

## **Sibling Birth Spacing Influence on Extroversion, Introversion and Aggressiveness of Adolescents in Nairobi, Kenya**

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**ABSTRACT:** Sibling spacing refers to the birth interval between consecutive children in the family. The family is the basic unit of socialization. Family interactions and other dynamics such as birth order and sibling spacing shape the personality of children. This study investigated the relationship between sibling birth spacing and, extroversion and introversion characteristics of adolescents in Nairobi, Kenya. The study adopted mixed methods research paradigm with the correlation design. Purposive and simple random sampling techniques were used to select three schools for the study sample and participants. From each of the three schools, twenty five students were selected to make a total sample of 75 participants. The data collection instruments for the study were standardized questionnaires and observation guides. Data was collected and analyzed using Pearson correlation analysis and Analysis of Variance. The study concluded that close sibling spacing tends to produce extraverted and highly aggressive children while wide sibling spacing tends to produce introverted and less aggressive children. The study further found that the only children, ranked highest in introversion and, lowest in aggressiveness and extraversion. The study recommended that sibling spacing knowledge should be used by school career guidance masters as locally available method of predicting personality.

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### **I. BACKGROUND OF THE STUDY**

Various countries worldwide have diverse policies on family size and birth spacing for their families. Economists view family size and birth spacing as potential threats or opportunities for national economic planning (Gugl & Welling, 2010). To the densely populated countries like China, India and most sub-Saharan countries, large family size implies strain on family and national resources, pressure on social amenities and increased crime. To countries with low population density like Germany, Sweden, Finland and other Scandinavian countries, large family size means sustainable labor force, utilization of surplus family and national resources and sustainability of social amenities such as schools and hospitals.

For quite some time, sibling spacing has been an issue of great concern for medical experts and economists. The medical experts have been concerned with the health of the mother and child in relation to the subsequent birth. The World Health Organization advises parents to space their children with an interval of at least two years (Dunkel, Hurbke&Papini, 2009). This is meant to give the older child enough time to breastfeed and receive maximum care from the parents before the next child is born. The medical experts also argue that the mother needs enough rest and body rejuvenation before the carrying the next pregnancy.

The economists argue in support of the evenly spaced children as a way of reducing strain on the resources of the family. Parents who space their children evenly have ample time to accumulate and save resources for one child before getting the next child. According to Kluger (2011), this improves the quality of children and the entire family.

This debate has in the recent past become an area of focus by Psychologists and mental health practitioners. In an attempt to understand human behavior, Psychologists have conducted numerous studies on various variables including birth order and sibling spacing. Alfred Adler was one of the first Psychologists to study how birth order influences behavior. Adler argued that firstborns in every family are favored and therefore end up growing responsibly (Carlson &Slavik, 1997). According to Adler, children born after firstborns tend to have inferiority which becomes a motivating factor in their growth as they fight for their position in the family. An analysis of

Adler's argument means that children born after firstborns may rate highly on aggressiveness as their inferiority predisposes them to be aggressive in life.

Siblings do not automatically grow up liking one another. The family plays an important role in sibling relationships which brings about different dynamics in how the siblings relate with other people. Van Volkom, Machiz & Reich (2011) agree that there are many different emotions that surround sibling relationships and this affects how they relate with the world. While growing up, older siblings have more power and authority over the younger ones. As they grow, the siblings tend to become more equal and close with each other. Tucker & Updegraff (2010) content that siblings become more equal in power as the first born begins to give up some of their power and control to the subsequent siblings.

Sibling co-operation is not always the case since some grow with high degree of rivalry. Sibling rivalry may be initiated by children attempting to gain parental attention and increase their power within the sibling subsystem of the family. Badger & Reddy (2009) found out that when siblings are close in age with each other, they have higher chance to become more aggressive with each other because their parents expects them to like the same things, act the same way and achieve the same things. They agree that most sibling rivalry happens between the ages of 10-15 years. These sibling dynamics can impact the children throughout their entire lives. Van Volkom, Machiz & Reich (2011) agree that even if siblings do not get along with each other, they can still form emotional bonds. However, these bonds may be negative. Rechia & Howe (2009) describe positive emotional bonds as those that involve problem solving than contention. Forer & Still (1976) observed that all family members force each other into certain behavior patterns as they relate with each other in order to meet their needs of belonging and significance. This causes them to acquire coping strategies usually deployed in their relationship with other people in the environment.

In Kenya there is advocacy for more spaced pregnancies. Awiti (2013) found out that birth intervals of 36 to 59 months improve maternal health care. He argues that this finding is consistent with other studies conducted on the same issue citing Updhay (2002), Kosimbei (2005) and Odimegwu (2008). These findings show that birth intervals are influenced by various determinants such as age of the mother, number of surviving children, gender of the other children and education of the mother among others.

#### **Statement of the problem**

Adolescence remains a challenging developmental stage to parents, teachers and adolescents themselves. Constant conflicts continue to be witnessed between adults and this group in Kenya. The most recent has been nationwide burning of schools, increasing involvement in sex parties, cheating in national exams and defying parents on career choice. In the face of all these challenges parents and educators still try to understand the adolescents using outdated theories often referring to adolescents as 'mad' stage. There is need to study and develop updated knowledge that will promote understanding of this delicate but important population. Most studies have been done on the effects of birth spacing with tremendous findings. Most of these studies have focused so much on the mother and resources leaving out the children who are the products of the spacing. Studies carried out in Kenya on this issue by Odimegwu (2008), Kosimbei (2005) and Awiti (2013) all focus on maternal health. However it has come time that focus needs to shift to how birth spacing may influence on individual differences among siblings. This will not discredit what has already done with medical bias but will boost the information available for parents to make more informed decisions on how to space their children. This research exploits this gap in literature by focusing on implication of sibling spacing on the siblings themselves as opposed to the mother.

## **II. LITERATURE REVIEW**

This chapter contains a review of literature on the study sibling spacing and its implication on extraversion preference among adolescents. The chapter began by critical review of empirical literature of the related studies, theoretical framework and conceptual framework.

#### **Sibling spacing and extraversion characteristics of adolescents**

Several studies have been conducted on sibling spacing and birth order in relation to personality. Costa & McCrae (1992) conducted a study on birth order and its influence on personality guided by the five-factor model. The study associated firstborns with conscientiousness and slight neuroticism than laterborns. The study found laterborns to be more agreeable and extraverted than firstborns. Some of the characteristics where the laterborns scored high included being more fun loving, sociable and excitement seeking. Sulloway (1999) introduced a different question where it was observed that some of the personality characteristics exhibited within the family may be different from those exhibited by the same individuals outside the family. Sulloway (1999) asserts that outside the family of origin, laterborn spouses or roommates are generally viewed as to be more agreeable and extraverted. Sulloway (1996) also observed sibling relationships in times of radical revolutions. The findings showed that laterborns were more likely

to offer their lives to radical rebellion as opposed to firstborns who wanted the status quo maintained. In a similar finding, Sulloway (1999) observed that firstborns tend to keep the generally accepted laws of scientific research than laterborns who tend to be outlaws of scientific research sometimes challenging the accepted prevailing paradigms. This study found that during the Copernican revolution which challenged the doctrine of the church by asserting that the earth goes round the sun, laterborns were five times more likely to endorse this view than firstborns. It is cited that Copernicus himself was the lastborn of four children with another revolutionary Charles Darwin being the fifth of six siblings.

Salmon (1998) has experimentally shown that firstborns and lastborns are more likely to be swayed by political speeches using kinship terms such as brother or sister while middle children prefer speeches that use reference to friends. Hardy (2001) observed that sibling conflicts play an important role in the social development of children. The findings show that through arguments, siblings get an opportunity to express their feelings and learn how to deal with intense communication. Ryan (2002) agrees that in conflict resolution, siblings discover their strengths and limitations. It could be argued that this kind of interaction among siblings could be responsible for shaping the individual child towards extraversion or introversion preferences of personality. Scharf et al. (2005) say that sibling relationship changes with increase in age. The concluded that adults are more introverted to their siblings than adolescents with less sibling conflicts being reported in adulthood as compared to adolescence.

#### **Sibling spacing and aggressiveness of adolescents**

Sibling competition is a phenomenon that develops from sibling rivalry. Sulloway (2007) conceptualizes firstborns to be more conformist in the family as compared to laterborns. The study noted that at the birth of a second born, rivalry for parental attention begins. Competition between the siblings intensify with the second born curving out their own niche in the family. In this analysis, the study observes that second borns usually face defeat since the firstborn is already developed and holding onto a sizeable amount of power. The second born sensing this defeat shifts the war to struggle for family resources. Healey & Ellis (2007) view the second born as unconventional, rebellious and open to new experiences as a result of the fight with the firstborn. Rohde (2003) examined relationships between birth order and rebelliousness within the family in various European countries. Rohde concluded that lastborns and middle children were more likely to be judged rebellious than firstborns.

Studies done in the developing world are more related to economic factors of sibling spacing as opposed to psychosocial factors. Awiti (2013) observed that short spacing between the youngest two children increases care load for the mother which makes her less productive at work. This may imply that increase in mother's care load may increase strain on attention time for the children which may eventually affect the parenting style. This may end up having a direct impact on the psychosocial development of children.

Gribble (1993) advocated for the competition model of sibling spacing with the assertion that the birth of every successive child brings competition for scarce resources in the family. The study points out that earlier arrival of a new child brings premature weaning of the previous child which exposes the child to malnutrition and diseases. This study noted that closer sibling spacing lowers the care and attention quality of siblings which affects their development.

Pedersen (2000) observed that longer duration of birth interval has been found to increase the probability of child survival. The study further points out that children with close birth spacing are more likely to be aggressive in acquiring resources than their counterparts who are widely spread. Ryan (2002) observed that sibling relationship could be better understood by examining the developmental stage of children. The study found out that intensity of sibling completion was highest from birth to adolescence and began subsiding as siblings enter adulthood. The individuation and independence attained in adolescence dictates the siblings to be closer to one another. Some studies however suggest that sibling competition can be carried into adult relationships (Salmon, 2003). The study shows that as age of siblings increase, sibling rivalry remains stable. Several other studies indicate that closely spaced siblings tend to be more involved in intense quarrels, rivalry and aggressive behavior (Rafaeli, 1992; Epkins&Dedmon, 1998). When analyzed in relation to the economic models, this view shows that when siblings are closely spaced, there is more pressure on resources which makes it necessary for the concerned siblings to outdo each other in the contest for the resources. On intimacy, Salmon & Dally (1998) contend that closely spaced siblings bond well which makes them closer to each other.

### III. METHODS

#### Research design

The study adopted a correlation research design. The design was the most appropriate for this study since the main aim of the study was to test association between variables.

#### Sampling techniques

Simple random sampling and purposivesampling were selected for this study. This is sampling where people, things or places are randomly selected from a purposeful population (Donald & Tromp, 2009). This sampling was chosen because it gives every member of the population equal chances to be included in the study. The total sample was 75 participants out of which 45 were boys and the other 30 were girls. Three schools were randomly selected from the study area, one from each district. All the three schools were mixed day schools. Purposive approach was used to select participants with birth spacing that was desired and later the participants selected randomly from each group of a particular sibling spacing. The study used participants with birth intervals of 1 year, 2 years, 3years and the only child. From each school, 25 students were selected to participate in the study through taking standardized questionnaires and observation. The selected students fell between ages 14 and 19 years.

The goal of the researcher was to achieve desired representation from various subgroups in the target population while at the same time giving each subject in the population equal chances of being included in the final sample of the study.

### IV. DATA COLLECTION

Data collection instruments constructed for the research werestandardized questionnaires and participant observationguides. The questionnaire adopted in this study was extracted from the Myers Briggs Test Indicator (MBTI), a standardized psychometric test that measures personality traits. The researcher picked the questions of the MBTI that relate to extraversion and introversion leaving the rest of the question. The questions were presented to the participants in form of 5 point Likert scale.

The participant observation guide include cards with different shapes where each shape represented a given sibling spacing interval. The cards were issued to the students two hours before lunch time and during the lunch break the researcher went at the serving table to collect the cards in the order in which the participants arrived to get their meal. This was meant to check the aggressiveness of the students when getting resources from the environment.

### V. RESULTS

Quantitative data was analyzed by conducting statistical tests, Pearson correlation analysis and Analysis of Variance (ANOVA). Observation data was analyzed qualitatively and converted to percentages for interpretation.

#### **Relationship between sibling spacing and extraversion & introversion**

		Total Extraversion Score	Birth Spacing
Birth Spacing	Pearson Correlation	-.931**	1
	Sig. (2-tailed)	.000	
	N	75	75

*Birth spacing and Extroversion*

A strong significant negative relationship between extroversion and sibling birth spacing of adolescents was established ( $r = -0.931, p < 0.01$ ). The mean extroversion score was 4.40 for only child, 6.40 for birth spacing of 3 years, 16.14 for birth spacing of 2 years and 18.50 for birth spacing of 1 year. The results show that close sibling spacing produces more extraverted children than widely spaced children.

		Birth Spacing	Total Introversion Score
Total Introversion Score	Pearson Correlation	.894**	1
	Sig. (2-tailed)	.000	
	N	75	75

*Birth spacing and introversion*

The study found a strong significant positive relationship between introversion and birth spacing of adolescents ( $r=0.894$ ,  $p<0.01$ ). The mean introversion score was 3.38 for birth spacing of 1 year, 4.29 for birth spacing of 2 years, 14.60 for birth spacing of 3 years and 17.40 for only child. As sibling spacing widens, the children tend to move towards introversion. The results also shows that a large percentage of only children is introverted.

An analysis of gender differences in extroversion indicated an insignificant gender mean difference ( $t= 0.487$ ,  $df=23$ ,  $p> 0.05$ ). On the introversion score, gender difference was also insignificant ( $t=0.055$ ,  $df=23$ ,  $p>0.05$ ). The results indicate that both boys and girls of similar birth spacing score relatively the same on extroversion and introversion.

**Relationship between sibling spacing and aggressiveness of adolescents**

Adolescents with sibling spacing of 1 year recorded the highest score on aggressiveness at 65% followed by 2 years spacing at 60%, 3years at 45 % and the least aggressive was the only child with 10%. The results show that children who are closely spaced are very aggressive and as the sibling spacing increases, the aggressiveness decreases. The only children are the least aggressive.

**VI.**

**DISCUSSION**

The results show that close sibling spacing produces more extraverted children than widely spaced children. This findings are consistent with existing literature as shown by the research of Pedersen (2000) which concluded that children with close sibling spacing are more likely to be aggressive and extraverted. Badger & Reddy (2009) explain this trend with the assertion that closely spaced siblings are pushed to extraversion by their parents who expect them to be homogeneous in behavior. The findings of Gribble (1993) showed that the birth of every successive child leads to competition for resources in the family. The accompanying family response is early weaning in case of early arrival of the successive child includes early weaning for the previous child and divided attention from the care givers. This sets both the new child and the previous one on collision path as they struggle for family resources. The results of this study show that close sibling spacing produces more extraverted children than widely spaced children. As sibling spacing widens, the children tend to move towards introversion. The results also shows that a large percentage of only children is introverted.

The results show that children who are closely spaced are very aggressive and as the sibling spacing increases, the aggressiveness decreases. These results are consistent with the findings of Raffaelli, (1992) and Epkins&Dedmon, (1998) which showed that closely spaced siblings exhibited more aggressive behavior, intense quarreling and rivalry. This study found that there is a relationship between sibling spacing and aggressiveness of adolescents. The only children are the least aggressive. Forer& Still (1976) attempted to explain the trend noted in these findings. Their study concluded that family members force each other into certain behavior in order to meet their need of significance. It could be argued that close sibling spacing is a threat to the significance of each child involved and one of the ways to fight for this significance is through aggressive behavior. The only child on the other hand enjoys all attention from parents and has access to all family resources. This leaves the only child with maximum significance in the family, which makes them less aggressive.

These findings tend to relate to the economic status of the family of origin of the child.

The extroversion and introversion characteristics could be emerging from the aggressiveness required to access basic survival resources in the family. It is likely that the results may change if such a study was done on children from affluent families.

**VII. CONCLUSION**

The study concludes that there is a relationship between sibling spacing and extraversion characteristics, and aggressive behavior of adolescents. The study further concludes that majority of closely spaced siblings are extraverted and more aggressive while majority of widely spaced siblings are introverted and less aggressive. The study further concluded that only children score the highest on introversion and are the least aggressive compared to other birth spacing intervals.

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