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## Cognitive and affective empathy among adolescent siblings of children with a physical disability

Lidia Perenc <sup>a, \*</sup>, Ryszard Pęczkowski <sup>b</sup>

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#### ABSTRACT

Background: This study is a continuation of research on possible psychosocial benefits resulting from exposure to sibling with disability present in the family system. The issue seems to be especially important in Poland because of growing number of children with a disability and inconsistent results of previously performed studies.

Objective: The main aim of this study was to examine the differences in the intensity of cognitive and affective empathy in adolescents who either have or do not have siblings with physical disability. The authors hypothesized that the increased exposure to individual with disability should result in positive attitude towards such people and this tendency should be manifested in elevated empathy and

Methods: The study was carried out between September and November 2016. To meet the goals set to the study, a sample of 292 students from public middle and high schools were assessed using self-report demographic questionnaire and measure of empathy (IRI). The participants were between 13 and 19 years old. Among them 128 had a disabled sibling (Group T) and 164 constituted a comparative group (Group C). Interpretation of results is based on descriptive statistics.

Results: Participants having a disabled sibling showed significantly higher scores related both to cognitive and affective empathy. Some significant differences were also noted in relation to participants'

Conclusions: Exposure to individuals with physical disability in family context may facilitate development of positive psychosocial traits including elevated empathy and compassion in nondisabled siblings. Data analysis also showed significantly greater empathic and altruistic tendencies in females that in males.

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#### Introduction

In Poland, in recent years approximately 184,000 children under 15 years of age have a disability that significantly affects their physical and psychological development and functioning of their families. The impact of child disability in the family system is very complex, and those researchers who compare families with disabled and with nondisabled children often arrive at contradictory conclusions. For example, the results of several studies emphasize a positive influence of living with a disabled child as one

E-mail addresses: la.perenc@gmail.com (L. Perenc), ryszard@univ.rzeszow.pl (R. Peczkowski).

\* Corresponding author.

of the family members, including nondisabled siblings.<sup>2,3</sup> However, there are some studies that found no significant differences between the behavior and psychological development of siblings of a disabled child and that of their peers representing general population.4-6 Nevertheless, it would be difficult to compare directly the results of these studies because of different research techniques used by their authors, such as standardized scales and questionnaires or interviews with the primary informants.

It is in no way surprising that, because of great number of disabled children and inconsistent results of previously conducted research, at present we observe an increase of interest in the psychological development of siblings who have a brother or sister with a disability. This issue is also often highlighted in popular media, such as TV and printed newspapers. Obviously, certain factors may either directly or indirectly affect the emotional

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<sup>&</sup>lt;sup>a</sup> Medical Faculty, University of Rzeszow, Aleja Kopisto 2a, 35-310, Rzeszow, Poland

<sup>&</sup>lt;sup>b</sup> Faculty of Education, University of Rzeszow, ul. Jalowego 24, 35-959, Rzeszow, Poland

development of healthy siblings of the disabled children, e.g. the family atmosphere, gender, chronological age, and age difference between the siblings. In specific conditions, such factors can either facilitate or inhibit mutual relationships and emotional development. Recently, many researchers have conducted studies the aim of which is to look for more positive results related to these unique sibling relationships, such as optimal level of assertiveness. empathy and resilience.<sup>7,8</sup> The results obtained show that siblings of disabled children were characterized by higher level of maturity, responsibility and protection. For example, Caplan 10 arrived at the conclusion that those adolescents who grew up with sibling with a disability described their life as enriched by this experience. Also, several other studies have reported that these siblings tended to develop other beneficial characteristics, such as, for example, heightened independence, a tendency toward protection and affection, better cooperation and problem solving skills. 11,12

Despite the fact that in current professional literature empathy has been defined in many different ways, there is growing consensus that it is a complex concept involving both affective and cognitive components.<sup>13</sup> These elements have been named by Davis<sup>14</sup> as "empathic concern" and "perspective taking", respectively. The correctness of a multifactor approach to empathy has been proved by factor-analytic studies emphasizing the difference between affective and cognitive empathy.<sup>15</sup> Recently conducted research has shown that these two dimensions are related to various interpersonal behaviors, including higher altruism and prosocial behavioral patterns<sup>16–18</sup> as well as lower aggression and externalizing problem behaviors. 19,20 Furthermore, some studies have evidenced positive associations between both empathy components and direct assessments of adolescents' social competence and quality of functioning in friendships, 14,21 peer acceptance<sup>22</sup> and giving support in interpersonal relations.<sup>23</sup> Among different aspects of empathy, special attention of researchers in this field is given to its cognitive and affective dimensions. This includes knowing what others think and feel (i.e. cognitive empathy), and sharing a given feeling with others (i.e. affective empathy). It is presumed that the two emphatic dimensions are important source of altruistic motivation: the stronger the feelings of compassion for the other person, the greater the motivation to reduce his/her distress.24

The present study aims to examine the differences in empathy-related dimensions existing in group of adolescents in relation to the variable that may be defined as the presence of a physically disabled sibling in the family. Apart from this, our study examined the question of whether basic emphatic dimensions, such as affective and cognitive empathy, are related to gender and age of the subjects. In a sense, this study is a continuation of previously performed study on influence of presence of a physically disabled child in the family on personality development of nondisabled siblings. The following research questions were formulated:

- 1) What level of affective and cognitive empathy characterizes the studied groups?
- 2) Is there any significant difference between adolescents representing general population and their peers having a disabled sibling at home?
- 3) Is there any significant dependence between gender and age of the studied adolescents and affective and cognitive empathy?

#### Methods

#### **Participants**

This study was conducted between September and November

2016 in public secondary schools, i.e. middle schools (gymnasium) and high schools (lyceum), localized in the Rzeszow school district. At the time when the study was conducted there were in the district of Rzeszow 21 middle schools comprising 206 classes with 5116 students (2490 girls, 2626 boys), and 15 high schools consisted of 201 classes with 6284 students (3984 girls, 2300 boys).<sup>26</sup> The examined school population consisted of 292 students, aged 13 to 19. divided into target (Group T: mean age = 15.77, sd = 1.61) and comparative (Group C; mean age = 15.82, sd = 1.58) groups. The selection of the participants to Group T was carried out with the help of purposive sampling in terms of having a physically disabled sibling in family. To be included in the study, the nondisabled participant and his/her disabled brother/sister were to be natural siblings living together at home with at least one biological parent. Also, there had to be no other form of disability in the family. In total, Group T consisted of 128 students from middle and high schools. The comparative group (Group C) included 164 students attending the same schools (Table 1). The basic inclusion criterion in Group C was having at least one healthy and normally developed sibling. In this case, healthy sibling pairs lack the psychosocial impact that exists in the disabled/nondisabled sibling pairs relations. The disabled siblings represented a wide variety of medical conditions (e.g. mobility disabilities, cerebral palsy, spina bifida, deafness and visual impairment).

#### Procedure

The survey conducted had a non-experimental, exploratory and cross-sectional character. The authors embarked on their research task by applying for and receiving permission from the district educational authority and principals of the randomly selected 18 schools (10 gymnasiums and 8 lyceums). All in all, we approached 104 class groups and selected those students who met the criterion for Group T (i.e. having a physically disabled sibling, both younger or older). The students were informed that the study was designed to assess their emotionality. Those who agreed to participate in the study were asked to take the proposed recruitment letter to their parents. Once the parental consent was granted the selected students were asked to complete the relevant questionnaires during 20-min sessions in their classrooms, and the school teachers were absent while the students were filling out the questionnaires that had been provided. Student participation was voluntary and they were in no way compensated financially. A similar procedure was applied in Group C, except that participants in this group were recruited by means of random sampling. No significant problems were reported during the completion of the questionnaires in both groups. In total, survey materials were distributed to 320 students. Of those, 292 submitted the fully completed questionnaires, and the figure represents a response rate of approximately 90%. In order

**Table 1**Sociodemographic traits of the participants.

Variable	Group T (n = 128)		Group C (n = 164)		Total (n = 292)	
	n	%	n	%	n	%
Gender						
female	72	56.25	90	54.88	162	55.48
male	56	43,75	74	45.12	130	44.52
Educational level						
middle school	67	52.34	84	51.22	151	51.71
high school	61	47.66	80	48.78	141	48.29
Residential area						
urban	112	87.50	132	80.49	244	83.56
rural	16	12.50	32	19.51	48	16.44

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