

# Attitude of siblings towards their disabled brother/sister: Examining the roles of sibling position and socio-economic status

Onyedikachi Chinonyelum Nnamchi<sup>1</sup>, Obinna Osita Ike<sup>1</sup>, & Chiedozi Okechukwu Okafor<sup>2</sup>

<sup>1</sup>Department of Psychology, University of Nigeria, Nsukka, Enugu state, Nigeria.

<sup>2</sup>Department of Psychology, Alex Ekwueme Federal University, Ndufu-Alike, Ebonyi State.

## ARTICLE INFO

### Keywords:

Sibling relationship  
Family socioeconomic status (SES)  
Sibling position  
Firstborn  
Middle Born  
Lastborn

## ABSTRACT

Growing up with a disabled sibling can have positive or negative effect on psychological wellbeing. However, little is known about the factors that influence siblings' attitudes toward their disabled brother or sister. Our study investigated how sibling position and family socioeconomic status (SES) influence sibling's attitude towards their disabled brother/sister in South-eastern Nigeria. One hundred and eighteen (118) typically developed siblings (aged 13-18 years) of children with disabilities participated in this study. They consisted of 26 firstborns; 35 middle borns, and 57 lastborns. Forty-eight (48) had high SES and 70 had low SES. Results indicated that sibling position and family SES had no significant influence on attitude of siblings. The interaction of both factors influenced siblings' attitude thus: Firstborn children from higher SES showed more positive attitude toward their disabled siblings when compared to those from lower SES. Middleborn children from lower SES showed more positive attitude than their counterparts from high SES while lastborn children from high SES scored higher in positive attitude toward their disabled siblings than those from low SES. Findings provide a step toward an understanding of the dynamics of sibling relationship can direct assistance and training programs for children with disabled siblings and their families, as well as inform counselling services for children with disabled siblings and their families.

## Introduction

Sibling relationships are one of the closest, strongest and usually the most enduring one across the life-span because siblings usually share a common genetic, cultural, and experiential heritage (Hansen, Harty, & Bornman, 2016). Siblings influence each other within the family in an array of complex ways as they spend many hours together (Dervishalij & Murati, 2014) especially during their early years. Since the contemporary world of widespread maternal employment appears to be pushing children into closer contact and higher emotional dependence, they tend to function as agents of socialization to educate one another and moderate parental attention and control. The sibling relationship is, therefore, overly prominent, with siblings learning how to interact with others primarily through their interactions with siblings and other family members (Talbot, 2014; Levy-Wasser & Katz, 2004).

Physical disability covers a group of conditions characterised by total or partial loss of a person's bodily functions in one or more basic life activities such as communication, mobility and selfcare. Given the lifelong significance of sibling relationships, the birth of a child with physical disability or the discovery that a child has a disability, has a profound psychological, social, and/or financial effect on a family (Dervishalij & Murati, 2014; Talbot, 2014).

Disability in a child affects all family relations due to its nature, but it particularly affects the relationships among siblings (Riper, 2000). This is because a disabled sibling may deprive typically developing children of parental interest, and the normal interaction between siblings may subject them to the limitations of the disabled child and to being labelled by society (Longobardi et al., 2019).

The sibling bond in the presence of a brother/sister with disability can be positively or negatively affected (Talbot, 2014; De Caroli & Sagone, 2013). Siblings of children with disability seem to fight for their independence, to find a balance between their own needs, the needs of their brother or sister with the disability and parental expectations (Bailey & Simeonsson, 1988). Having a disabled sibling creates change in the life of a typically developing child and may lead to emotional and behavioural difficulties (Fisman et al., 2000). The typically developing siblings of children with disabilities may experience reactions of shock, anger, hatred, guilt, ambivalence, loneliness and sorrow towards the child with disability. Although individual reactions vary widely, anger, guilt, resentment, and shame are common feelings of the siblings of children with disabilities (Seligman & Darling, 2007). In spite of the reactions, it is an important concern to any family that the typically developing children have to adjust to a brother or sister who, because of their condition, could require a

large portion of the family time, money, attention, and emotional support. This adjustment appears to be critical since the non-disabled child's reactions to a disabled sibling are likely to have an impact on both children's general adjustment and development of attitudes.

There could be both positive and negative effects for siblings who have the experience of living with a brother or sister with disability (De Caroli & Sagone, 2013). Some siblings were reported to have expressed positive feelings of satisfaction in learning to live and cope with the demands of a brother/sister with a disability (Pilowsky & Yirmiya, 2004). They experienced genuine joy and pleasure at the smallest accomplishments of the sibling and felt empathy, warmth and compassion for other people as individuals with unique needs and abilities (Powell & Ogle, 1985). However, Powell and Ogle (1985) found that siblings reported some negative feelings of bitterness and resentment because of the extra attention given to the child with disability. Some siblings explained that they feel fearful and anxious about how to interact with the child or even feel guilty because of their own good health (Powell & Ogle, 1985).

Studies have uncovered a variety of attitudes including increase in aggressive behaviour, anxiety, poor peer relations which appear to be somewhat related to sibling constellation variables such as gender, sibling position, age, family socioeconomic status (Lobato et al, 1987; Breslau, 1982). Kaminsky and Dewey (2001) found that siblings reported less intimacy, nurturance, and less prosocial behaviour toward their brothers or sisters with disability than siblings of typically developed children. As reported by Rodrigue, Geffken and Morgan (1993), siblings of children with disability reported more psychological maladjustment than the siblings of typically developing children.

Gath and Gumley (1987) compared the behavioural problems of children who have mentally disabled and typically developing siblings and found that problems were more common in children with disabled siblings. The presence of a disabled sibling does not have only negative effects on typically developing children (Yıldırım, 2005; Howe, Rinaldi, & Christina, 2002), studies have shown that, in addition to the negative effects, having a disabled sibling may also have some positive effects. Kaminsky and Dewey (2001) found that children who have a disabled brother or sister displayed high empathy and helping behaviours. They also had higher than average self-respect. Pilowsky and Yirmiya (2004) reported that the presence of a disabled child may lead to an array of emotional and behavioural reactions, ranging from positive feelings like pride and satisfaction to negative ones like anger and jealousy in typically developing children. The discrepancies between these findings suggest that several factors affected the results such as the individual characteristics of the sibling, the child with a disability and the characteristics of the entire family (Hastings, 2007).

One of the keys to understanding the adjustments of typically developed siblings may be due to how parents cope with the realities of having a child with disability (Levy-Wasser & Katz, 2004) which would in turn affect their demeanour and

parenting styles towards the typically developed and disabled child. Parenting approach can either intensify or mitigate the risk of poor psychosocial development in their non-disabled children. For instance, a parent may discipline a typically developed child for misbehaving but not the disabled child. Siblings being aware of these discrepancies in parental attitude tend to build a feeling of resentment and jealousy towards the disabled sibling. King (2007) reported that older siblings expressed feelings of jealousy as extra burdens of care giving was placed on them.

While there is considerable literature on overall family adaptation after the birth of a child with a disability, research on siblings' attitudes, however, is less extensive and results are inconsistent (Cate & Loots, 2000). Certain variables could directly or indirectly affect the attitude and reaction of typically developing children towards their disabled siblings, such as, gender, age, birth order (Longobardi et al., 2019; Orozco, 2014; Tomeny, et al., 2014; Begum & Blacher, 2011; Levy-Wasser & Katz, 2004; Breslau, 1982), family socioeconomic status (SES) (Macks & Reeve, 2007; Giallo & Gavidia-Payne, 2006; Fisman et al., 2000; Winkelman & Shapiro, 1994; Grossman, 1972), as well as severity and type of disability (Powell & Gallagher, 1993). For instance, when the age difference between disabled children and their siblings were larger, the possibility of the siblings to adapt was greater (Bailey & Simeonsson, 1988). McHale, Sloan and Simeonsson (1986) found that younger siblings of physically disabled children tended towards rejecting the sibling more than the older siblings did. Many researchers also found that older sisters go through the biggest negative consequences of having a disabled child in the family (Feinberg & McHale, 2003). Girli (1995) found that being older or younger than the disabled sibling had no significant influence in sibling relationships.

Research on the influence of disability on sibling relationships has usually approached the issue by examining its impact on the normal sibling; social attitude towards the disabled (De Caroli & Sagone, 2013), relationships between siblings and disability (Gibbons & Gibbons, 2016), behaviours and attitudes towards disabled sibling (Unal & Baran, 2011), psychosocial impacts on siblings (Dew et al, 2008), psychosocial adjustments (Walton & Ingersoll, 2015), psychosocial problems among siblings (Ishizaki et al., 2005), attitude divergence (Friedman, 2017), and relationship between psychosocial factors in growing up with a disabled sibling (Levy-Wasser & Katz, 2004). However, research on the influence of psychosocial factors on the behaviour and attitude of siblings towards disabled brother/sister remains sparse.

We reasoned that investigating the factors that affect attitude of siblings towards their disabled brother/sister may not only enhance our knowledge of the dynamics of family functioning in general but also improve our comprehensive understanding of the practical and emotional consequence of sibling disability. Hence, the following hypotheses were advanced: Sibling position will significantly influence the attitude of siblings towards their disabled brother/sister (H1); Socioeconomic status will significantly influence the attitude of siblings towards their disabled brother/sister (H2); Sibling

position and socioeconomic status will interact to significantly influence the attitude of siblings towards their disabled brother/sister (H3).

## Method

### Participants and procedure

The study sample included typically developing adolescent siblings with a biological brother/sister that has at least one form of physical disability who live together in the same household. The participants resided within Enugu Metropolis in south-eastern Nigeria (N = 118) and were drawn from 23 Secondary schools in Enugu. They consisted of 41 males and 77 females; 26 first born, 35 middle born and 57 last born. Family SES was determined in relation to parental educational attainment, parental occupation and type of apartment the family lived in. Family income was not included in determining family SES as most parents from South-Eastern Nigeria would not disclose family income to their children. By SES, 48 reported higher SES and 70 reported lower SES. The disabilities of the siblings were as follows: blind (n = 14), deaf and dumb (n = 49), cerebral palsied (n = 15), mental retardation (n = 10), crippled (n = 22) and multiple disability (n = 8).

The first stage of the study included visits to secondary schools to declare the aims and methods of the study. Students of the schools who are typically developed siblings of the physically disabled children were invited to take part. Siblings who gave their consent to take part in the study were given the questionnaire by their teachers. The siblings spent an average of 13 minutes to complete the questionnaire. Confidentiality was maintained as the siblings who took part in the study had no identifiable information or contact that could link them to their responses in our database.

### Survey Instrument

*Phase I:* piloting. Since we could not identify an existing survey instrument that collected our desired information, we drafted an initial 44-item Likert-type questionnaire adapted from the "Attitude Scale of Parents towards their mentally retarded children" developed by Govender (2002) to assess attitude of parents in rural South African communities of Zululand towards their mentally retarded children. Govender's (2002) scale has 50 item statements. Seventeen (17) of the item statements were modified to reflect sibling relationships, while other items were removed for several reasons including: unsuitability to reflect sibling relationship and physical disability and ambiguity of some words considering the ages of the participants. Four items were added by the present researchers. The questionnaire items took into account, local cultural factors regarding gender, sibling position, family relationships and SES. It measured feelings towards their brother or sister with disability, the perceived effect of the disability on the family's income and parental relationship, impact the disabled sibling was having in their lives as well as the effects of people's perceptions of the disability on their sibling relationship. Sample statements include: "Growing up with a disabled brother/sister is irritating", "I enjoy playing

with my disabled brother/sister", "I am jealous of the attention my disabled brother/sister gets from our parents". The questionnaire adopted a 5-point response scale of 1 (strong disagreements) to 5 (strong agreements). The negatively structured item statements were scored in the reverse direction.

*Phase II:* Validity and Reliability Testing. The developed questionnaire was distributed to 60 adolescents with physically disabled sibling from 16 secondary schools within Enugu metropolis. The reliability of the instrument was ascertained by measuring the internal consistency. Twenty statements failed to meet this reliability. These statements were eliminated by item analysis and were not included in our final survey instrument used for distribution. Three statements were removed as some of the pilot survey participants could not understand the structure of the sentences. A Cronbach's  $\alpha$  of .72 was obtained. The final instrument consisted of 21 items. The negatively structured items were 14 while the positively structured items were 7. The responses from our participants in our validity and reliability testing were not part of our final data analyses.

*Phase III:* Study. A general information form was designed by the researchers to gather some demographic information about the typically developed adolescent sibling, the disabled child and their family. This form included questions about the ages, gender and sibling position of the participant and the disabled sibling. Other information were parental occupation, parental level of education, type of family apartment and type of sibling disability.

### Data Analysis

Two-way analysis of variance (ANOVA) with SPSS version 22 was used to analyse the influence of the independent variables (sibling position and family socioeconomic status) on the dependent variable (attitude towards disabled sibling).

## Results

We got 135 responses from brothers and sisters. Of these, 4 were incompletely filled, 13 questionnaires were excluded because they were completed by siblings younger than 12 years. All the participants were biological siblings with similarity in religion and tribe who were living together with their disabled siblings as at the time of completing the questionnaire.

**Table 1:** Table of means showing the influence of Sibling position and socioeconomic status SES and the interaction effects on the attitude of siblings towards their physically disabled brother/sister.

SibPosition	SES	Std.		N
		Mean	Deviation	
Firstborn	High SES	76.00	.	1
	Low SES	64.40	7.83	25
	Total	64.85	8.00	26
Middleborn	High SES	64.58	7.55	19
	Low SES	71.88	6.40	16
	Total	67.91	7.86	35
Lastborn	High SES	71.00	17.79	28
	Low SES	59.21	11.31	29
	Total	65.00	15.87	57
Total	High SES	68.56	14.66	48
	Low SES	63.96	10.30	70
	Total	65.83	12.41	118

In Table 1, there were higher mean scores by middle born indicating more positive attitude were obtained by the middle born. As shown in table I, more mean scores were obtained by siblings from high SES (M=68.56, SD=14.65) than siblings from low socioeconomic status SES (M=63.95, SD=10.30).

**Table 2:** Two-way ANOVA table showing the influence of sibling position and socioeconomic status on the attitude of siblings towards their disabled brother/sister.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Sib Position	31.33	2	15.67	.13	.876
SES	260.47	1	260.47	2.21	.140
Sib Position * SES	1787.78	2	893.89	7.57	.001
Error	12756.67	108	118.117		
Total	529396.00	118			
Corrected Total	18024.61	117			

Dependent Variable: Attitude

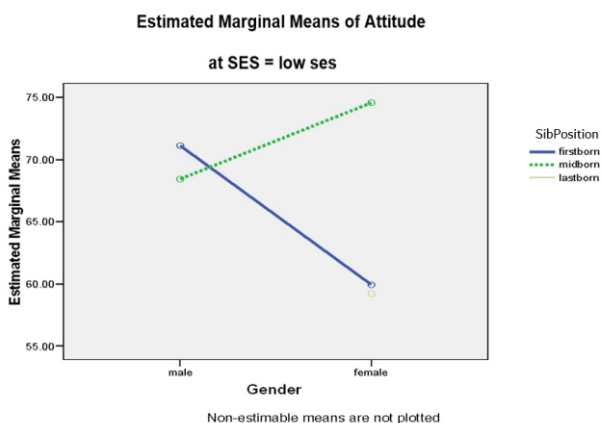
ANOVA results in table 2 showed no significant differences in attitude of siblings towards disabled brother/sister with respect to sibling position constellation,  $F(1, 108) = .13, p > .05$ . Similarly, there was no significant influence of family SES on attitude of siblings towards their disabled brother/sister,  $F(1,108) = 2.205, p > .05$ . A significant interaction of sibling position and SES on attitude of siblings towards their physically disabled brother/sister was found,  $F(1,108)=7.568, p < .05$ . As seen in Fig 1, participants who were first born from high SES scored higher on positive attitude (M=76.00) than participants from low SES (M=64.4). Similarly, Last born participants from high SES families scored higher on positive attitude (M=71.00) than last born from low SES (M=59.2). Middle born participants from low SES families scored higher on positive attitude (M=71.87) than middle born participants from high SES (M=64.57). Thus, being a first born and last born from high SES families had significant influence on the attitude of siblings towards their brother/sister with disability.

**Discussion**

In relation to H1, no significant difference was observed for sibling position in respect of attitude towards their disabled brother/sister. This finding showed that attitudes are formed regardless of the sibling’s chronological position. Although the mean scores tend towards sibling position having an influence on their attitude towards the disabled brother/sister, there was no statistical significance. A possible explanation of the non-significance of sibling position could be ascribed to the differences between functioning sibling position and chronological sibling position in various families. Thus, when a child is an object of a family projection, he/she is treated as the youngest child who in turn behaves accordingly which could lead to a major discrepancy in the result of studies on sibling position (Atlantic International University, 2021). The present study however, did not consider typically developed sibling’s unique circumstances such as “only daughter among male children” and vice versa which affects family projections of children and influences functioning of sibling’s conceptual chronological positions in divergent ways. In addition, family projections and/or limitations of disability is likely to make the disabled child tend to take on a more subordinate role (which could be contrary to birth order) within the dyad notwithstanding their ordinal position in the family.

Nonetheless, most studies investigated typically developed sibling’s position in relation to the disabled brother/sister’s sibling position and reported divergent results. For instance, Orozco (2014) observed a similar result as no significant group differences on behavioural measures between siblings older and younger than the disabled child. Similarly, other studies reported no significant effect of sibling position on overall level of psychological functioning among siblings of the disabled child (Levy-Wasser & Katz, 2004; Breslau, 1982). There was no significant relationship between birth order, disability status and attitude towards siblings (Begum & Blacher, 2011). On the other hand, several findings reveal significant sibling position effects, as firstborns were significantly more likely than middleborns to display positive attitude towards their disabled siblings (Stoneman et al.; 1989, Coleby, 1995). In other studies, the influence of sibling position effect in connection to emotional closeness on emotional relationships (Lemoine & Schneider, 2021) and attitude towards the disabled sibling (Coleby, 1995; King, 2007; Longobardi et al., 2019; Tomeny et al., 2014) were reported. Some studies had parents report on their typically developing child’s attitudes (Orozco, 2014) but parents may have an inaccurate perception of their child’s behaviour. A possible reason this study had a different outcome may be that the ages of typically developing siblings were limited to between 13 and 18 and children whose disabled siblings lived in institutionalized homes were not included.

Some studies found significant SES influences on siblings’ relationships as siblings from low SES families seems to be more exposed to stressful environments which increases their risk of behavioural and adjustment problems (Giallo & Gavidia-Payne, 2006; Macks & Reeve, 2007). In another study, Mulroy, et. al., (2008) observed significant SES influences as



**Figure 1:** Graph showing the interaction of Sibling position/Socioeconomic Status and Gender/Sibling position

However, Contrary to what one would expect, the present study provided support for the contention that the significant influence of family socioeconomic status SES on the attitude of siblings towards their disabled brother/sister is not valid in all cases. It has been shown that for SES to be significant, it has to interact with other sibling constellation variables (Grossman, 1972). Although SES plays an important role in family adaptation with the presence of a disabled child, the importance of the former in the investigation of sibling relationship in many instances lie in its interaction with other familial variables. This is because on its own, SES has little theoretical significance; however, if it reflects attitudes, it must be covaried in investigations (Lobato et al, 1988). The discrepancies in outcome of other studies and present study can be attributed to research methodology, individual differences, and environmental factors.

The present study found a meaningful interaction between sibling position and SES as hypothesized. Firstborn children are theorized to be more adult oriented, conservative, helpful, conforming etc than their siblings, and middle born children are seen as more competitive, rebellious, more flexible and diplomatic, while lastborn children are more extraverted, unconventional and somewhat dependent (Santrock, 2017). These characteristics put firstborns and lastborn on different sides of the spectrum but the result of this findings show an alternative where firstborns and lastborn children are on the same side of the continuum. The rule of exception in this case could be childhood and other personal experiences, by estimating the contributions of childhood/personal experiences one would be able to describe a broad view of the causes behind ones' attitude. Older siblings are seen as competent role models and modelling could account for similarities in attitude of firstborns and last-born children as the latter, through observation may exhibit character traits synonymous with the attitude of the model.

The theorized competitive, rebellious and more flexible attributes of the middle-born category could have resulted in the variations observed in their interaction. High SES parents possibly allot more time to the training of their firstborns since they usually arrive when they could afford more time to bond and impact their knowledge and values on them. Interestingly, an examination of the marginal means reveal that SES showed a tendency to significance which could be an additional reason behind the need to have more participants in the category from high SES family. Studies have shown that children raised by parents with high SES background seem to adjust better since their parents are able to adequately address their needs and turn to professionals for help (Dervishaliaj & Murati, 2014). Lastborns on the other hand, since they tend to model firstborns, would benefit from the wealth of experience of the firstborns and consequently tend to lean towards similar attitude with them, hence the result.

Further research is necessary to determine whether the differences between these other studies and the current one was a result of situational differences or developmental changes. Children in the present study were 13-18-year-old adolescents. In other studies, King (2007) studied adult participants

while Longobardi et al. (2019) studied from preschoolers to mid adolescents aged 5-16. It is possible that the nature of sibling relationship changes during this period and that rivalry between siblings becomes intensified during adolescent years. Nonetheless, situational differences can account for the different results between the current study and the previous works. Some previous studies were done at the participant's home as the children were observed and interviewed in the presence of their parents and they knew that they were being observed (Dervishaliaj & Murati, 2014; Winkelman & Shapiro, 1994). In other studies, parents or teachers were asked to respond on behalf of the children (Walton & Ingersoll 2015; Orozco, 2014; Tomeny, et al., 2014; Levy-Wasser & Katz, 2004). Teachers may be biased in favour of a sibling with disabled brother/sister, while it is characteristic of parent report to be poor in identifying childhood distress and internal conflicts; as such it is important to include direct psychological measure from the child to mitigate the risk of response bias.

This study may have been affected by selection bias. Only siblings who were students of the public schools were sampled, leaving the possibility that their responses are not fully representative of all siblings who have a disabled brother or sister in Enugu metropolis. Unfortunately, no state population-based registry currently exists for people with physical disabilities and their families. Another limitation was the absence of a group of siblings with typically developed brothers or sisters to compare the analysed group with, so we cannot infer how similar or different their attitude might be to the general population. Furthermore, by comparing siblings of children with disabilities and siblings of typically developed children, several studies explored the similarities and the differences among the groups and demonstrated divergent outcomes (positive and negative effects) for having a disabled sibling.

In addition, although efforts were made to recruit participants of different sibling position and SES, some groups may have been underrepresented. The small number of participants and the small numbers in the different strata may explain the lack of significance for some of the relationships. Perhaps more significant relationships could have been revealed with a larger sample. Certainly, situational differences and developmental changes affect the outcome of a study, thus the result of this study can be seen as a call for further research in sibling relationship where these factors will be varied systematically. Additionally, there might be regionally or tribal specific norms and values that influence particular responses. Thus, further research should expand to additional states and geopolitical zones, beyond the ones sampled to see if further tribal/geographic differences are observed. A lot more research is needed before any definite conclusions can be drawn regarding the influence psychosocial factors have on adolescents' attitude towards their disabled sibling. However, this is one of the few studies to investigate factors that influence the attitude of siblings towards their disabled brother/sister and, to the best of our knowledge, one of the first to consider how sibling position and family socioeconomic status influenced sibling attitude.

## Conclusion

The present study suggests that family SES and sibling position did not influence siblings' attitude. However, there was a positive interaction between family SES and sibling position. In further detail, being the first born and last born in a family with high SES were found to predispose adolescents to higher positive attitude towards their disabled sibling whereas middle born adolescent siblings from lower SES were predisposed to more positive attitudes. The sibling relationship is a fundamental aspect of growing up and, if compromised by unmoderated familial factors, the expression of negative attitude towards disabled siblings becomes apparent. The outcome of this investigation suggests the need to make supporting actions for the management of families with disabled children especially with respect to sibling relations as an effective support group. It is not possible to control all mediating variables within the family, however, it would be important for family members and social service providers to acknowledge them so as to develop strategies that will mediate negative impact and facilitate positive relations in a disabled sibling dyad. It is believed that the findings of the present study, which provides a step toward an understanding of the dynamics of sibling relationship can direct assistance and training programs for children with disabled siblings and their families, as well as inform counselling services for children with disabled siblings and their families.

## References

- Atlantic International University, (2021). Fundamentals of family theory, session 9, Sibling position. Retrieved from <https://courses.aiu.edu/FUNDAMENTALS%20OF%20FAMILY%20THEORY/SESSION%209/9.pdf>
- Bailey, P. B. & Simeonsson, R. J. (1988). Assessing needs of families with handicapped infants. *The Journal of Special Education*, 22(1), 117-127. <https://doi.org/10.1177%2F002246698802200113>
- Begum, G., & Blacher, J. (2011). The sibling relationship of adolescents with and without intellectual disabilities. *Research in Developmental Disabilities*, 32(5), 1580-1588. <https://dx.doi.org/10.1016%2Fj.ridd.2011.01.056>
- Breslau, N. (1982). Siblings of disabled children: Birth order and age-spacing effects. *Journal of Abnormal Child Psychology*, 10(1), 85-96. <https://doi.org/10.1007/bf00915953>
- Cate, M. P.-T., & Loots, G. M. P. (2000). Experiences of siblings of children with physical disabilities: An empirical investigation. *Disability & Rehabilitation*, 22(9), 399-408. <http://doi:10.1080/096382800406013>
- Coleby, M. (1995). The school-aged siblings of children with disabilities. *Developmental Medicine and Child Neurology*, 37(5), 415-426. <https://doi.org/10.1111/j.1469-8749.1995.tb12025.x>
- De Caroli, M.E., & Sagone, E. (2013). Siblings and disability: A study on social attitudes towards disabled brothers and sisters. *Social and Behavioural Sciences*, 93(2013), 1217-1223. <http://doi:10.1016/j.sbspro.2013.10.018>
- Dervishalija, E. & Murati, E., (2014). Families of children with developmental disabilities: Perceptions and experiences of adolescent siblings of children with developmental disabilities. *European Scientific Journal*, 10(2), 1857-7881. <https://doi.org/10.19044/esj.2014.v10n2p%0p>
- Dew, A., Baladin, S., & Llewellyn, G. (2008). The psychosocial impact in siblings of people with lifelong physical disability: A review of the literature. *Journal of Developmental and Physical Disabilities*, 20(5), 485-507. <http://doi.10.1007/s10882-008-9109-5>
- Feinberg, M. E., McHale, S. M., Crouter, A. C., & Cumsille, P. (2003). Sibling differentiation: Sibling and parent relationship trajectories in adolescence. *Child Development*, 74(5), 1261-1274. <http://doi:10.1111/1467-8624.00606>
- Fisman, S., Wolf, L., Ellison, D., & Freeman, T. (2000). A longitudinal study of siblings of children with chronic disabilities. *Canadian Journal of Psychiatry*, 45(4), 369-375. <http://doi:10.1177/070674370004500406>
- Friedman, C. (2017). Siblings of People with Disabilities' Explicit and Implicit Disability Attitude Divergence, *Journal of Social Work in Disability & Rehabilitation*, 16(1), 74-92. <http://dx.doi.org/10.1080/1536710X.2017.1260519>
- Gath, A. & Gumley D. (1987). Retarded children and their siblings. *Journal of Child Psychology and Psychiatry*, 28(5), 715-730. <https://doi.org/10.1111/j.1469-7610.1987.tb01554.x>
- Giallo, R., & Gavidia-Payne, S. (2006). Child, parent, and family factors as predictors of adjustment for siblings of children with a disability. *Journal of Intellectual Disability Research*, 50(12), 937-948. <http://doi.org/10.1111/j.1365-2788.2006.00928.x>
- Gibbons, H. M., & Gibbons, C. M., (2016) Siblings with disabilities: A duoethnography on the intersections between a sibling relationship and disability, *Disability & Society*, 31(6), 820-837 <http://dx.doi.org/10.1080/09687599.2016.1203291>
- Girli, A. (1995). Normally developing children's acceptance levels of disabled siblings. Unpublished master's thesis, Dokuz Eylül University, Izmir, Turkey. [in Turkish]
- Gold, N. (1993). Depression and social adjustment in siblings of boys with autism. *Journal of Autism and Developmental Disorders*, 23(1), 147-163. <http://doi:10.1007/BF01066424>
- Govender, N. (2002). Attitudes of parents towards their mentally retarded children: A rural area examination. M.A. dissertation, University of Zululand. <http://hdl.handle.net/10530/220>

- Grossman, F. K. (1972). *Brothers and sisters of retarded children: An exploratory study*. Syracuse, NY: Syracuse University Press.
- Hansen, M., Harty, M., Bornman, J. (2016). Exploring sibling attitudes towards participation when the younger sibling has a severe speech and language disability. *South African Journal of Child Health*, 10 (1), 47-51. <http://DOI:10.7196/SAJCH.2016.v106i1.1046>
- Hastings, R. (2003). Brief report: Behavioral adjustment of siblings of children with autism. *Journal of Autism and Developmental Disorders*, 33 (1), 99-104. <https://doi.org/10.1023/a:1022290723442>
- Ishizaki, Y., Ishizaki, T., Ozawa, K., Fukai, Y., Hattori, Y., Taniuchi, S., & Kobayashi, Y. (2005). Psychosocial Problems among Siblings of Children with Disabilities in Japan: Psychosocial Association between Mothers and Siblings. *Journal of Developmental and Physical Disabilities*, 17 (2), 119 – 132. <https://doi.org/10.1007/s10882-005-3684-5>
- Kaminsky, L., & Dewey, D. (2001). Siblings relationships of children with autism. *Journal of Autism and Developmental Disorders*, 31(4), 399-410. <https://doi.org/10.1023/A:1010664603039>
- King, D. L., (2007). How non-disabled children respond to a sibling with disability: the challenges they may or may not have faced. Masters Thesis, Smith College, Northampton, MA. <https://scholarworks.smith.edu/theses/1337>
- Lemoine, L. & Schneider, B. (2021). Growing up with a brother or sister with down syndrome: Adult siblings' perceptions of their childhood relationships. *Journal of Intellectual and Developmental Disability*. Online first. <http://doi.org/10.3109/13668250.2020.1855632>
- Levy-Wasser, N. & Katz, S. (2004). The Relationship between Attachment Style, Birth Order, and Adjustment in Children Who Grow Up with a Sibling with Mental Retardation. *The British Journal of Developmental Disabilities*, 50 (99), 89 - 98, <http://DOI:10.1179/096979504799103921>
- Lobato, D., Barbour, L., Hall, L. J., & Miller, C. T., (1987). Psychosocial characteristics of preschool siblings of handicapped and non-handicapped children. *Journal of Abnormal Child Psychology*, 15(3), 329-338. <https://doi.org/10.1007/BF00916453>
- Lobato, D. J, Faust, D., & Spirito, A. (1988). Examining the effects of chronic disease and disability on children's sibling relationships. *Journal of Paediatric Psychology*, 13 (3), 389 - 407. <https://doi.org/10.1093/jpepsy/13.3.389>
- Longobardi, C., Prino L. E., Gastaldi F. G. M., & Jungert, T. (2019). Sibling relationships, personality traits, emotional, and behavioural difficulties in autism spectrum disorders. *Child Development Research*, 2019, ID 9576484. <https://doi.org/10.1155/2019/9576484>
- Macks, J. R. & Reeve, R. E. (2007). The adjustment of non-disabled siblings of children with autism. *Journal of Autism and Developmental Disorders*, 37(6), 1060–1067. <https://doi.org/10.1007/s10803-006-0249-0>
- McHale, S. M., Sloan, J., & Simeonsson, R. J. (1986). Sibling relationships of children with autistic, mentally retarded and nonhandicapped brothers and sisters. *Journal of Autism and Developmental Disorders*, 16(4), 399-413. <https://doi.org/10.1007/bf01531707>
- Mulroy, S., Robertson, L., Aiberti, K., Leonard, H., & Bower, C. (2008). The impact of having a sibling with an intellectual disability: Parental perspectives in two disorders. *Journal of Intellectual Disability Research*, 52(3), 216–229. <http://doi.org/10.1111/j.1365-2788.2007.01005.x>
- Orozco, T., (2014). Impact of birth order on autism spectrum disorder children's typically developing siblings. *Electronic Theses, Projects, and Dissertations*. 116. <https://scholarworks.lib.csusb.edu/etd/116>
- Pilowsky, T., Yirmiya, N., Doppelt, O., Gross-Tsur & Shalev, R. S. (2004). Social and emotional adjustment of siblings of children with autism. *Journal of Child Psychology and Psychiatry*, 45 (4), 855 - 865. <https://doi.org/10.1111/j.1469-7610.2004.00277.x>
- Powell, T. H., & Ogle, P. A. (1985). *Brothers and sisters: A special part of exceptional families*. Baltimore, MD: Paul H. Brookes.
- Riper, M. V. (2000). Family variables associated with well-being in siblings of children with Down syndrome. *Journal of Family Nursing*, 6(3), 267–286. <https://doi.org/10.1177%2F107484070000600305>
- Rodrigue, J. R., Geffken, G. R., & Morgan, S. B. (1993). Perceived competence and behavioural adjustment of siblings of children with autism. *Journal of Autism and Developmental Disorders*, 23, 665-674. <https://doi.org/10.1007/BF01046108>
- Santrock, J. W. (2017). *A topical approach to life-span development* (9th ed). New York: McGraw-Hill.
- Stoneman, Z., Brody, G. H., Davis, C. H., & Crapps, J. M. (1989). Role relations between children who are mentally retarded and their older siblings: Observations in three in-home contexts. *Research in Developmental Disabilities*, 10(1), 61-76. [https://doi.org/10.1016/0891-4222\(89\)90029-2](https://doi.org/10.1016/0891-4222(89)90029-2)
- Seligman, M. & Darling, R. B. (2007). *Ordinary families, special children: A systems approach to childhood disability* (3rd ed). New York: Guilford Press. <http://dx.doi.org/10.1352/2008.46:400-401>
- Talbott, J. (2014). Possible psychosocial benefits of having a sibling with a disability. Senior Honors Thesis. 419. <https://digitalcommons.liberty.edu/honors/419>
- Tomeny, T. S., Barry, T. D., & Bader, S. H. (2014). Birth order rank as a moderator of the relation between behavior problems among children with an autism spectrum

disorder and their siblings. *Autism*, 18(2), 199–202.  
<https://doi.org/10.1177/1362361312458185>

Unal, N. & Baran, G. (2011). Behaviours and attitudes of normally developing children towards their intellectually disabled siblings. *Psychological Reports*, 108(2), 553-562.  
<https://doi.org/10.2466/07.10.21.pr0.108.2.553-562>

Walton, K. M., & Ingersoll, B. R. (2015). Psychosocial adjustment and sibling relationships in siblings of children with autism spectrum disorder: Risk and protective factors. *Journal of Autism and Developmental Disorders*, 45(9), 2764–2778.  
<http://doi.org/10.1007/s10803-015-2440-7>

Winkelman, M. & Shapiro, J. (1994). Psychosocial adaptation of orthopedically disabled Mexican children and their siblings. *Journal of Developmental and Physical Disabilities*, 6(1), 55-71.