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ISSN: 1575-7072 | e-ISSN: 2172-7775

Páginas: 283-292 Recibido: 2022-02-17 Revisado: 2022-03-25 Aceptado: 2023-03-28 Preprint: 2023-04-21 Publicación Final: 2023-09-01



www.revistascientificas.us.es/index.php/fuentes/index

DOI: https://doi.org/10.12795/revistafuentes.2023.20449

Birth Order Theory related to Emotional Intelligence development

La teoría del Orden de Nacimiento en relación con la Inteligencia Emocional





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Abstract

For many years psychologists have been examining the relation between the Birth Order Theory and personality features, without taking into account an essential psychological construct, Emotional Intelligence (EI). That is why this present study analyses the existent relation between this last psychological variable, which mainly shows the amount of control people are used to have dealing with their emotions, and the position held at birth. This last Theory is based on the idea of Birth Order, considering if someone was born the first one or maybe the second or even third (and more). This has been executed through the design and implementation of an ad hoc online questionnaire to a sample of 203 participants, in which 50 of them are men and 153 are women. Once the questionnaire is done, its results are revised and analysed. The results have shown that there are statistically significant differences in four fundamental psychological variables: emotion regulation, confrontation, self-control, and affective empathy, being able to establish that second borns tend to develop a better EI. These differences are shown mainly between the firstborn and the second or third child to be born. Finally, these results are discussed to establish conclusions and raise possible lines of future investigations in this educational psychological field.

Resumen

Desde hace años, investigadores psicológicos vienen examinando la relación entre la Teoría del Orden de Nacimiento y los rasgos de personalidad obviando un constructo psicológico esencial, la Inteligencia Emocional (EI). Es por ello, por lo que en el presente estudio se analiza la relación existente entre esta variable psicológica, que indica principalmente el grado de gestión de las propias emociones ante diferentes situaciones personales, y el puesto familiar que se ocupa al nacer, es decir, teniendo en cuenta si una persona es la primogénita o en otro caso ocupa otros lugares como segundo o tercer hijo en la familia. Todo ello es realizado a través del diseño y la aplicación de un cuestionario ad hoc online, a 203 participantes (50 hombres y 153 mujeres), con edades comprendidas entre los 18 y 33 años. Los análisis realizados de los datos aportados por el cuestionario muestran diferencias estadísticamente significativas, principalmente entre los primogénitos y los hijos que ocupan el segundo o el tercer lugar atendiendo al orden de nacimiento, en cuatro variables psicológicas fundamentales: la regulación emocional, el afrontamiento, el autocontrol y la empatía afectiva; pudiendo otorgar mayor grado de IE a los nacidos en segundo lugar. Para finalmente, discutir los resultados, establecer conclusiones y plantear posibles líneas de investigación futura, en el campo de la psicología.

Keywords/Palabras clave

Adults, psychology, intelligence, emotion, research, questionnaire, management, emotional development. Adultos, psicología, inteligencia, afectividad, investigación, cuestionario, gestión, desarrollo afectivo.

1. Introduction

The concept of Emotional Intelligence (EI) was approached, for the first time around 1980, by psychologist Gardner. Since then, it has been considered as a field of scientific interest, until then 'undervalued', due to the fact that the intelligence quotient (IQ) prevailed in different situations. Therefore, a new idea arises that places greater importance on personal development and how a person acts at certain times, in this case related to birth order (Barni et al., 2014). In 1997, Mayer and Salovey defined EI as follows: "the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (Mayer & Salovey, 1997, pp. 3-31). It is from this moment when the study of EI begins to gain importance in society and the research lines of some psychologists. Since then, EI has been considered a fundamental capacity of the human being to maintain stability at an interpersonal and intrapersonal level.

Considering all of the above, this research analyses the development of EI within a specific family role, which means taking into account the position held in the family. In this sense, the role of children according to birth order has been the main interest in numerous investigations, mainly for the IQ among siblings (Rohrer et al., 2015). These have mainly focused on the idea of personality development, such as Sulloway in Born to Rebel (1996), who achieves to determine some variables with the personality effects according to birth order. Another interesting example of this field could be the study carried out by Salmon et al., (2016), in which they show that younger children tend to develop more prosocial behaviours than older children, or how the environment they grow up in can affect them (Bleske et al., 2014).

In this regard, the studied variables will be classified into the next specific investigation fields: Reparation, which is referred to as the ability by which one person is able to regulate their emotional states in an appropriate way; Confrontation/Coping, defined as the capacity which allows the correct management of emotions and stress when facing the problem-situation. Self-control, known as how people tend to react to adverse and positive consequences, synonymously with self-management (Peterson et al., 2021). And finally, affective empathy, which is the capacity by which someone is able to feel what the other people feel. In other words, affective empathy means being able to understand the emotions of other people. Other studies about this topic are considered, such as the one carried out by Damian and Roberts in 2015. In this study the association between birth order and features of personality and intelligence is investigated, proposing that second borns are more social and empathetic people.

To end with the introduction, it's important to show the reasons that have motivated this study, which lie in the interest of knowing how people's minds can work according to the specific role that has been assigned to them, because growing up with the stigma of being the first child is very different from the one of growing up being the last. Consequently, it is in this way that the search for answers can shed some light on such an ambiguous but interesting subject, being able to generate a kind of differential pattern, as other investigations, which have studied how this can be related with the size of the family and age (Fitniwilis et al., 2022).

Considering all of the above, this study intends to carry out research by using an ad hoc online questionnaire, which is meant to examine the existence or not of differential patterns in relation to the Birth Order Theory and the different features of El. The purpose is to clarify this relationship and create a new topic of psychological research in the family and development sphere, that is why this will be the main objective all over the article.

1.1. Birth Order Theory of descendants

This study is founded on the Birth Order Theory, which is based on the premise that there are a series of external factors that can determine certain future behaviours of the subject in various aspects of life, sometimes overgenaralised (Aranda & Chávez, 2017). The idea emerged when Adler, in 1918, began to question how birth order can affect the personal development of a person. Establishing a series of patterns, each of them attributed to a specific position in the family (descendants), Adler considered this: "It is not, of course, the child's number in the order of successive births which influences his character, but the situation into which he is born and the way in which he interprets it" (Alder, 1956, p. 377).

In this way, there have been diverse studies which have been carried out around this topic for a century, such as the relationship between this theory and the development of personality to determine profiles (Boccio & Beaver, 2019). In this regard, it is interesting to review the study carried out by Damian and Roberts, in 2015, with a sample of 272,003 American students from the sixties. It shows that there are factors such as the family environment or parental care for the first children, which can determine their personality according to birth order. It is also worth mentioning the study carried out by González in 2003, with 110 participants from 55 pairs of siblings. This study showed the existence of differences in the development of the personality between them, mainly between the first-born and the second-born, since they affirmed that the family environment develops differently and it is important to consider parents' attitudes towards them (Lejarraga et al., 2010).

However, other investigations have examined the relationship between this theory and the influence of parental support and their behaviours, showing negative effects in those children that are physically/corporal punished, because it may lead to a future trauma. Also considering that first borns are the ones which are less likely to receive this type of punishment and are, as well, the ones to receive more chances/opportunities in the studying field among their siblings (Kim & Wang, 2023).

1.2. State of Emotional Intelligence (EI)

According to Goleman (1995), EI is defined as the person's ability to control their emotions so that they are expressed appropriately and effectively, namely it is the capacity which helps someone to manage their interpersonal relationships following five main domains: self-awareness, self-regulation /self-control, motivation, empathy, and social skills. He also argues that in EI, emotional abilities have a lot of power which allows one to control their moods. As a result of it these are called social competencies. Therefore, this research focuses on the analysis of possible patterns in the relationship between the birth order of children and the development of their EI.

Many psychologists have focused their research on finding answers to the development of EI and have thus managed to propose their theories, giving way to a new field of interpersonal and intrapersonal research. Gardner (1983), the psychologist who mainly stands out in this area, confirms the existence of eight multiple intelligences not focused only on the IQ, as it had been thought until then. He argues that there are more features of personal development which need to be kept in mind. Of these eight different intelligences, this study focuses on the intrapersonal and interpersonal ones since it is considered where EI arises. For Gardner, both of these types of intelligences compound the EI, taking into account that this aspect can not be evaluated by the IQ of someone (Singh, 2022). That explains that intrapersonal intelligence is based on the ability to build an accurate perception of oneself and vital organisation, including self-discipline, self-understanding and self-esteem. On the other hand, interpersonal intelligence focuses on how one person can perceive differences among others, contrasting among their moods, temperament and so on (Chura et al., 2019). This is how EI derives from both, to form the capacity by which sensations can be recognized and handle correctly in social relationships, or even to help people to adapt themselves to different situations which can appear along their lives, such us starting college (Merino-Tejedor et al., 2018).

Salovey and Mayer, psychologists in this field, were discriminated against for joining two previously separate concepts: intelligence and emotions, but their research eventually led to exhaustive search for information about EI and its significance at a personal level. With this, they show that those people who have high levels of EI will be able to be more open to the possible positive or negative effects of the experience and will be able to develop as a person and gain knowledge of their behaviour, as for women who tend to present higher levels of EI (Salguero & Fernández-Berrocal, 2010). Finally, they consider that the field of EI must be integrated as one more capacity to take into account and above all to educate on it (Mayer & Salovey, 1993). Considering this last fact, studies have shown that adults with EI compenteces tend to avoid bullying scenes, either being the aggressor or the victim, that is why it is an important field to work on since people are kids (Rueda et al., 2022).

2. Method

2.1. Objective and hypothesis

The main objective of this study is to examine the existence or not of some type of relationship between the position held in the family and the development of El. In accordance with the general purpose, the following hypotheses are raised:

- H1. Position held at birth affects EI scores, with higher scores among those who were born in the middle or last place.
- H2. Scores in personal conscience are higher in the first-borns than in the rest.
- H3. Empathy level directly correlates to EI.

2.2. Participants

In November 2020, during the situation of the state of alarm caused by the global pandemic of Covid-19, a total of 203 Spanish students aged 18-33, the average age of the participants is [\underline{x} = 19.39], were surveyed by using an online ad hoc questionnaire. For that 56.7% of the total participants are university students, due to the majority of 18-year-old participants. In addition, 75.3% of those surveyed are women (N=153) and the 24.7% are men (N=50), as you can see in table 1.

Table 1.

Description of the participants.

Sex/Birth order	Firstborn	Second	Third	Fourth	Fifth	Total sex
Female	84	46	14	7	2	153
Male	30	15	4	1	0	50
Total participants	114	61	18	8	2	203

Furthermore, regarding the number of siblings, it can be observed that 52.78% of the participants (N = 26) are only children compared to 47.22% (N = 177) which have siblings. Contrasting with this, birth order parameters allude to the firstborns majority, with a percentage equal to 56.2% (N = 114), the secondborns with 30% (N = 61), the third ones to be born with 8.9% (N = 18), the fourths to be born with 3.9% (N = 8) and in the last place the fifth to be born with 1% (N = 2).

At the same time, examining the educational level of the students and the Birth Order Theory, as it is shown in figure 1, 56.7% (N = 114) are university students, 31.3% (N = 63) are High School students, 10% (N = 20) are Vocational Training students and finally the rest 2% (N = 4) are Secondary School students.

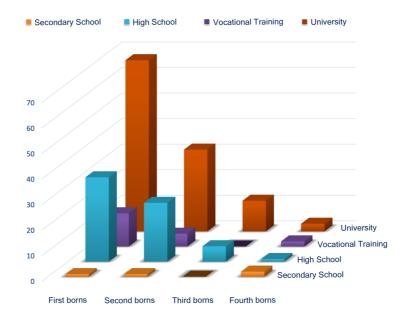


Figure 1. Educational level of the participants according to birth order

2.3. Instrument

An ad hoc online questionnaire was designed by using the web tool named Google Forms. This tool was selected because of its utility, accessibility, simultaneity, facility, and efficiency for the compilation and the extraction of data in multiple ways, as well as for the impossibility of compiling information in other ways, because of the exceptional situation of the Covid-19.

The questionnaire is formed by four sections and sixty one items. To prove the reliability of the instrument the coefficient of Cronbach Alpha is calculated, measuring the intern consistency, which shows a value of α = .85, that evidences a good reliability of the instrument.

The first section (I) presents the investigation, registering the informed consent and the compilation of demographic information such as age, sex, family position, or the number of family members there are. The second section (II), is centred on the objective of examining the EI of the participants, employing the adaptation

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of the TMMS-24 questionnaire provided by its authors, Extremera et al., 2004 . In this sense, only twelve ítems have been used out of the twenty-four questions offered by the initial questionnaire, drawn in an equitable way from each psychological variable examined: emotion perception (attention), emotion comprehension/understanding (clarity), and emotion regulation (reparation) which are shown in table 2. These twelve items were selected out of the twenty four in total, in order to adapt the questionnaire to all the aspects which were able to reach, and the classification they followed.

Table 2. Variables from the EI analysis

El variables	How often
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Emotion perception (attention)	do I pay close attention to feelings? (1)	do I spend time thinking about my emotions? (3)	being aware of my emotions and moods?	do I let my emotions affect my thoughts? (5)
Emotion understanding (clarity)	am I clear about my feelings? (9)	do I know now I feel?	am I aware of my feelings in different situations? (13)	can I tell how I feel? (14)
Emotion regulation (reparation)	think about the		down in front of an	do I worry about having a good mood? (22)

Note 1. The numbers that appear in the parentheses refer to the position of the item on the initial scale (TMMS-24 by Extremera et al., 2004).

The third section (III) is orientated, as the last one, to the knowledge of the EI of the participants relating it with different psychological variables. Some of these items are adapted from the Emily Sterrett Test. In this way, this section is structured using the following variables: self-awareness, self-confidence, self-efficacy, motivation, attributions, coping, self-control, social competence, and empathy. The section four (IV) is based on the analysis of the participants' empathy through the Basic Empathy Scale with 9 items about affective and cognitive empathy (Merino-Soto & Grimaldo-Muchotrigo, 2015; Oliva et al., 2011). And finally, the last section will be the acknowledgements and the end of the questionnaire.

The method used has been derived from the one developed at first by Salovey et al., (1995) known as Trait Meta-Mood Scale (TMMS). This method of contrasting data about EI, one of the first developed, consists of a fundamental tool for those people who choose to investigate EI and how it can affect different abilities (Fernández-Berrocal & Extremera, 2005). The personal perception of the subjects about their mood or the possible regulation of their emotions and feelings have also been included. This method has given rise to the interest of other psychologists such as Extremera et al., (2004), who have developed another version of this questionnaire known as TMMS-24 in Spanish, in which 24 items related to three different psychological variables can be found: attention, clarity, and reparation. This questionnaire had previously been psychologically validated by experts as is shown in Jiménez-Macías et al., (2021) study, and even taken into account to measure EI on the education field (Bisquerra & López-Cassà, 2021).

2.4. Procedure

A search of the international instruments which are previous to the examined sections has been conducted, to give coherence and articulate the analysed variables of the ad hoc online questionnaire. It is also sent to some experts on the topic following the Delphi method, with the final aim of checking the functionality and operativity so as to delete all the possible difficulties that could be derived from the items' interpretation.

Once the ambiguous items have been changed, it is dispatched to the students via email, social media (such as Facebook, LinkedIn, or WhatsApp groups) and academic media.

The link is operative during November. After the deadline, the resultant array is downloaded. Some pertinent codifications are made, and the appropriate statistical analysis is carried out, through the SPSS program, 25th version, which has approached the empirical evidence of this study.

Related to the above, first, the relative descriptive analysis of the average and the standard deviation one is carried out to describe the participants. After this, the parametric analysis is made. It is performed through asymmetric tests and kurtosis which can determine that the distribution achieves the postulation without incident. Finally, some parametric analyses are carried out through ANOVA.

3. Results

3.1. Parametric analysis

First of all, t Student test is done for independent samples, considering sex as a grouping variable. In this sense, statically significant differences appear between men and women in seven of the items. In the majority there is a positive tendency for women (Eg. How often am I concerned about having a good mood? [M_{Men} = 3.73 vs. M_{Women} = 3.90; $p \le .001$]; How often do other people feelings' easily affect me? [M_{Men} = 3.10 vs. M_{Women} = 3.49; p = .005]). Except the following item How often do I generally have an accurate idea of how another person perceives me during a particular interaction? [M_{Men} = 3.31 vs. M_{Women} = 2.99; p = .026] where men tend to present higher results.

Multivariate analysis of the variables are made by taking birth order as a fixed factor and as dependent variables on every item related to El that forms the ad hoc online questionnaire. In this sense, the **multivariate contrasts** show significant statistical differences as far as birth order is concerned, with a small size effect.

[
$$\lambda$$
Wilks = .254, F_(438.576, 156.000) = 1.629; $p \le .001$, $\eta^2 = .367$]

According to the **intrasubject-effects**, if birth order is considered as a grouping variable, significant statistical differences can be shown, as it can be seen in table 3, relating them with the effect size.

Table 3.Trials of the intrasubject effects taking into account birth order as a grouping variable and all the measures of El as dependent variables.

How often	First	Second	Third	Fourth	F	p	η^2
do I have my feelings clear?	3.43 (.87)	3.44 (.86)	2.83 (1.38)	2.75 (1.04)	3.431	.018	.050
when I feel bad, do I get to have positive thoughts?	2.82 (1.02)	2.80 (1.05)	2.06 (1.06)	2.38 (.97)	3.313	.021	.048
do I express myself honestly, without being overwhelmed?	3.63 (.92)	3.69 (.92)	4.28 (.96)	3.25 (.89)	3.213	.024	.047
do others feel inspired and motivated after talking with me?	3.46 (.74)	3.67 (.57)	3.28 (.96)	4.00 (.76)	2.996	.032	.044
when I have a problem, do I use the sense of humour to minimise its significance?	3.18 (1.10)	3.36 (1.02)	4.06 (.80)	3.00 (1.07)	3.833	.011	.055
when a problem arises, do I take refuge in religious or spiritual beliefs?	1.81 (1.07)	1.72 (.99)	1.50 (.86)	2.75 (1.17)	2.907	.036	.042
when a problem arises, do I search for different alternatives, I reflect about them and I choose the correct one?	3.60 (.86)	3.41 (.97)	3.94 (1.06)	2.88 (1.13)	3.079	.029	.045
am I able not to hold onto the problems, anger or past wounds, leaving them behind to move forward?	3.24 (.93)	3.49 (.77)	2.67 (1.19)	2.75 (1.04)	4.705	.003	.067
do I feel happy when I see happy people?	4.01 (.79)	4.38 (.80)	4.17 (1.10)	4.38 (.52)	2.906	.036	.042

Likewise, the Post hoc trials, as it can be shown in table 4, show differential patterns between the firstborn and the second/third-borns in diverse items. These differences appear at the confrontation and the affective empathy level, which evinces lower scores on the firstborns.

Table 4

Post hoc attending to birth order as a grouping variable and all the measures of EI as dependent.

How often?	1 st vs. 2 nd	1 st vs. 3 rd	1 st vs. 4 th	2 nd vs. 3 rd	2 nd vs. 4 th	3 rd vs. 4 th
when I feel bad, do I get to have positive thoughts?	n.s.	.04	n.s.	n.s.	n.s.	n.s.
when I have a problem, do I use the sense of humour to minimise its significance?	n.s.	.02	n.s.	n.s.	n.s.	n.s.
when a problem arises, do I take refuge in religious or spiritual beliefs?	n.s.	n.s.	n.s.	n.s.	n.s.	.05
am I able not to hold onto the problems, anger, or past wounds, leaving them behind to move forward?	n.s.	n.s.	n.s.	.01	n.s.	n.s.
do I feel happy when I see happy people?	.05	n.s.	n.s.	n.s.	n.s.	n.s.

Note 2. n.s. is the abbreviation of not statistically significant differences.

4. Discussion

The results obtained in the present study, from the analysis of diverse psychological variables in relation to EI, show statistically significant differences in different aspects of EI. Results can confirm hypothesis 1, regarding the fact that there are some variables, like this case the order of birth, which may affect EI of people.

Despite all of the above, the most significant and remarkable differences have been found in the area of confrontation/coping with others. This is so because in the confrontation part of the questionnaire coping with a problem is made by the search for support in spiritual or social aspects. That is why there are significant differences between firstborns and third borns, in terms of the question of facing a problem through the sense of humour. This can also be answered by how people were educated when they were younger and how society used to communicate with them, because depending on how they did it could have affected their stress levels and using worse coping mechanisms than the rest (Leria et al., 2021). On the other hand, there are differences between third borns and fourth borns, as to the question of facing a problem taking refuge in religious or spiritual beliefs. In the first case presented, higher results are obtained in third borns, which implies that they relate more to the idea of the use of the sense of humour as a method of coping avoidance. However, the result in the second question is higher in the adults born in the fourth place, who identify themselves more accurately with the question posed and use religion or spirituality as avoidance coping. This can mean that in the adolescence-adult transition stage, as it is shown in this study, personal well-being tends to decrease, just as it is presented in the study on coping styles and strategies (Viñas, et al., 2015). These higher results in adults born in the fourth place appear in the coping mechanism through religious or spiritual beliefs, which may be given by their position in the family. They have grown up in an environment where there have been three people ahead of them, implying that they can find in religion or spirituality a way to deal with problems by avoiding creating family conflicts.

Considering this last variable, the result obtained confirms, again, hypothesis 1. Bringing back that this hypothesis affirms middleborns tend to develop a higher level of empathy than first borns. In this regard, Adler established in 1956 that the children who arrive after other children have been in the family before them develop wide social capacities. These capacities help them to improve their empathic abilities, which can contrast with the personality of the firstborns, which show more abilities to be a leader.

As for EI variables, it is important to mention the significant difference that appears in one of the items on emotional regulation, particularly the reparation one. In this case, the differences are observed between the firstborn and the third-born child, which show more appropriate control on the part of the firstborn when it comes to feeling bad and getting positive thoughts. This result can be explained by the definition of Goleman (1995), who states that EI is a capability that involves self-regulation or self-control. This can be more developed in firstborns, as they tend to control all kinds of situations better, and so, they can acquire the ability to self-regulate their own emotions at critical times, keeping in this way their figure of responsibility, trust, and control.

In order to conclude with the analysis of variables and results, another significant difference observed in the field of self-control within EI deserves to be mentioned, since Goleman presents it as one of its main domains (Abellán-Roselló & DeLara-López, 2021). In this case the difference is evident in the comparison between the second and third born children, with the highest result obtained in the second ones. This shows that second children tend to improve more positively and healthily those gaps of the past that can unsettle consciences in the present

Considering everything which has been discussed, some of the hypotheses raised at first are verified, which refer to the following aspects: hypothesis 3, which alluded to the idea that empathy correlates with a higher degree of development in EI, is evinced, for among the subjects that seem to show a better level of EI, as it can be seen in Table 3, seconds and fourth borns are those who show the highest levels of empathy, while obtaining both of them the same scores. This could be explained because having grown up in a family environment in which there had already been descendants before the arrival of the other siblings can involve broader development of both interpersonal skills, by living with other people around them, and intrapersonal relationships.

5. Conclusions

In conclusion, it is demonstrated that there are fraternal differences which can be modified according to the position held after birth, which does not mean that it is always going to happen so, and not only focused in the role that the firstborns tend to hold, when they have a sibling (Guo et al., 2016). There are many factors that modify people's EI, considering birth order as one of them, because it is clear that being born the first or the last, can condition certain behaviours that will lead people to adopt different stances, either when facing emotional situations or in their personality development. One of the examples of this appears when it is found that children around 11-12 years old tend to show a balance talking about EI levels, which is a great achievement to that age, where most children deal with different sibling situations (Godoy & Moreno, 2021). Although the initial objective proposed has been largely verified, this study is not intended to lead to possible favouritism of parents. This should try to strengthen the physical and psychic skills of the descendants equally, and thus achieve an individual development for each child, because these birth differences don't appear systematically (Lehmann et al., 2018). That is why it is recommended that people should stop stereotyping, whether they are only children or not because in this study, they have not found differences in the development of self-esteem or empathy between only children and those who have grown up with siblings.

To complete this study, a number of tips are given that may affect future research, that is, some data to consider. As in this case the main limitation of this study has been the reduce sample, that is why it would be important to obtain a more extensive sample, counting on the same number of siblings in each family position to obtain more accurate results, adapted to each position held, including the age gap which exists among siblings (Van Volkom et al., 2017). Besides, it is recommended to specify certain issues that may also affect the development of descendants, such as not having lived with siblings during childhood or growing up in different settings, for these have not been included in this study.

It is interesting how EI can be affected by the simple fact that someone was born at a different time than the other siblings or the fact of being an only child. Therefore, this study can shed some light on the field of psychology responsible for family and educational development, as in the EI field, remarking its regulation and care as a fundamental part of a human well-being.

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