Paulhus, Trapnell, & Chen, 1999).

Zajonc's explanation for this relationship (which he found to be supported in several large cross-sectional surveys) was based essentially upon the opportunity for interaction with parents that is available to the child. This opportunity is greater for older than for younger children, and is consequential for the "intellectual environment" that each child experiences. Researchers, using data on intrafamily comparisons, however, have failed to find a relationship between birth order and intelligence (Olneck and Bliss, 1979; Grotevant et al, 1977; Galbraith, 1982). Retherfor & Sewell (1991) clarified completely in their article "Birth order and intelligence: further tests of the confluence model" that:

*"the relationships between intelligence and sibship size and between intelligence and birth order are both negative; the strength of these negative relationships depends partly on how closely births are spaced. A teaching-function effect arises because last-borns (including singletons) lack the opportunity to teach younger siblings. Teaching a younger sibling stimulates the intellectual development of the older child. Since Last-Born children have no one to teach, they suffer from a "Last-Born handicap."*

It is generally believed for example, that First-Borns tend to be more intellectually oriented than their younger siblings, are more conscientious in their work habits and studies and attain higher levels of professional status in life (Herrera, Zajonc, Wiczorkowska, & Cichomski 2003). Essentially, dominance hierarchies are based on age in most families. First-Borns can easily intimidate their younger brothers and sisters both physically and verbally and as a result usually exert dominance over them.

Zajonc, Markus H. & Markus B. G.(1979) in their famous article "The Birth Order Puzzle" say that at birth the Second-Born comes into an intellectual environment that is relatively more

impoverished than the one entered by the First-Born. However, the rate of change in these environments is quite different, and the Second-Born can soon exceed the First-Born's rate of growth. Thurstone and Jenkins (1929) examined a large number of children and concluded quite explicitly that on the whole the later-born siblings tend to be on the average brighter than the First-Born. Not only does this seem to be the case in the comparison of the First-Born with the subsequent children, but the rise in intelligence with the order of birth seems to continue as far as the eighth-born child.

Based on the abovementioned studies birth order has a direct impact on the intelligence. McGeorge, Crawford, and Kelly (1997) found a significant relationship between Intelligence and Learning in an Explicit and an Implicit Task. They say that "*performance on the explicit series completion test shows a strong positive relationship with IQ measures*". As a result birth order can have a direct relationship with the proces of leaenrning. And since siblings borne in different order are possessed with different levels of intelligence pass the process of learning a second or foreign language different from others.

#### **4. Birth order and educational attainment**

As Barclay (2015) claims birth order is an important marker of early life conditions within the family, and is one that is experienced by all individuals. Previous research shows that birth order is a marker of stratification within the family, as studies show that early born children tend to have access to greater levels of resources, attention, and cognitive stimulation than later-born s (Price, 2008). Empirical research has shown that birth order is likely to be causally related to educational attainment (Black, Devereux, & Salvanes, 2005; Härkönen, 2014)

Since the time of Galton (1874), scholars have studied the effects of birth order on cognitive achievement, including eminence, educational attainment, score on educational achievement tests, and measured intelligence. Hundreds of studies have examined this question.

In their study, Booth and Kee. H. J. (2005) say that there are various hypotheses in the literature about the impact of birth order. Those predicting negative effects relate to greater parental time endowments for lower birth order children; greater devolvement of responsibility to lower birth order children; and the simple fact that mothers are older when they have higher than lower birth order children. Those hypotheses predicting positive effects of birth order on education are: the growth of family income over the life cycle; the possibility that older siblings may be encouraged to leave school early to assist in providing resources for the younger members of the family; parental child-raising experience that might advantage younger siblings; and finally the possibility that younger children may benefit from time inputs both from parents and older siblings.

However, all these studies estimate birth order effects quite imprecisely and, due to small samples, do not include the full set of family size indicators, cohort indicators, and parental cohort indicators we use in this paper. More recently, Iacovou (2001) uses the British National Child Development Study (NCDS) and finds that later-born children have poorer educational outcomes than earlier born. While this a very thorough study, it does suffer from some weaknesses. First the sample size is small (about 18,000 initially) and there is much attrition over time (about 50%) so estimates are imprecise and may be subject to attrition bias. Second, all children in the sample are born the same week so, conditional on mother's cohort, birth order

is strongly correlated with age at first birth and it is difficult to tease out separate effects of these two variables.

As we have seen in the theoretical context, the results are mixed and show support for birth order on one hand and no support on the other hand because of confounding variables. In addition, previous research (Boling & Boling, 1993; Sulloway, 1996; Zajonc, 2001) has showed that gender, age, sibship size, education, and conflict were associated with birth order.

Furthermore a study by Boling and Boling (1993) showed that birth order influenced the level of creativity. The results indicated that First-Born males and Last-Born females had the greatest creativity in contrast to other birth order positions. Further, Nuttall, Nuttall, Polit, and Hunter (1976) noted that small family boys had better grades than did big family boys. In addition to these results, it was found that First-Born girls showed a higher level of academic achievement than did Last-Born girls. The reasons behind these results were suggested to be well-developed patterns of responsibility and hard work.

Based on Longman (2010) education is "*in a general sense, the formal and informal processes of teaching and learning used to develop a person's knowledge, skills, attitudes, understanding, etc., in a certain area or domain.*" Though the studied done on the relationship that exists between educational attainment and birth order it has been clarified that this kind of relationship is willing to happen as a result learning second language which can be considered as an educational attainment is in direct relation with the birth order.

## 5. Birth order and cognitive maturity

In acquiring a language, Clark (2004) says that, children must eventually attend to all the distinctions relevant in that language. This includes the ability to take different perspectives on the same event or the same object. But as linguistic representations capture only certain aspects of cognitive representations they need to take account for both linguistic and nonlinguistic factors. Cognitive maturity as Noam Chomsky believed can play the central role in acquiring a language.

As far as birth order goes the First-Born child interacts exclusively with its parents, and is therefore exposed to an environment with a relatively high level of cognitive maturity. The Second-Born, however, enters an environment where he interacts both with his parents as well as his older sibling, meaning that the average level of cognitive stimulation is lower, and this continues with any further children entering the family. An additional dimension of the confluence hypothesis is that the advantage for earlier born children is initially eroded in households with multiple children, as they spend time interacting with their younger siblings, who are less cognitively mature (Zajonc, 1976)

Zajonc (1976) has suggested that this means that earlier born children actually do worse than later-born s up until a certain point, estimated approximately as age 11. The recovery of the advantage by the earlier born children is due to the opportunity to tutor their younger siblings, which serves to reinforce their own knowledge and skills. The Last-Born never has a chance to tutor any siblings, and so in the long run they should fare the worst.

Consequently birth order is in direct relation with cognitive maturity. So we can conclude that it has essential influence on the process of learning which is stretched with cognitive maturity.



## 6. Important studies on the effect of birth order on language learning

However small number of studies has been done considering the effect of birth order on language learning, these ones have had significant results.

Oshima-Takane, Goodz & Derevensky (1996) found that the language development of Second-Born children overall was the same as their First-Born siblings, but that Second-Born children were more advanced than First-Born children in their use of personal pronouns (for example, “he”, “she”, “them” and “they”). They explain that later-born children overhear conversations between caregivers and older siblings, and are thereby exposed to more pronouns than First-Born children. The authors claim that their data proves that later-born children are exposed to a different linguistic environment than First-Born children, and that “*the language Second-Borns overhear in conversations between caregivers and older siblings is more mature and complex than the language they themselves and First-Borns hear in speech directed to them*”

Hoff-Ginsberg (1998) found that First-Born children were more advanced in vocabulary and grammatical development than later-born children, but that later-born children were more advanced in their conversational skills. This may be attributed to “*differences in early language experience*” . . . that . . . “*may set the stage for later developmental differences*” (p. 603). It could be that later-born children have to work harder to be included in multi-party conversations between parents and older siblings, which may provide motivation to learn and use the necessary social skills to be included in family conversations. In addition, multi-party conversations may expose the child to more mature language models.

Pine (1995) found a small but significant birth-order effect was found for the age at which the 50-word milestone was reached. However, there was no significant difference in age at 100 words, and there was a strong correlation between sibling pairs on both of these measures. As regards qualitative differences, Second-Borns had a significantly higher percentage of frozen phrases in their first 100 words and a significantly higher percentage of deictic personal pronouns in their first 50 and 100 words.

## 7. Conclusion

Throughout the studies already done it was shown that there is a tight relationship between birth order and the process of learning a language. First it was discussed in the field of personality, different people bring various attitudes and characteristics towards learning a language because siblings possess different personality traits it can be concluded that they will have different ways of learning another language.

The second factor is intelligence, as it was mentioned intelligence has a significant role in learning a language and through large number of studies it was shown that siblings utilize different levels of intelligence. As a result the process of learning would differ for them. Educational attainment was investigated through enormous studies and showed that in the case of birth order various results were found. Considering cognitive maturity and the method of cognitivist it is cleared up that there is a direct relationship between them.

Birth order likely creates different language learning environments for each child, none of which are detrimental. However, knowing the types of conversation and input that children are exposed to in families with more than one child, as well as how multiple children affect daily routines and interactions can be helpful for speech-language pathologists when planning early language intervention and implementing home programming.

As the final it has been shown that point birth order not plays a major role in vocabulary development but also in the whole process of learning a language.

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