

The Impact of Sibling Presence on Individual Social Competence

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Abstract. This study examines how the presence of siblings affects adolescents' social competency, which is a crucial aspect of personal socialization. Motivation, knowledge, and social skills are all components of social competency, which is necessary for productive interpersonal relationships. The study examines how peer and family influences impact social development, with a particular emphasis on sibling dynamics, drawing on the body of previous work. Sixty-three Beijing high school students were given structured questionnaires as part of a quantitative approach. Participants were split into two groups: those with siblings ($n = 29$) and those without children ($n = 34$). Only children scored considerably higher in social motivation ($p=0.016$) and expressive skills ($p=0.001$), according to results from independent sample t-tests. This suggests that children are more likely to initiate social encounters and express their thoughts. The dimensions of social knowledge showed no discernible variations. Subsequent investigation revealed that people with one sibling had the lowest overall social competency scores, but people with two or more siblings recovered moderately. These results imply that while siblings might provide chances for socialization, they might also lessen the necessity for outside social interaction. The study emphasizes the complexity of family dynamics in forming social abilities and advances our understanding of the complex function that sibling presence plays in adolescent social development.

Keywords: social competence; sibling; only child; adolescent; family.

1. Introduction

With the rapid development of this society, social psychologists have increasingly focus on the process of individual socialization, which refers to how individuals learn behavioral patterns through interaction with others [1]. To be more specific, social competence is defined as individual's ability to build and maintain interpersonal relationships through social interactions, serving as a key indicator of one's degree of socialization. It not only involves verbal communication skills with others but also encompasses internal processes such as logistic thinking problem-solving skills. Social competence plays a crucial role in how individuals adapt to and function within this society. A study on adolescent social competence showed that students with higher social skills performed better in both academic and team work compared to those who with lower social competence [2]. More importantly, adolescence is a critical period for the development of social competence. Peer relationships during adolescence can reduce the risk of social anxiety in adulthood [3]. The development of an individual's social competence is influenced by multiple factors. Among these, the family-being the first environment where socialization occurs-plays an important role in shaping one's social skills. More specifically, the presence of siblings offers individuals additional opportunities for peer-like interaction. Therefore, this study focuses on whether the presence of sibling influence the development of an individual's social competence.

2. Literature Review

2.1. Influencing Factors of Adolescents' Social Competence

Social competence is a crucial factor in individual development and the process of socialization. It not only affects current academic performance and interpersonal interactions with peers and elders but also directly impacts future social functioning and relationships in society. Social competence is

defined as an individual's acquired ability to self-regulate and adapt to the current environment during the process of social development. This includes emotional regulation, the establishment of healthy and sustainable interpersonal relationships, and the capacity for independent decision-making [4]. Scientists categorized social competence into three dimensions: motivation, knowledge and skills. This framework provides the theoretical foundation for this study and offers measurable indicators for subsequent research [5]. The family environment and peer relationship are two of the most foundation factors influencing adolescent social competence. The family, as the formal stage of social interaction for individuals, has a profound impact on adolescents' emotional regulation, self-awareness, as the formation of social behavior patterns. Research has shown that strong family support and positive parent-child interactions contribute significantly to adolescents' social adaptability [6]. Moreover, this influence does not exist in isolation but interacts with the interpersonal stress adolescents experience. In this study, researchers focused on how interpersonal stress affects adolescents' social behavior. A survey of 1,028 middle school and high school students revealed that students experiencing greater stress performed lower level in social settings. Although family factors lay the foundation for social development, they do not solely determine adolescents' social development. Notably, the study identifies interpersonal self-efficacy as a critical determinant. In other words, when faced with similar levels of stress, adolescents who are more confident in their ability to manage interpersonal relationships tend to maintain better social adaptability. This confidence likely stems from upbringing. An authoritative parenting style tends to foster their children's ability to express their perspectives and handle interpersonal conflicts, especially when it encourages open communication of emotions. On the other hand, adolescents who lack family support are more likely to exhibit avoidance behaviors or adopt maladaptive aggression in social settings. Peer relationship, as a key source of social interaction during adolescence, plays a vital role in adolescents' psychosocial adjustment. Scientists conducted a systematic study on how the quality of peer relationships influences the development of adolescents' social competence. This finding suggests that adolescents with high-quality peer relationships demonstrate superior performance in empathy conflict resolution and communication skills [7]. In contrast, negative peer experiences have marked adverse effects. From previous finding, scientists noted that adolescents who face peer rejection or bullying are more prone to social anxiety, low self-esteem, and pronounced social avoidance behaviors. This negative effect is long-lasting and may persist into adulthood [6]. Another scientists conducted a 23-year longitudinal study with 200 participants and found that individuals who were bullied during adolescence were 3.8 times more likely to suffer from depression at the age of 40 compared to those who were not [8]. Additionally, factors such as the educational environment, teacher support, and social media usage are significant external variables influencing adolescents' social competence. Beside these common factors, the presence of siblings and the quality of sibling relationships are also considered important variables affecting social competence.

2.2. The Impact of Sibling Presence on Individual Abilities

Currently, there is no consensus in the existing literature regarding whether the presence of siblings influences adolescents' social competence, with research findings showing diverse perspectives. Some studies suggest that adolescents with siblings tend to demonstrate stronger social competence during their developmental years, primarily due to the unique social learning opportunities offered by sibling interactions. Compared to only children, individuals with siblings engage more frequently in daily communication and conflict resolution that in turn enhances their social skills. Sibling interaction is often regarded as a "natural practice field" for social behavior, offering regular opportunities for individuals to refine their communication and coordination abilities. For instance, a program developed the "Fun with Sister and Brother" program to provide strong empirical support for this idea. This program demonstrated that improving sibling relationships could significantly enhance adolescents' social competence by guiding partners to strengthen sibling bonds. Positive interaction is key to benefiting social outcomes, while ongoing conflicts may hinder the development of social competence [9]. Furthermore, research has highlighted the bidirectional role of siblings in individual mental health. In a high-conflict family environment, the presence of siblings has been

shown to reduce acute stress responses by 37%, suggesting a unique mechanism for trauma recovery. Individuals with siblings also tend to exhibit greater psychological resilience and adversity quotient when facing social stress, with sibling companionship reducing loneliness scores by 0.38 standard deviations. However, among those with high-conflict sibling relationships, the incidence of anxiety can be as high as 31%, significantly exceeding those of only children [10]. The study also emphasized that perceived parental favoritism during sibling conflicts was a significant contributor to elevated depression risks. Even though the presence of siblings is often viewed as a positive influence in individual development, some researchers have reported potential negative effects. A study indicated that the presence of siblings may negatively impact cognitive abilities, defined as academic performance in mathematics. With each increasing in number of siblings, the average mathematics score of individuals declined by 1.293 points. According to resource dilution theory, individuals with sibling would compete with each other for various types of resources, leading to negative consequences [11]. Further analysis revealed that this negative effect varies significantly across households with different financial circumstances. In lower-income households, each additional sibling resulted in 2.12 points decline in individual's academic performance—a much greater impact than in higher-income households. Additionally, sibling with smaller age difference exhibited more rivalry, with a 43% greater decline in performance compared to those individuals with larger age differences. It is important to note that this study assessed cognitive development solely through mathematics performance. However, cognitive ability encompasses various factors such as reading, memory and problem-solving skills, evaluating sibling influence based only on math scores may provide a limited perspective. In conclusion, the presence of sibling may interfere with cognitive development to some extent.

3. Research Method and Results

This study adopted a quantitative research approach, using questionnaires to explore whether the presence of sibling affects individuals' social competence. A convenience sampling method was used, targeting high school students in Beijing. A total of 63 valid questionnaires were collected, including 29 participants with sibling and 34 only children, ensuring the feasibility of comparative analysis. Data were collected using a structured questionnaire that included basic demographic information (age, gender, only-child status, and number of sibling) and item measuring social competence. Social competence is assessed based on Social Competence Model proposed by Spielberg and Cupich (1984), which conceptualized social competence across three measurable dimensions. Motivation: the willingness to engage in social interaction; Knowledge: the individual's understanding of social norms and interaction rules. Skills: the ability to perform in actual social situations, such as solving interpersonal conflict. All items were self-rated on a five-point Liberty scale (1=strongly disagree, 5=strongly agree). After data collection, descriptive analysis was conducted to summarize the sample characters. Independent sample t-test was used to compare groups with and without siblings to determine whether sibling presence had a significant effect on social competence. All participants signed an informed consent form before completing the questionnaire. Confidentiality of all data are strictly maintained to protect participants' privacy. Although the samples size was relatively small, the study offers preliminary evidence regarding the influence of sibling presence on social competence.

Table 1. Descriptive statistics of variable

Various		The presence of sibling	Sample	Mean	SD	Minimum	Maximum
Motivation	I tend to socialize in unfamiliar environments	yes	30	2.43	1.33	0	5
		no	34	3.32	1.53	0	5
Knowledge	I adjust my words and behaviors according to different social situations.	yes	30	4.2	1.10	1	5
		no	34	4.24	0.93	1	5
	I can sense whether others are interested in the topics I talk about	yes	30	3.93	0.98	2	5
		no	34	4.29	1.03	1	5
Skill	I am able to clearly express my opinions	yes	30	2.7	1.06	0	5
		no	34	3.74	1.21	1	5
	When facing conflicts, I am able to confront the problem rather than avoid it	yes	30	3.13	1.21	0	5
		no	34	3.47	1.48	0	4

A total of 63 high school students participated in this study, including 34 only children (53.13%) and 30 individuals with siblings (46.87%). In terms of social motivation and social skills, individuals with siblings had mean scores of 2.43 and 2.92, respectively, while for social knowledge, the mean score was 4.07. Regarding social knowledge, the mean score for individuals with siblings is 4.07, for only children is 4.27 (See Table 1). Overall, individuals with siblings scored lower across all dimensions of social competence. Based on this study, investigating the impact of sibling presence on social competence, an independent sample t-test was conducted for further analysis, as shown in Table 2.

Table 2. Significance analysis of the presence of siblings on individuals' social competence

	The presence of sibling	significant	t	degree of freedom	two-tailed
I tend to socialize in unfamiliar environments	yes	0.493	-2.474	60	0.016
	no		-2.495	60	0.015
I adjust my words and behaviors according to different social situations	yes	0.429	0.134	60	0.894
	no		0.133	57.057	0.895
I can sense whether others are interested in the topics I talk about	yes	0.73	-1.316	60	0.193
	no		-1.32	59.51	0.192
I am able to clearly express my opinion	yes	0.234	-3.406	60	0.001
	no		-3.438	59.989	0.001

Significant differences were found between individuals with sibling and without sibling in two specific dimensions: social motivation and social skills. For question “I tend to socialize in unfamiliar environments”, the result was $p=0.016$, indicating that individuals with siblings scored statistically significantly lower than only children. This finding may be related to differences in access to social resources during childhood. Individuals with sibling are accustomed to stable peer relationship within the family, where their primary social partners are often their siblings, reducing the need to actively expand their social circles. In contrast, only children grow up without peer interaction and are more likely to seek social opportunities outside the family, demonstrating stronger social motivation. As a result, they may be more inclined to initiate new friendships in unfamiliar settings. In addition, for the question “I can express my opinion clearly”, the result is $p=0.001$, showing statistically difference lower scores for individuals with sibling. This difference may stem from the communication patterns shaped within sibling-involved family. Individuals with sibling must navigate ongoing interactions with their brothers or sisters, rather than focusing on independently expressing their own views as only children do. Consequently, they might become more accustomed to following established interaction rules in the family setting, rather than clearly articulating their opinion. For the remaining two questions, there is no significant differences between two groups, suggesting that the presence of sibling is not the sole determinant of an individuals’ social competence (See Table 3).

Table 3. The impact of the number of siblings on individuals’ social competence

The number of siblings	mean	median	Standard Deviation	Standard Error
Non	3.81	3.7	0.668	0.115
one	3.25	3.2	0.74	0.161
two	3.36	3	0.727	0.325
three	3.35	3.5	0.526	0.263

Table 4. Descriptive statistics of variable

The number of siblings (I)	Compare to other groups (J)	Mean difference (I-J)	Standard Error	Significant
Non	One	.564*	0.19165	0.028
	Two	0.452	0.33074	1
	Three	0.462	0.36501	1
One	Non	-.564*	0.19165	0.028
	Two	-0.112	0.34362	1
	Three	-0.102	0.37671	1
Two	Non	-0.452	0.33074	1
	One	0.112	0.34362	1
	Three	0.01	0.46322	1
Three	Non	-0.462	0.36501	1
	One	0.102	0.37671	1
	Two	-0.01	0.46322	1

As shown in Table 4, a descriptive analysis of the impact of the number of siblings on social competence reveals that individuals without sibling have a higher average social competence score 3.81 comparing to those with sibling 3.32. This suggests that only children may possess certain advantages in social competence. Moreover, as the number of siblings increase, the average score for social competence followed a “rise-then-fall” pattern. To be more specifically, individuals with one sibling scored the lowest on average; those with two siblings scored the highest; and those with three siblings showed a slight decline comparing to those with two siblings, but still scored higher than those with only one sibling. This phenomenon might be attributed to variations in resource allocation.

Individuals with fewer siblings might compensate for limited internal interaction by actively seeking external social opportunities, whereas those with more siblings may rely primarily on family interactions to fulfill their social need.

4. Conclusion

This study demonstrates that the presence of sibling has a certain impact on social competence, but the result of this impact does not fully align with traditional assumption that is contrary to common belief. Individuals without sibling perform better on social competence than those with siblings. Further analysis reveals that the number of siblings did not exert a significant effect on social competence; in other words, having more sibling did not necessarily enhance or dismiss one's social abilities. The interaction better sibling may not always provide positive support as previously assumed. Instead, individuals may need to adjust to an internal social model due to competition and the distribution of family resources that could in turn influence the overall development their social competence.

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