



Social Intelligence and Altruism: A comparison of Sibling and Non-Sibling Adults

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Abstract: Social Intelligence is an important construct, as man is a social being. Our daily activities involve interaction with people, communication and understanding, negotiation, and conflict resolution skills. Altruism is another behavior, also called pro-social behavior, and both of these behaviors are important when dealing with people. This study compares social intelligence and altruism in adults with and without siblings. Data is collected online from 101 college students who were 18-25 years old. Analysis showed a statistically significant difference in social intelligence but no significant difference in altruism in the two groups. The results show sibling adults have better social intelligence, while there is no difference in altruism between the sibling and non-sibling adults.

Keywords: *Social Intelligence, Altruism, Adults, Sibling, Non-sibling*

1. Introduction

Social traits such as social intelligence and altruism in families are determined by macro factors, such as contextual and ecological factors. This study explores the association of family factors, i.e., sibling position, with these social traits in adults.

1.1 Social Intelligence

Social intelligence describes how well an individual relates to those around him, can form and sustain good social relationships, understand the mood of others, and possesses at least some self-awareness. A person scoring high on social intelligence would be described with these traits.

Some studies support the idea that having siblings leads to enhanced emotional, social intelligence, and confidence. Children who are raised alongside elder siblings are more sensitive to other people's feelings because they enhance their cognitive, social, language, and emotional abilities.

The development of trust is an important characteristic and milestone in children and having a sibling plays an important role (McGuire et al., 2010). It is also reported that singleton children have fewer social circles when contrasted with their sibling counterparts (Miller & Maruyama, 1976). People with siblings also have better problem-solving skills, as they often encounter situations of conflict with siblings and resolve them. This is known as 'rough and tumble' learning relationship skills (Study.com, 2020). Singletons, on the other hand, may lack in this skill.

However, other studies refute this idea completely and show that no significant difference exists between sibling and single children. A study by Gherman (2020) examined the social intelligence of adults who grew up with and without siblings, and the hypothesis that children with siblings have more advanced social skills was refuted. A study conducted by Gupta and Kumar (2019) proved that no significant difference is seen in self-confidence, social, and emotional intelligence between sibling and non-sibling children.

1.2 Altruism

Altruism is described as an act of selfless concern for others, even if it comes at a cost to oneself sometimes. It involves a motivational state wherein an individual performs acts that are likely to increase the fitness of others and might be associated with their own decreased fitness.

Zheng et al. (2021) conducted a study in 3 phases to study altruistic behavior and the perception of people on altruism in only children and non-only children. In the first part (N=337), all participants were to rate only and non-only children on their perception of their altruism. Results showed people rated sibling children as more altruistic. In the second study (N=391), there were no differences found in the altruism of the two groups. In the third round, the social discounting task (N=99), no differences were found in altruism of only and non-only children towards various social distances. Thus, the study concluded that the perception and stereotype that only children are not as altruistic is incorrect.

Falbo (1986) conducted a meta-analysis and summarized by saying that the stereotypes about only children are not true. There was no significant difference in adjustment and social skills as compared with other groups. In fact, only children are significantly better on outcomes related to intelligence and achievement.

On the other hand, a study conducted by Jiao et al. (1986) reported that single children are more self-centered, whereas sibling children possess qualities such as cooperation. Another longitudinal survey was conducted in America to understand people's attitudes and perceptions regarding only children. It was done at different times – 1950, 1970, and 1977, and it reflected the negative attitude towards single children, although it decreased very little over the years (Jefferies, 2001).

Given the above, the present study is conducted to determine whether significant differences exist between the two groups in social intelligence and altruism, or whether this is merely a stereotype.

2. Method

The study aims to compare non-sibling adults and adults with siblings on social intelligence and altruism.

2.1 Hypothesis

H0₁: There will be no significant difference in social intelligence between adults with sibling/s or without sibling/s.

H0₂: There will be no significant difference in altruism between adults with sibling/s or without sibling/s.

2.2 Research Design

The current research is a quantitative and comparative study. Data was collected through online mode using a survey method.

2.3 Sample

It includes 101 participants who are college students between the ages of 18 and 25 years. Non – probability sampling method of Convenience/Accidental sampling was used to recruit participants for the study.

2.4 Procedure

The questionnaire was sent in online mode using Google Forms to college students who had siblings and students who grew up as a single child. A consent form was attached for participants to agree to participation before beginning to fill in the questionnaires. Confidentiality and anonymity were assured to participants, and they were told that if they wished, they could withdraw at any point. The data collected was then scored, analyzed, and interpreted.

2.5 Tools

Socio-demographic form: included details like initials, number of siblings, age, and their birth order.

Tromsø Social Intelligence Scale_(TSIS, Silvera et al., 2001) measures social intelligence and is a 21-item self-report measure. It assesses three related domains of social intelligence, i.e., information processing, skills, and awareness. The scale has good internal reliability, and temporal stability. The English version of the scale also has acceptable psychometric properties.

Altruistic Personality Scale (Rushton et al., 1981): It is a 20-item scale that measures altruistic tendency, especially towards strangers. It uses a 5-point scale ranging from Never (0) to Very Often (4). The interrater reliability is found to be 0.78 and the internal consistency is found to be 0.89.

2.6 Statistical analysis

Descriptive statistics and non-parametric inferential statistics were used since the data is not normally distributed.

2.7 Ethical considerations

Informed consent was taken from all the participants, and they were assured of voluntary participation and confidentiality.

3. Results

The study aimed to compare adults with siblings and without siblings for social intelligence and altruism. Data was collected from 101 students who were between the ages of 18 to 25 years. The data were analyzed using SPSS (version 29).

Table 1: Frequency table showing the age distribution of the sample

Age (in years)	N	Percent (%)
18	4	3.9%
19	4	3.9%
20	11	10.8%
21	7	6.9%
22	18	17.8%
23	24	23.7%
24	21	20.7%
25	9	8.9%

28	1	0.9%
Missing	2	1.9%

Table 1 shows the age distribution of the sample. The highest percentage of the total participants belonged to the age group of 23 years. The smallest percentage of the total participants was from the 28-year-old group.

Table 2: Frequency table showing the gender distribution of the sample

Gender	N	Percent (%)
Male	52	51.4%
Female	48	47.5%
Other/prefer not to say	1	0.9%

Table 2 shows the gender distribution of the sample. Most participants are male gender.

Table 3: Frequency of Adults with and without Siblings

Sibling Position	N	Percent (%)
Adult without sibling/s	53	52.4%
Adult with sibling/s	48	47.5%

Table 3 shows the frequency of adults with and without siblings. Adults without siblings are more represented in the sample.

Table 4: Normality test Results

Variable	N	Statistic (W)	df	p
Social Intelligence	101	0.926	101	<0.001
Altruism	101	0.985	101	0.332

A Shapiro-Wilk test was conducted to assess the normality of the data. Results (Table 4) indicate that the social intelligence variable was significantly non-normal, $W(101) = 0.926$, $p < 0.001$. Results indicate that the altruism data did not significantly deviate from normality, $W(101) = 0.985$, $p = 0.332$.

Table 5: Comparison of Social Intelligence in the two groups

Group	N	Mean Rank	U	z	p
Adults without sibling	53	42.09	800	-3.21	0.001
Adults with sibling	48	60.83			

* $p < 0.05$

A Mann-Whitney U test was conducted to test the first null hypothesis, i.e., 'there will be no significant difference in social intelligence between adults with siblings and without

siblings. The results in Table 5 show a statistically significant difference, $U = 800$, $p = 0.001$. The second group (adults with sibling/s) achieved a significantly higher mean rank (60.83) than the first (adults without sibling/s) group (42.09), indicating higher social intelligence.

Table 6: *Comparison of Altruism in the two groups*

Group	N	Mean Rank	U	z	p
Adults without sibling/s	53	55.19	1050	-1.51	0.13
Adults with sibling/s	48	46.38			

* $p < 0.05$

A Mann-Whitney U test was conducted to test the second null hypothesis, i.e., ‘there will be no significant difference in altruism between adults with siblings and without siblings.’ The results in Table 6 show no statistically significant difference, $U = 1050$, $p = 0.13$. However, the first group (adults without sibling/s) achieved a significantly higher mean rank (55.19) than the second (adults with siblings) group (46.38) on altruism.

4. Discussion

This study was conducted to test if any significant differences exist between non-sibling adults and adults with siblings in social Intelligence and altruism. The type of Altruism being tested here is towards strangers or non-kin individuals. The gender distribution of the sample was 48 females, 52 males, and 1 participant belonging to the ‘others’ category. The participants were from different states and cities, including Bangalore (Karnataka), Nagpur, and Pune city (Maharashtra). The number of sibling adults in the sample was 48, while the number of non-sibling adults was 53.

More information was sought on adults with siblings, i.e., the number of children y and their birth order in the family. It was found that 32.4% participants have one sibling, 10.8% have two siblings, 4.9% have three siblings, and 1% have more than three siblings. Thus, the majority of the sample comes from two-child families. Of these adults with siblings, 22.5% are older, 22.5% are younger, and 5.9% are of the middle birth order. Thus, there is an equal distribution of elder and younger siblings, and a small proportion of children are middle children.

The normality was checked for the sample distribution. Since the sample distribution for Social Intelligence was not normally distributed (<0.001), the Mann-Whitney U test was used to compare the scores of the two groups on social intelligence and altruism.

The first null hypothesis was that there will be no significant difference in social intelligence between adults with siblings and those without siblings. On the total score of Social Intelligence, the significance level was <0.001 , which means that there exists a significant difference between the two groups, and the adults with sibling/s have a higher social intelligence.

The second null hypothesis was that there is no significant difference in altruism between adults with siblings and those without siblings. Since the significance level was more than 0.05 ($p = 0.13$), the null hypothesis was rejected. However, the mean rank scores of non-sibling adults were higher on altruism than those of adults with siblings.

The significant difference between the two groups on social intelligence can be attributed to different factors, such as communication skills, negotiation skills, and conflict resolution skills that sibling children develop in the presence of their sibling, whether younger or older. Having a sibling gives an individual a social environment from an early period in their life where they develop such skills which contribute to the development of Social Intelligence or “people skills” (McGuire, 2010).

Only children lack such an environment. Their environment consists of adults, and they have an adult-to-child interaction (Miller & Maruyama, 1976). However, single children do have peers in school and at play, but the interaction time is limited, as compared to having a sibling living with them.

In this study, non-sibling adults obtained higher mean rank scores on altruism. This finding did not agree with the previous literature (Jiao et al., 1986; Zheng et al., 2022).

Since majority of the studies are conducted in Western countries or China, the implications for the Indian population are unclear. The findings of this study contribute to the understanding of non-sibling adults and sibling relationships in the Indian context. Future researchers can conduct more studies on these variables in a more varied population, such as age, education, socio-economic status and so on. This will help in gaining a deeper insight of the social intelligence and altruism in the two groups in the Indian socio-cultural context.

References

- Falbo, T., & Polit, D. F. (1986). Quantitative review of the only child literature: Research evidence and theory development. *Psychological Bulletin*, 100(2), 176–189. <https://doi.org/10.1037/0033-2909.100.2.176>
- Gherman, J. (2022). Impact of kin on social skills: Comparing singletons and individuals with siblings. Undergraduate thesis, Dublin, National College of Ireland.

- Gupta, K., & Kumar, A. (2019). A Comparative Study between Child without Sibling and Child with Sibling on the Dimensions: Emotional intelligence, Self Confidence & Social intelligence. *Think India Journal*, 22(14), 2658 – 2668.
- Jefferies, J. (2001, June 23-28). *A reluctance to embrace the one-child family in Britain?* [Paper presentation]. EURESCO Conference: The Second Demographic Transition in Europe, Bad Herrenalb, Germany.
https://www.demogr.mpg.de/Papers/workshops/010623_paper05.pdf
- Jiao, S., Ji, G., & Jing, Q. (1986). Comparative Study of behavioral qualities of ‘only children’ and sibling children. *Child Development*, 57, 357 – 361.
- McGuire, S., Segal, N. L., Gill, P., Whitlow, B., & Clausen, J. (2010). Siblings and trust. In Ken J. Rotenberg (2010). *Interpersonal Trust during Childhood and Adolescence* (pp. 133-154). Cambridge University Press.
<https://doi.org/10.1017/CBO9780511750946.007>
- Miller, N., & Maruyama, G. (1976). Ordinal position and peer popularity. *Journal of Personality and Social Psychology*, 33(2), 123 – 131. <https://doi.org/10.1037/0022-3514.33.2.123>
- Research on Rough & Tumble Play: Child Development & Psychology*. (2020, June 29). Study.com. <https://study.com/academy/lesson/research-on-rough-tumble-play-child-development-psychology.html>
- Rushton, J. P., Chrisjohn, R. D., & Fekken, G. C. (1981). The altruistic personality and the self-report altruism scale. *Personality and Individual Differences*, 2, 293-302.
- Silvera, D., Martinussen, M., Dahl, T. L. (2001). Tromsø Social Intelligence Scale, a self-report measure of social intelligence. *Scandinavian Journal of Psychology*, 42(4), 313-319. PsyPack Assessments. <https://psypack.com/assessments/tromso-social-intelligence-scale/>
- Zheng, X., Su, Q., Jing, C., & Zhang, Y.-Y. (2022). They are not little emperors: Only children are just as altruistic as non-only children. *Social Psychological and Personality Science*, 13(2), 543-552. <https://doi.org/10.1177/19485506211038190>