

# Sibling Relationships, Loneliness, and Social Support Among Siblings of Individuals with Intellectual Disabilities

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## Abstract

Sibling relationships play a crucial role in shaping social and emotional development, yet their association with loneliness and perceived social support remains unclear. This study examined the dimensions of sibling relationships—rivalry, warmth, and conflict—and their relationship with loneliness and perceived social support. The findings indicate that **maternal rivalry** ( $M = 2.24$ ,  $SD = 2.72$ ) was perceived as higher than **paternal rivalry** ( $M = 1.54$ ,  $SD = 2.48$ ), suggesting greater differentiation in maternal treatment. Warmth dimensions, particularly **intimacy** ( $M = 15.82$ ,  $SD = 2.70$ ) and **emotional support** ( $M = 14.80$ ,  $SD = 2.94$ ), were rated higher compared to admiration and similarity, indicating that **sibling bonds are largely characterized by closeness and support**. Conflict was perceived at moderate levels, with **antagonism** ( $M = 16.62$ ,  $SD = 2.40$ ), **competition** ( $M = 17.48$ ,  $SD = 2.43$ ), and **dominance** ( $M = 15.98$ ,  $SD = 3.42$ ) showing notable variability among participants. Notably, **loneliness** ( $M = 53.10$ ,  $SD = 6.17$ ) exhibited minimal correlation with sibling relationship dimensions, suggesting that loneliness operates independently of sibling dynamics. Perceived social support was **highest from family** ( $M = 22.98$ ,  $SD = 4.53$ ), followed by significant others and friends, emphasizing the **role of broader social networks in emotional support**. These findings highlight the **complexity of sibling interactions**, where warmth and conflict coexist, and suggest that **interventions targeting loneliness may need to focus beyond sibling relationships**. Future research should explore **longitudinal impacts of sibling dynamics and the influence of cultural factors on family relationships**.

**Keywords:** sibling relationships, rivalry, warmth, conflict, loneliness, perceived social support

## Introduction

Sibling relationships are unique and influential connections that play a significant role in individuals' lives. Siblings share a lifelong bond, and their relationship dynamics shape various aspects of their development, including social, emotional, and cognitive aspects. Sibling relationships offer a distinct context for socialization, companionship, and learning. Siblings serve as important role models, mentors, and sources of support for each other. They engage in joint activities, play, and exploration, which contribute to the development of social skills, empathy, and emotional regulation. These shared experiences promote the acquisition of crucial life skills and provide opportunities for growth and development.

**Sibling Relationships and Intellectual Disability**

The significance of sibling relationships becomes even more pronounced when one sibling has an intellectual disability. In such cases, sibling relationships can take on added complexity. Siblings may assume caregiving roles, providing practical assistance and support to their sibling with a disability. They may also become advocates, promoting their sibling's rights, inclusion, and well-being. The sibling relationship becomes a context where understanding, acceptance, and support are fostered.

When one sibling has a disability, other siblings may take on caregiving responsibilities or feel a sense of obligation to provide support. This added responsibility can create stress, disrupt personal goals, and strain the sibling relationship, especially if caregiving demands become overwhelming. Communication barriers, differences in abilities, or limited shared experiences can hinder effective communication and lead to misunderstandings or frustrations. Siblings of individuals with intellectual disabilities may feel neglected or overlooked due to the significant attention and resources dedicated to their sibling's needs. This neglect or lack of support can lead to feelings of isolation, resentment, and a sense of being secondary within the family dynamic.

**Emotional Responses and Social Challenges**

Embarrassment is a common emotional response that some individuals may experience when they have a sibling with a disability. It arises from concerns about how others will perceive their sibling and how it reflects on themselves and their family. Individuals may worry about potential judgment and social stigma associated with having a sibling with a disability. This concern can lead to a fear of being seen as different or abnormal, further contributing to feelings of embarrassment.

One aspect that can intensify feelings of embarrassment is the perception that individuals cannot engage in typical sibling activities or experiences with their sibling with a disability. They may feel limited in their ability to play, share interests, or participate in activities as their typically developing peers do with their own siblings. This can create a sense of disconnect and a perceived void in the sibling relationship, contributing to feelings of loneliness.

As a result of embarrassment, individuals may choose to withdraw or avoid social situations. They may fear potential judgment or uncomfortable encounters with others who may not understand or accept their sibling's disability. This self-imposed isolation can further exacerbate feelings of loneliness, as individuals may feel disconnected from their peers and community. Furthermore, the lack of understanding and empathy from others can intensify feelings of isolation and loneliness. Individuals may struggle to find others who can relate to their unique circumstances and may feel that their experiences are not acknowledged or validated. This perceived lack of understanding can lead to a sense of isolation, as individuals yearn for connections with others who can empathize and provide support.

**Loneliness and Perceived Social Support**

Loneliness is a subjective feeling of social isolation and dissatisfaction with one's social connections. Individuals who have a sibling with an intellectual disability may have distinct experiences of loneliness due to various factors, such as reduced opportunities for social interaction, limited understanding or support from peers, or increased caregiving responsibilities. Exploring the relationship between sibling relationships and loneliness sheds light on the potential protective or risk factors associated with sibling dynamics.

Perceived social support refers to an individual's perception of the availability and adequacy of support

from their social network. Sibling relationships can be a significant source of social support for individuals with intellectual disabilities and their siblings. Understanding the perceived social support experienced by individuals who have a sibling with an intellectual disability can help identify the specific aspects of sibling relationships that contribute to enhanced social support.

From a family systems theoretical perspective, the presence of a family member with a disability impacts the entire family unit, influencing roles, responsibilities, and interpersonal dynamics (Fingerman & Bermann, 2000). In particular, sibling relationships in families where one sibling has an intellectual disability (ID) are often characterized by unique stressors. Non-disabled siblings may be expected to assume caregiving responsibilities or take on guardianship roles as guided by their parents (Rossetti & Hall, 2015; Burke et al., 2012; Greenberg et al., 1999). While some studies highlight the positive aspects of such relationships—such as greater empathy, compassion, and understanding towards the sibling with ID (Hodapp et al., 2010; Sage & Jegatheesan, 2010; Cuskelly & Gunn, 2006; Seltzer et al., 2005; Levy-Wasser & Katz, 2004; Summers et al., 1994; Carr, 1988)—other research suggests that these siblings may be at increased risk for psychological difficulties, including stress, depression, anxiety, and reduced well-being (Shivers, 2017; Giallo et al., 2012; Petalas et al., 2009; Rossiter & Sharpe, 2001).

Despite these findings, the factors contributing to poorer psychological functioning among siblings of persons with intellectual disabilities (PWID) remain underexplored. One such factor may be affiliate stigma, which refers to the internalized stigma experienced by family members of individuals with disabilities, potentially leading to impaired well-being. The current study seeks to examine the relationship between affiliate stigma and psychological outcomes among siblings of PWID.

Empirical research on siblings of individuals with disabilities has primarily focused on psychological outcomes, particularly for child siblings. This focus often intersects with a negative societal narrative, suggesting that siblings are inherently disadvantaged by having a disabled sibling. However, family systems theory provides a more balanced perspective. Hastings (2016) argues that family systems theory can be used to challenge negative assumptions and highlight the potential strengths and resilience within these families. The mixed findings in sibling studies further illustrate this complexity. While some studies report poorer psychological outcomes for siblings (Goudie et al., 2013; Hastings, 2003; Orsmond & Seltzer, 2007; Ross & Cuskelly, 2006; Verté et al., 2003), others find no significant differences when compared to siblings without disabled brothers or sisters (Cuskelly & Gunn, 2006; Hastings, 2007; Howlin et al., 2015). These discrepancies may be attributed to methodological limitations, such as reliance on small, convenience-based samples that lack generalizability. However, population-level studies, like those conducted by Hayden et al. (2019a), indicate that siblings of children with ID demonstrate more behavioral and emotional difficulties compared to their peers.

This study builds on these insights by exploring how sibling relationships, loneliness, and perceived social support intersect with the psychological well-being of individuals who have a sibling with ID. It aims to contribute to a more nuanced understanding of the factors that influence sibling outcomes within the framework of family systems theory.

## Method

### Research Design

The present study employed a correlational research design to examine the relationships between loneliness, perceived social support, and sibling relationships among individuals who have a sibling with an intellectual disability (ID). The study did not manipulate or control these variables; rather, they were

measured as they naturally exist in participants' lives.

## Participants

The sample consisted of 50 adult siblings (aged 18 years and above) who have a sibling with ID. Participants were primarily recruited from Kolkata and its suburban and rural areas. Of the total sample, 36% ( $n = 18$ ) were urban residents, 30% ( $n = 15$ ) were from semi-urban areas, and 34% ( $n = 17$ ) were from rural areas. Regarding family structure, 46% ( $n = 23$ ) lived in joint families, 22% ( $n = 11$ ) in extended families, and 32% ( $n = 16$ ) in nuclear families.

The gender distribution included 60% males ( $n = 30$ ) and 40% females ( $n = 20$ ). Participants had diverse educational backgrounds: 42% ( $n = 21$ ) were undergraduates, 24% ( $n = 12$ ) had completed higher secondary education, 30% ( $n = 15$ ) had completed secondary education, and 4% ( $n = 2$ ) had a postgraduate degree. Employment status varied, with 30% ( $n = 15$ ) being unemployed, 26% ( $n = 13$ ) in private jobs, 20% ( $n = 10$ ) homemakers, 8% ( $n = 4$ ) engaged in business, 6% ( $n = 3$ ) in government jobs, 6% ( $n = 3$ ) in labor work, and 4% ( $n = 2$ ) self-employed. Parental education and occupations were also considered, with most mothers being homemakers and fathers employed in various professions.

## Measures

1. **Demographic Information Schedule:** Collected data on gender, age, birth order, number of siblings, place of residence, educational qualifications, occupation, parental education, parental occupation, and details about the sibling with ID (birth order, age, and gender).
2. **Adult Sibling Relationship Questionnaire (ASRQ; Furman & Buhrmester, 1985):** The ASRQ assesses sibling relationships across 14 dimensions under three broad categories:
  - *Warmth:* Intimacy, Affection, Knowledge, Acceptance, Similarity, Admiration, Emotional Support, and Instrumental Support.
  - *Conflict:* Dominance, Competition, Antagonism, and Quarreling.
  - *Rivalry:* Maternal and Paternal Rivalry.

The ASRQ consists of 81 items rated on a 5-point Likert scale, with higher scores indicating stronger sibling relationships. The questionnaire demonstrates good internal consistency ( $p < .01$ ) and convergent validity (.49; Furman, 1997).

3. **UCLA Loneliness Scale (Version III; Russell, Peplau, & Ferguson, 1996):** This 20-item scale assesses subjective loneliness, with responses rated on a 4-point Likert scale (1 = Never to 4 = Always). Higher scores indicate greater loneliness. The scale demonstrates high internal consistency ( $\alpha = .90$ ; Durak & Senol-Durak, 2010).
4. **Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988):** This 12-item scale measures perceived social support from family, friends, and significant others on a 7-point Likert scale. Higher scores indicate greater perceived social support. The scale demonstrates high reliability.

## Procedure

Prior to data collection, rapport was established with participants, and the study's purpose was explained. Informed consent was obtained from participants and their guardians, ensuring confidentiality and the right to withdraw at any time. Data collection involved administering the demographic information sheet and three standardized measures (ASRQ, UCLA Loneliness Scale III, and MSPSS). Assistance was

provided as needed, and participants completed the questionnaire independently without time constraints. Data were collected on a one-on-one basis following ethical guidelines.

## Results

**Table: 1 Shows the descriptive statistics and Normality check**

Variables		N	M	SD	SE	skewness	kurtosis	Shapiro-wilk (df=50)	Significance
<b>Sibling Relationship scale</b>									
<b>Rivalry</b>	Maternal Rivalry (item= 11, 12, 38, 39, 65, 66 )	50	2.24	2.72	0.38	0.91	-0.52	0.80	0.0001
	Paternal Rivalry (item= 23, 24, 50, 51, 77, 78 )	50	1.54	2.48	0.35	1.74	2.29	0.68	0.0001
<b>Warmth</b>	Acceptance (item= 21, 22, 48, 49, 75, 76 )	50	14.84	3.68	0.52	1.00	5.49	0.89	0.0001
	Admiration ( item= 9, 10, 63, 64 )	50	9.54	2.67	0.38	0.34	2.48	0.93	0.004
	Affection( item=5, 6, 32, 33, 59, 60 )	50	13.40	3.89	0.55	1.16	4.05	0.93	0.004
	Emotional support ( item= 13, 14, 40, 41, 67, 68 )	50	14.80	2.94	0.42	1.00	5.35	0.90	0.0001
	Intimacy (item=2,3, 28,29,55,56 )	50	15.82	2.70	0.38	0.27	1.69	0.93	0.005
	Instrumental Support( item=17, 18, 44, 45, 71, 72 )	50	13.88	2.77	0.39	0.03	-0.34	0.94	0.016

	Knowledge( item= 25, 26, 52, 53, 79, 80 )	50	15.34	2.88	0.41	0.40	3.79	0.89	0.0001
	Similarity( item= 1, 27, 54, 81 )	50	8.04	2.66	0.38	1.16	1.64	0.91	0.001
conflict	Antagonism( item= 7, 8, 34, 35, 61, 62 )	50	16.62	2.40	0.34	0.42	0.71	0.94	0.012
	Competition( item=15, 16, 42, 43, 69, 70 )	50	17.48	2.43	0.34	2.06	15.35	0.66	0.0001
	Dominance( item= 19, 20, 46, 47, 73, 74 )	50	15.98	3.42	0.48	1.22	6.18	0.84	0.0001
	Quarrelling( item= 4, 30, 31, 57, 58 )	50	13.20	1.61	0.23	-0.13	-0.23	0.96	0.052
Loneliness		50	53.10	6.17	0.87	-0.77	2.11	0.96	0.055
Perceived social support	Significance others	50	20.82	8.16	1.15	1.85	5.73	0.84	0.0001
	Family	50	22.98	4.53	0.64	-1.43	1.73	0.85	0.0001
	Friends	50	19.20	4.64	0.65	-0.92	1.27	0.95	0.023

Participants reported **lower paternal rivalry** ( $M = 1.54$ ,  $SD = 2.48$ ) compared to **maternal rivalry** ( $M = 2.24$ ,  $SD = 2.72$ ), suggesting that **perceived favoritism** is more pronounced on the maternal side.

In the **warmth domain**, **intimacy** ( $M = 15.82$ ,  $SD = 2.70$ ) and **emotional support** ( $M = 14.80$ ,  $SD = 2.94$ ) were rated highest, whereas **admiration** ( $M = 9.54$ ,  $SD = 2.67$ ) and **similarity** ( $M = 8.04$ ,  $SD = 2.66$ ) were lower. This suggests that **warmth is generally perceived positively**, with significant variability ( $p < .05$ ) in **acceptance** ( $M = 14.84$ ,  $SD = 3.68$ ) and **emotional support** ( $M = 14.80$ ,  $SD = 2.94$ ), possibly influenced by personal or situational factors.

The **conflict domain** was perceived as **moderately high**, particularly in **antagonism** ( $M = 16.62$ ,  $SD = 2.40$ ), **competition** ( $M = 17.48$ ,  $SD = 2.43$ ), and **dominance** ( $M = 15.98$ ,  $SD = 3.42$ ). Variability was observed, with some participants reporting **higher levels of conflict**, particularly in **competition and dominance**, while others reported lower levels.

The **loneliness domain** ( $M = 53.10$ ,  $SD = 6.17$ ) indicated that **most participants experienced moderate to low levels of loneliness**, though some individuals reported significantly higher or lower levels.



In terms of **perceived social support**, family provided the **highest support** ( $M = 22.98$ ,  $SD = 4.53$ ), followed by **significant others** ( $M = 20.82$ ,  $SD = 8.16$ ), while **friends provided the lowest support** ( $M = 19.20$ ,  $SD = 4.64$ ), with significant differences ( $p < .05$ ) across sources of support.

	M R	P R	AC	AD	AF	ES	I	IS	K	S	AN	C M	D	Q	L	SO	F M	FR I	T
M R	1																		
P R	0.57*	1																	
A C	-0.10	0.04	1																
A D	-0.05	0.08	0.62*	1															
A F	-0.20	-0.10	0.43*	0.42*	1														
E S	0.02	-0.02	0.26	0.24	0.47*	1													
I	-0.31*	-0.11	0.29*	0.31*	0.60*	0.34*	1												
I S	-0.35*	-0.10	0.27	0.31	0.50*	0.45*	0.40*	1											
K	-0.40*	-0.18	0.24	0.15	0.32*	0.34*	0.37*	0.43*	1										
S	-0.05	0.08	0.41*	0.39*	0.47*	0.46*	0.40*	0.48*	0.31*	1									
A N	-0.29*	-0.24	0.29*	0.17	0.41*	0.29*	0.39*	0.34*	0.34*	0.21	1								
C O	-0.09	-0.28*	0.11	-0.08	0.29*	0.61*	0.34*	0.32*	0.35*	0.27	0.37*	1							

<b>D</b>	-0.23	-0.18	0.12	-0.03	0.42*	0.43*	0.50*	0.56*	0.39*	0.30*	0.49*	0.43*	1					
<b>Q</b>	0.00	-0.13	-0.01	-0.03	0.27	0.30	0.28	0.13	0.19	0.05	0.23	0.26	0.19	1				
<b>L</b>	-0.14	-0.13	0.18	0.19	-0.14	-0.07	0.11	0.07	0.07	-0.07	-0.04	0.01	0.01	-0.24	1			
<b>S</b>	-0.00	-0.02	-0.02	-0.09	-0.07	-0.06	-0.14	-0.09	-0.11	-0.04	-0.09	-0.10	-0.22	-0.07	-0.12	1		
<b>FM</b>	-0.09	-0.08	-0.18	-0.33*	-0.06	-0.20	-0.20	-0.07	-0.33*	-0.24	-0.08	-0.15	-0.11	-0.19	-0.09	0.42	1	
<b>FRI</b>	-0.15	0.02	-0.22	-0.21	0.10	0.02	0.02	-0.02	0.07	0.14	-0.01	0.05	0.07	0.04	0.33*	0.47*	1	
<b>T</b>	-0.07	0.01	-0.19	-0.20	0.00	-0.10	-0.13	-0.04	-0.24	-0.14	-0.08	-0.13	-0.11	-0.07	0.78*	0.64*	0.78*	1

**Table 2 Correlation among sibling relationship, loneliness and perceived social support(N=50)**

\*\* p< 0.01; \* p <0.05

MR= Maternal Rivalry, PR= Paternal Rivalry, AC= Acceptance, AD= Admiration, AF= Affection, ES= Emotional support, I=Intimacy, IS= Instrumental Support, K= Knowledge, S= Similarity, AN= Antagonism, CM= Competition, D=Dominance, Q= Quarrelling, L= Loneliness, SO=Significance others, FM=Family, FRI=Friends, T= Total

The current study examines sibling relationships through the dimensions of rivalry, warmth, and conflict. Table 1 shows a strong positive correlation was found between Maternal Rivalry (MR) and Paternal Rivalry (PR) ( $r = 0.57$ ,  $p < 0.01$ ), indicating that individuals who perceive higher rivalry with one parent also tend to perceive it with the other.

Maternal rivalry demonstrated significant negative correlations with warmth dimensions, including intimacy ( $r = -0.31$ ,  $p < 0.05$ ), similarity ( $r = -0.35$ ,  $p < 0.05$ ), and knowledge ( $r = -0.40$ ,  $p < 0.01$ ). These findings suggest that greater maternal rivalry is associated with lower perceptions of warmth and positive interpersonal qualities. In contrast, paternal rivalry did not exhibit significant correlations with warmth dimensions, indicating a weaker influence on warmth-related constructs.

Significant positive correlations were observed among the warmth dimensions, emphasizing their interrelated nature. Admiration (AF) was strongly correlated with intimacy ( $r = 0.60$ ,  $p < 0.01$ ) and



emotional support ( $r = 0.47, p < 0.01$ ). Similarly, intimacy (I) correlated significantly with similarity (S) ( $r = 0.40, p < 0.01$ ) and knowledge (K) ( $r = 0.37, p < 0.05$ ), suggesting that individuals who experience emotional closeness also perceive greater alignment and understanding in their relationships.

Emotional support (ES) exhibited significant correlations with conflict sub-dimensions, including competition (C) ( $r = 0.61, p < 0.01$ ) and dominance (D) ( $r = 0.43, p < 0.01$ ), indicating potential overlap between warmth and conflict dynamics. Additionally, antagonism (AN) was positively correlated with admiration ( $r = 0.41, p < 0.01$ ) and intimacy ( $r = 0.39, p < 0.05$ ), suggesting that close relationships may include some degree of antagonism. These findings highlight the complexity of sibling relationships, where higher perceived warmth does not necessarily preclude conflict.

Loneliness (L) demonstrated minimal significant correlations with other variables, suggesting its relative independence from the dimensions of rivalry, warmth, and conflict. This finding indicates that loneliness may function as a distinct construct within this sample.

Perceived social support was assessed based on individuals' beliefs regarding the availability and adequacy of support from their social networks, including family, friends, and significant others. Total perceived social support (T) exhibited strong correlations with support from significant others ( $r = 0.78, p < 0.01$ ), family support ( $r = 0.64, p < 0.01$ ), and friend support ( $r = 0.78, p < 0.01$ ), confirming the integrative nature of social support from multiple sources. These findings suggest that participants perceived social support as a composite contribution from various relationships.

## Discussion

The present study examined sibling relationships through the dimensions of rivalry, warmth, and conflict, as well as their associations with loneliness and perceived social support.

Findings suggest that **maternal rivalry** was perceived as higher than **paternal rivalry**, indicating a greater sense of differential treatment from mothers. This aligns with previous research suggesting that maternal relationships may play a more central role in shaping sibling interactions (Jensen et al., 2013). The strong positive correlation between **maternal and paternal rivalry** indicates that individuals who perceive high rivalry in one parental relationship are likely to perceive it in the other suggesting a **generalized perception of favoritism within the family** rather than rivalry being isolated to one parent. Regarding **warmth dimensions**, the study found that **intimacy** and **emotional support** were perceived as the strongest components of warmth, whereas **admiration** and **similarity** were rated lower. This suggests that while sibling relationships are characterized by closeness and support, they may not always involve **strong identification or admiration** between siblings. The significant correlations between **warmth sub-dimensions** highlight their **interconnected nature**, indicating that individuals who experience higher **intimacy** are also likely to perceive **greater emotional support, knowledge, and similarity** in their sibling relationships. Research indicates that warmth in sibling relationships, often defined by emotional support, is a key factor in fostering positive interactions between siblings. Adult siblings who experience emotional closeness tend to provide more affection and support, which strengthens their relationship (Silverstein & Bengtson, 1997; Shulman & Connolly, 2013).

The **conflict domain** revealed moderate levels of antagonism, competition, and dominance. While competition and dominance showed **greater individual variability**, antagonism was reported at relatively stable moderate levels. Interestingly, **antagonism correlated positively with admiration and intimacy**, suggesting that **some level of conflict may coexist with positive sibling interactions**. This supports previous literature indicating that **sibling relationships are multidimensional** and often

characterized by a balance of both **affection and rivalry** (Buist et al., 2013). Conflict in sibling relationships is often perceived as moderate, with factors like age, family dynamics, and individual differences influencing the nature and intensity of the conflict. Studies suggest that siblings generally develop effective strategies to manage disagreements, particularly as they grow older (Brody, 1998; Cicirelli, 1995). Conflict resolution strategies and parental intervention also contribute to perceptions of moderate conflict (McHale, Updegraff, & Whiteman, 2012).

Despite these relational dynamics, **loneliness showed minimal correlations with sibling relationship variables**, indicating that **feelings of loneliness operate independently** from sibling interactions in this sample. This could suggest that **other factors, such as peer relationships or personality traits, may play a more significant role in loneliness** than sibling relationships alone (Goossens, 2018).

Similarly, **perceived social support was strongly associated with support from family, significant others, and friends**. Family provided the highest level of support, followed by significant others and then friends, with significant differences in perceived support levels. This suggests that while **siblings play a role in relational experiences**, broader social networks—including **parents, partners, and friends—serve as primary sources of emotional support**.

Strong family relationships have been shown to reduce feelings of loneliness, with supportive family environments serving as buffers against social isolation (Cohen & Wills, 1985; Lempers & Clark-Lempers, 1993).

Thus in the current study sibling relationships, loneliness, and perceived social support function independently. An individual may have a strong sibling bond but still feel lonely due to a lack of friendships or romantic relationships. Some individuals with poor sibling relationships may compensate by seeking support from friends or significant others, reducing the expected correlation between these variables. The relationship between these variables might vary based on age, cultural background, or family structure. In cultures where sibling relationships are less central to social support, these constructs may not be strongly linked. In younger populations, friendships may be a more dominant source of social support than sibling relationships. Other unaccounted variables (viz personality traits, attachment styles, family environment) might mediate or moderate the relationships.

### Implications and Limitations

These findings highlight the **complex nature of sibling relationships**, where **warmth and conflict coexist**, and **perceived parental favoritism may influence rivalry perceptions**. Given that **loneliness was relatively independent of sibling relationships**, interventions addressing loneliness may need to focus more on **external social connections** rather than sibling dynamics alone.

One limitation of the study is the **cross-sectional design**, which prevents conclusions about causality. Additionally, cultural factors may influence the **perception of sibling relationships**, particularly in collectivist societies where family bonds are emphasized (Kağıtçıbaşı, 2007). Future research could explore **longitudinal effects of sibling dynamics on well-being** and investigate the role of **cultural and familial structures** in shaping sibling interactions.

### Conclusion

Overall, the findings provide insights into how **rivalry, warmth, and conflict shape sibling relationships**, with evidence suggesting **both positive and challenging aspects** within these bonds. The

results also emphasize that **loneliness and social support extend beyond sibling relationships**, pointing to the importance of **broader interpersonal connections in shaping well-being**.

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