

# Investigation and Analysis on the Educational Needs of Parents Having School-Aged Children With Cerebral Palsy and Autism

Jufen Yu<sup>1,\*</sup> Dandan Dai<sup>2</sup> Mingsheng Qing<sup>3</sup>

<sup>1</sup>College of the Special Education, Leshan Normal University, Leshan, Sichuan 614000, China

<sup>2</sup>Sichuan Zhixiang Vocational Technology School, Chengdu, Sichuan 610200, China

<sup>3</sup>Huaying Special Education School, Guang'an, Sichuan 638600, China

\*Corresponding author. Email: 932081583@qq.com

## ABSTRACT

**Objective:** it is to understand the status and influencing factors of educational needs of parents having school-aged children with cerebral palsy and autism. **Method:** a questionnaire survey was conducted on the parental education needs of parents of 202 school-aged children with cerebral palsy and autism in Sichuan Province. **Results:** The total parental education needs of parents having school-aged children with cerebral palsy and autism, the legal and policy needs, the information need of rehabilitation services, children's needs of physical and mental development and parenting skills, the professional guidance and professional cooperation needs, and parents' psychological construction and growth needs are respectively scored ( $4.01 \pm 0.52$ ) points, ( $4.17 \pm 0.54$ ) points, ( $4.01 \pm 0.64$ ) points, ( $4.00 \pm 0.64$ ) points, ( $3.99 \pm 0.64$ ) points, and ( $3.90 \pm 0.76$ ) points; children's living place, other diseases, and annual family income are the factors affecting the score of "the legal and policy needs"; disease diagnosis is the factor affecting the score of "the information need of rehabilitation services" and the score of "parents' psychological construction and growth needs"; disease diagnosis, mother's education level and living place are the factors affecting the score of "children's needs of physical and mental development and parenting skills" and the score of "the total parental education needs of parents having school-aged children with cerebral palsy and autism"; disease diagnosis, having other disease or not and mother's education level are the factors affecting the score of "the professional guidance and professional cooperation needs" (value  $P < 0.05$ ). **Conclusion:** the educational needs of parents having school-aged children with cerebral palsy and autism range very wide and are very urgent. Relevant personnel should carry out and strengthen targeted parental education services for parents of school-aged children with cerebral palsy and autism based on the factors affecting parental education needs, in order to promote the rehabilitation of the children and reduces the stress of the parents.

**Keywords:** cerebral palsy, autism, school-aged children, parental education, needs

## I. INTRODUCTION

Parental education is to help parents of special children to better play the role of parents and solve their parenting problems; such education provides such parents with the knowledge and skills as needed for parenting their children in line with their development status, and instruct parents to help special children's development and growth in a correct and responsible attitude, build confidence and maintain normal functions of their family, and thus become more

effective parents [1]. Cerebral palsy is a group of persistent central motor and postural developmental disorders and restricted movement syndromes caused by non-progressive brain damage of developing fetuses or infants' brain, often accompanied by sensory, perceptual, cognitive, communication, and behavioral disorders, as well as epilepsy and secondary musculoskeletal problems [2]. Autism is a neurodevelopmental disorder that occurs in early childhood. It is mainly manifested as persistent communication barriers, narrow interest and repetitive stereotyped behavior patterns [3]. In developing process, the two types of children both need to do continuous rehabilitation training; meanwhile home is an important place for their healthy growth and an ideal

\*Fund: This paper is a joint project of Sichuan Federation of Social Science Associations and Leshan Normal University (Project No.: SC16XK015).

environment for intervention. At the same time, parents having such child often have tremendous psychological pressure [4]. On the one hand, good parental education can help the family caregivers forming correct education concept, mastering scientific parenting knowledge and skills, and further promoting their children's healthy growth and development in mind and body [5]; on the other hand, by providing targeted parental education, it is available to release parents' mental pressure and pose significant positive influence on the entire family [6]. Therefore, in recent years, China has begun to focus on the studies on the education of parents with disabled children [1]<sup>7-11</sup>; but there are few reports on the research of education on parents of school-aged children with disabilities. Therefore, the purpose of this study is to investigate and understand the status and influencing factors of parental education needs of parents having school-aged children with cerebral palsy and autism in Sichuan Province, and provide reference and basis for parental education.

## II. MATERIALS AND METHODS

### A. Research object

From Oct., 2017 to Feb., 2018, a questionnaire survey was conducted on parents of such children with cerebral palsy and autism as from 15 special schools, 4 ordinary schools and partially received education at home in Sichuan Province in convenient cluster sampling method. A total of 202 questionnaires were distributed in this study, and 194 valid questionnaires were returned. The effective recovery rate reached 96.0%. The basic situations of the 194 children are as follows: 132 boys (68.0%), 62 girls (32.0%); 37 children aged less than 6 years old (19.1%), and 139 children aged 6 to 12 years old (71.6%), and 18 children aged more than 12 years old (9.3%); 92 children with cerebral palsy (47.4%) and 102 children with autism (52.6%); 26 children with first-level disability(13.4%), 67 children with second-level disability (34.5%), 72 children with third-level disability(37.1%), and 29 children with fourth-level disability (15.0%); 44 children with no language competence (22.7%); 56 children with other diseases (28.9%); 121 children daily live with parents (62.4%); 92 children received rehabilitation training (47.4%); 27 children's fathers have education level not superior to primary school (13.9%), 121 children's fathers have education level equal to middle school (62.4%), and 46 children's fathers have education level not inferior to university level (23.7%); 55 children's mothers have education level not superior to primary school (28.4%), 123 children's mothers have education level equal to middle school (63.4), and 16 children's mothers have education level not inferior to university level (8.2%); 143 children's parents maintain complete marriage (73.7%), and 51 children's parents have divorced

(26.3%); 95 children have urban registration (49.0%), and 99 children have rural registration (51.0%); 72 children's annual household income is less than 20,000 Yuan (37.1%), 78 children's annual household income is 20,000-50,000 Yuan (40.2%), 31 children's annual household income is 50,000-100,000 Yuan (16.0%), and 13 children's annual household income is more than 100,000 Yuan (6.7); 111 persons who filled the questionnaire are parent (57.2%).

### B. Research methods

A questionnaire was used to survey the parents. One questionnaire for each child was completed independently by the parents with informed consent and was collected on the spot. During the filling process, if the parents have any doubt, the investigator will explain on the spot. The main contents of the questionnaire include personal basic information and parental education needs questionnaire; the personal basic information is designed by the researcher on the basis of consulting relevant literature and research [1]<sup>6-9</sup>, and includes children's gender, age, diagnosis, and identity of the filler; parental education needs questionnaire is adapted from the questionnaire for the educational needs of parents of children with disabilities as compiled by Gu Changfen et al. [1], such as replacing "Beijing" with "Sichuan Province". The questionnaire includes 35 questions in 5 dimensions; wherein, 6 questions are about the legal and policy needs relevant to disabled children, 5 about the information needs of rehabilitation services, 10 about children's needs of physical and mental development and parenting skills, 6 about the professional guidance and professional cooperation needs, and 8 about parents' psychological construction and growth needs. The questionnaire adopts Likert five-point scoring rule, namely 1 to 5 points corresponding to "not needed at all" to "extremely needed". The higher the score is, the higher the need is indicated and vice versa. The questionnaire has good reliability and validity. The Cronbach's  $\alpha$  of the master table of this survey and the five dimensions are respectively 0.937, 0.745, 0.768, 0.861, 0.794, and 0.897.

### C. Statistical analysis

The data were analyzed by using SPSS19.0 software package. The measurement data was expressed by ( $\bar{x} \pm s$ ). Independent sample t test is performed to make comparison between two groups. One-way analysis of variance is performed to make comparison between multiple groups. LSD-t test is performed to make comparison between groups. Multiple linear stepwise regression analysis is conducted to analyze the factors affecting parental education needs.  $P < 0.05$  is the statistical difference.

III. RESULTS

A. The status quo of educational needs of parents having school-aged children with cerebral palsy and autism

The score of total parental education needs is 2.40 points at the least, 5 points at the highest, and (4.01 ± 0.52) points on average. The score of each dimension is as listed in "Table I".

TABLE I. SCORES OF PARENTAL EDUCATIONAL NEEDS (N = 194)

Dimension	Score ( $\bar{x}\pm s$ )	Order
the legal and policy needs	4.17±0.54	1
the information needs of rehabilitation services	4.01±0.64	2
children's needs of physical and mental development and parenting skills	4.00±0.64	3
the professional guidance and professional cooperation needs	3.99±0.64	4
parents' psychological construction and growth needs	3.90±0.76	5

B. Comparison on the scores of educational needs of parents having school-aged children with cerebral palsy and autism and different characteristics

By making comparison on the scores of educational needs of parents having school-aged children with cerebral palsy and autism and different characteristics,

it is found that for children with different genders, ages, diagnoses, household registration, with/without other diseases, living with their parents or not, having received rehabilitation training or not, with different annual family income and questionnaires, the scores of total parental education needs and/or some dimensions are different significantly (P < 0.05). ("Table II")

TABLE II. COMPARISON ON THE SCORES OF EDUCATIONAL NEEDS OF PARENTS HAVING CHILDREN WITH DIFFERENT CHARACTERISTICS (  $\bar{X}\pm s$ , POINTS)

Item	Group	Law and policy	Rehabilitation service information	Development skills	Professional guidance	Parents' psychology	Total needs
<b>Gender</b>	Male (n=132)	4.17±0.54	4.05±0.63	4.07±0.60	4.03±0.63	3.96±0.73	4.05±0.49
	Female (n=62)	4.17±0.53	3.91±0.65	3.86±0.69	3.90±0.66	3.79±0.83	3.91±0.58
	Value t	-0.033	1.455	2.092	1.259	1.437	1.721
	Value P	0.974	0.148	0.038	0.210	0.152	0.087
<b>Age (years old)</b>	1=<6 (n=37)	4.08±0.54	3.96±0.64	3.98±0.63	4.03±0.56	3.97±0.75	4.00±0.51
	2=6~12 (n=139)	4.20±0.53	4.05±0.64	4.08±0.61	4.01±0.67	3.95±0.73	4.05±0.51
	3=>12 (n=18)	4.06±0.58	3.80±0.55	3.44±0.64	3.69±0.59	3.41±0.89	3.63±0.52
	Value F	1.136	1.357	8.657	2.186	4.303	5.399
	Value P	0.324	0.260	0.000	0.115	0.015	0.005
	LSD			1>3, 2>3		1>3, 2>3	1>3, 2>3
<b>Diagnosis</b>	cerebral palsy (n=92)	4.06±0.55	3.84±0.70	3.73±0.73	3.83±0.76	3.57±0.89	3.78±0.62
	autism (n=102)	4.26±0.51	4.16±0.53	4.24±0.42	4.12±0.48	4.21±0.44	4.20±0.31
	Value t	-2.613	-3.506	-5.872	-3.165	-6.244	-5.909
	Value P	0.010	0.001	0.000	0.002	0.000	0.000
<b>Level of disability</b>	first-level (n=26)	4.17±0.57	4.01±0.68	4.20±0.55	3.94±0.50	3.99±0.86	4.07±0.54
	second-level (n=67)	4.18±0.56	3.93±0.66	3.92±0.66	3.96±0.65	3.83±0.78	3.95±0.57
	third-level (n=72)	4.14±0.54	4.11±0.61	4.04±0.69	4.00±0.72	3.93±0.75	4.04±0.51
	fourth-level (n=29)	4.22±0.45	3.92±0.60	3.89±0.50	4.06±0.58	3.91±0.76	3.99±0.44
	Value F	0.173	1.127	1.574	0.250	0.330	0.470
	Value P	0.915	0.339	0.197	0.861	0.804	0.704
<b>With other disease</b>	Yes (n=56)	4.31±0.42	3.99±0.63	3.98±0.66	3.79±0.77	3.97±0.70	4.00±0.51
	No (n=138)	4.11±0.57	4.02±0.64	4.01±0.63	4.07±0.57	3.88±0.78	4.00±0.53
	Value t	2.757	-0.299	-0.347	-2.431	0.768	-0.067
	Value P	0.007	0.765	0.729	0.017	0.443	0.946

Item	Group	Law and policy	Rehabilitation service information	Development skills	Professional guidance	Parents' psychology	Total needs
<b>Living place</b>	living with parents (n=121)	4.25±0.51	4.10±0.61	4.14±0.56	4.08±0.60	4.06±0.68	4.13±0.44
	not living with parents (n=73)	4.03±0.55	3.86±0.66	3.76±0.69	3.83±0.69	3.64±0.82	3.81±0.58
	Value t	2.740	2.585	4.023	2.590	3.757	4.035
	Value P	0.007	0.010	0.000	0.010	0.000	0.000
<b>Rehabilitation training</b>	No (n=92)	4.16±0.53	4.03±0.67	4.10±0.57	4.05±0.51	4.01±0.66	4.07±0.47
	Yes (n=102)	4.17±0.54	3.99±0.60	3.91±0.69	3.92±0.74	3.81±0.84	3.95±0.57
	Value t	-0.155	0.437	2.088	1.445	1.840	1.669
	Value P	0.877	0.663	0.038	0.150	0.067	0.097
<b>Father's education level</b>	not superior to primary school (n=27)	4.19±0.58	4.05±0.63	4.06±0.59	3.98±0.42	4.00±0.72	4.05±0.50
	middle school (n=121)	4.15±0.53	3.97±0.66	3.95±0.66	3.93±0.70	3.84±0.74	3.96±0.53
	not inferior to university level (n=46)	4.19±0.52	4.09±0.58	4.10±0.61	4.14±0.57	4.01±0.83	4.10±0.52
	Value F	0.099	0.731	1.137	1.950	1.100	1.434
<b>Mother's education level</b>	not superior to primary school (n=55)	4.11±0.55	4.03±0.60	3.96±0.63	3.91±0.68	3.89±0.72	3.97±0.52
	middle school (n=123)	4.21±0.55	3.99±0.67	4.01±0.65	4.00±0.63	3.92±0.76	4.02±0.53
	not inferior to university level (n=16)	4.07±0.29	4.04±0.46	4.08±0.60	4.11±0.66	3.82±0.93	4.02±0.52
	Value F	0.953	0.079	0.215	0.713	0.126	0.156
<b>Parents' marriage status</b>	Complete (n=143)	4.20±0.52	4.02±0.65	4.03±0.63	4.02±0.65	3.91±0.75	4.03±0.51
	Divorced (n=51)	4.09±0.57	3.97±0.60	3.92±0.65	3.89±0.64	3.88±0.80	3.94±0.55
	Value t	1.286	0.504	1.011	1.205	0.275	1.014
	Value P	0.200	0.615	0.315	0.230	0.784	0.312
<b>Household registration type</b>	Urban registration (n=95)	4.17±0.52	4.01±0.65	3.97±0.65	3.98±0.70	3.78±0.83	3.97±0.55
	Rural registration (n=99)	4.17±0.55	4.00±0.62	4.03±0.63	3.99±0.59	4.02±0.67	4.04±0.50
	Value t	0.067	0.116	-0.741	-0.025	-2.166	-0.945
	Value P	0.946	0.908	0.459	0.980	0.032	0.346
<b>Family annual total income (ten thousand Yuan)</b>	1=<2 (n=72)	4.29±0.53	4.07±0.60	4.11±0.54	4.09±0.48	4.06±0.61	4.12±0.41
	2=2~<5 (n=78)	4.11±0.57	4.02±0.67	4.01±0.65	3.97±0.68	3.89±0.76	3.99±0.57
	3=5~10 (n=31)	4.12±0.46	3.85±0.64	3.74±0.74	3.70±0.78	3.70±0.93	3.81±0.58
	4=>10 (n=13)	3.96±0.38	3.92±0.64	3.98±0.70	4.17±0.72	3.62±0.93	3.92±0.55
	Value F	2.264	0.962	2.565	3.089	2.385	2.874
	Value P	0.082	0.412	0.056	0.028	0.071	0.037
<b>Filler</b>	parent (n=111)	4.22±0.50	4.05±0.60	4.10±0.57	4.05±0.60	3.97±0.69	4.07±0.45
	non-parent (n=83)	4.10±0.57	3.95±0.68	3.86±0.71	3.90±0.70	3.81±0.85	3.91±0.60
	Value t	1.608	1.050	2.525	1.534	1.354	2.076
	Value P	0.109	0.295	0.013	0.127	0.178	0.040

**C. Analysis on the factors affecting the educational needs of parents having school-aged children with cerebral palsy and autism**

A multiple linear stepwise regression analysis is conducted, taking the scores of total parental education

needs and the need of each dimension as the dependent variables, and taking the children's gender (assignment: 1 = male, 2 = female), age (assignment: 1 = < 6 years old, 2 = 6 ~ 12 years old, 3 = > 12 years old), disease diagnosis (assignment: 1 = cerebral palsy, 2 = autism),

disability level (assignment: 1 = first level, 2 = second level, 3 = third level, 4 = fourth level), having other disease or not (assignment: 1 = yes, 2 = no), living place (assignment: 1 = living with parents, 2 = not living with parents), having received rehabilitation training or not (assignment: 1 = yes, 2 = no), parents' education level (assignment: 1 = not superior to primary school, 2 = middle school, 3 = not inferior to university level), parents' marriage status (assignment: 1 = divorced, 2 = complete), household registration (assignment: 1 = urban registration, 2 = rural registration), annual family income (assignment: 1 <20,000 Yuan, 2 = 2 to <50,000, 3 = 5 to 100,000, 4 >100,000, in Yuan), filler (assignment: 1 = parent, 2 = non-parent) as the independent variables. The results show as follows: living with parents or not, having

other disease or not and annual family income are the factors affecting the score of "the legal and policy needs"; disease diagnosis is the factor affecting the score of "the information need of rehabilitation services" and the score of "parents' psychological construction and growth needs"; disease diagnosis, mother's education level and living with parents or not are the factors affecting the score of "children's needs of physical and mental development and parenting skills" and the score of "the total parental education needs of parents having school-aged children with cerebral palsy and autism"; disease diagnosis, having other disease or not and mother's education level are the factors affecting the score of "the professional guidance and professional cooperation needs" (value  $P < 0.05$ , see "Table III").

TABLE III. MULTIPLE LINEAR STEPWISE REGRESSION ANALYSIS ON THE FACTORS AFFECTING THE EDUCATIONAL NEEDS OF PARENTS

item	factor	B	SE	95%CI	Value t	Value P
legal and policy	living place	-0.199	0.077	(-0.351,-0.046)	-2.576	0.011
	other disease	0.221	0.082	(0.060, 0.382)	2.707	0.007
	annual family income	-0.088	0.042	(-0.171,-0.005)	-2.099	0.037
rehabilitation service information	Constant	4.326	0.162	(4.007,4.644)	26.763	0.000
	disease diagnosis	0.316	0.089	(0.141,0.491)	3.556	0.000
	Constant	3.526	0.142	(3.245,3.807)	24.749	0.000
development skills	disease diagnosis	0.469	0.093	(0.285,0.652)	5.047	0.000
	mother's education level	0.163	0.074	(0.017,0.310)	2.196	0.029
	living place	-0.205	0.094	(-0.390,-0.020)	-2.190	0.030
professional guidance	Constant	3.274	0.280	(2.722,3.825)	11.711	0.000
	disease diagnosis	0.331	0.091	(0.153,0.510)	3.657	0.000
	other disease	-0.270	0.097	(-0.462,-0.078)	-2.776	0.006
parents' psychology	mother's education level	0.159	0.079	(0.003, 0.315)	2.005	0.046
	Constant	3.542	0.259	(3.031,4.053)	13.675	0.000
	disease diagnosis	0.642	0.100	(0.445,0.838)	6.446	0.000
total needs	Constant	2.923	0.160	(2.608,3.239)	18.286	0.000
	disease diagnosis	0.384	0.076	(0.234,0.534)	5.048	0.000
	living place	-0.172	0.077	(-0.324,-0.021)	-2.244	0.026
	mother's education level	0.124	0.061	(0.004,0.244)	2.033	0.043
	Constant	3.433	0.229	(2.981,3.885)	14.979	0.000

**IV. DISCUSSION**

*A. Analysis on the status of educational needs of parents having school-aged children with cerebral palsy and autism*

The survey results show that the scores of the five dimensions of educational needs of parents having school-aged children with cerebral palsy and autism are all high; this indicates that the needs are extensive and urgent. This result is similar to the findings of Gu

Changfen and et al's research [1]. Among the five dimensions, "the legal and policy needs" gets the highest score, and "parents' psychological construction and growth needs" gets the lowest score. This shows that parents of children with cerebral palsy and autism rank their child-related needs first and their own needs the last. This is more in line with the traditional Chinese thought: parents can do everything for their children; Chinese are implicitly reluctant to reveal their own psychology and unwilling to seek understanding and comfort from others. Parents urgently need to understand the laws and policies related to their

children. The first consideration is how to obtain relevant legal protection and future employment security for their children, as well as the current education assistance and relevant medical, rehabilitation, and life security policy information. This reflects that parents concern about the attitude of the state and government to special children, and also reminds that relevant departments should strengthen the interpretation of relevant laws and regulations and policies to parents and implement these policies and regulations in practice.

*B. Analysis on the score differences of educational needs of parents having school-aged children with cerebral palsy and autism and different characteristics*

As shown in "Table II", for school-aged children with cerebral palsy and autism at different ages, boys' parents have significantly higher parental educational needs than girls' in aspect of "children's needs of physical and mental development and parenting skills". This result is similar to the previous research results [7] [12]. This indicates that special children's family is like normal children's family, as they both have higher expectations for boys than girls. Parents concern more about the future development of boys and hope to discover and develop the potential of boys so that they can have skills for living in the future and can live independently at least.

In terms of different ages, parents of children aged not more than 12 years old have significantly higher parental education needs in "children's needs of physical and mental development and parenting skills", "parents' psychological construction and growth needs", and "total needs" than parents of children aged more than 12 years old (value  $P < 0.05$ ). The results of the study by Chen Xiaomeng and et al [13] also show that the scores of children at lower grades were higher than those at higher grades in aspect of parents' needs of knowledge and skills for parenting their children. As is known to all, the younger the age is, the greater the plasticity of children will be; the greater the parents hope for their children in the future, and the greater their needs will be; they hope to help their children give full play to their best potential through various efforts. This process is not only difficult, tortuous, and long, but may also obtain not that satisfactory result. Parents need to learn how to seek professional psychological counseling and services, how to relieve negative emotions and stress, and how to discuss with others the problems encountered in their family.

For school-aged children with cerebral palsy, their parents' total needs and needs in all the five dimensions for parental education are both significantly lower than parents of school-aged children with autism (the values  $p$  are both less than 0.05). This result is the same as the

previous research results [9] [13]. It may be related to the characteristics of the child's disease. Although children with cerebral palsy are often accompanied by sensory perception, cognitive communication and behavioral barriers, compared with children with autism, their illness degree is generally lower and they are easier to interact with people, and have better education and rehabilitation effects. At the same time, the current medical methods and means for rehabilitation of cerebral palsy have been relatively mature, while in-depth study on autism is relatively short-term; the cause of autism is unknown; there is no definite clinical standard; and effective interventions are still under exploration [14]. For most people, autism is still an unfamiliar disease, and people have limited understanding and acceptance of it [15]. Parents of children with autism bear significantly more stress than those of children with other disabilities including cerebral palsy [16] [17]. Therefore, parents of children with autism have higher need for parental education.

In "the legal and policy needs", parents of school-aged children with cerebral palsy and autism and also with other diseases such as congenital heart disease and epilepsy have significantly higher parental education need than those of children without other diseases ( $P < 0.05$ ); but in "the professional guidance and professional cooperation needs", they have significantly lower parental education need than those of children without other diseases ( $P < 0.05$ ). This indicates that parents want to know whether there are more preferential treatment and care for children with cerebral palsy and autism and also with other diseases in aspect of policies and regulations; but when children also have other diseases, parents will be more distressed and afraid that the rehabilitation and education may aggravate the child's condition, increase the child's burden; meanwhile, their future expectations for the child maybe lower, and the demand for education will decline accordingly.

For children living with parents, their parents' total needs and needs in all the five dimensions for parental education are both significantly lower than parents of children not living with parents ( $P < 0.05$ ). For children living with their parents, the parents intrinsically concern about their children very much, and they will never give up on their children, and hope to spend more time and opportunities in accompanying, taking care of and educating their children, and helping children's rehabilitation; hence, their total needs and needs in all the five dimensions are both high. Of course, some children do not live with their parents for many reasons. Although their parents may also love their children very much and want to take care of and help the children personally, their time and energy are limited; so their needs in the dimensions are relatively low.

For school-aged children with cerebral palsy and autism who have received rehabilitation training, their parents' parental education need in "children's needs of physical and mental development and parenting skills" is significantly lower than parents of those who haven't received rehabilitation training ( $P < 0.05$ ). The cause may be as follows: on the one hand, parents obtained more useful information and support through communication with professionals during their children's rehabilitation training [18], such as how to treat children's defects, how to deal with children's problematic behaviors, how to shape the child's positive behavior and how to care for the child at home; on the other hand, through the training, parents may find that the effect is not satisfactory and have lowered confidence in the training.

In "parents' psychological construction and growth needs", the parents of rural children with cerebral palsy and autism have significantly higher parental education need than those of urban children ( $P < 0.05$ ), which is consistent with the results of studies by Chen Xiaomeng et al. [13]. The cause may be because parents in rural area have few accesses to acquire information and knowledge and people have limited cognition and acceptance on children with cerebral palsy and autism and their families may face greater pressure from the outside. Therefore, such parents need more to learn how to relieve negative emotions and stress, how to seek professional counseling and services, and how to discuss the encountered problems with others.

For the group of parents with annual family income less than 20,000 Yuan, their total needs and the "the professional guidance and professional cooperation needs" are significantly higher than that of the group of parents with annual family income more than 20,000 Yuan and less than 100,000 Yuan. This result is basically the same as the research result of Guo Wenbin [14] and indicates that when the annual economic income of a family is within 100,000 Yuan, the lower the income is, the higher the parental education need of the family will be; when the annual income of a family is more than 100,000 Yuan, the family's parental education need will rise in "the professional guidance and professional cooperation needs". This shows that, when the family's economic level is high, parent also have high need of parental education on how to conduct rehabilitation training at home for their child and how to provide education and guidance for their child in coordination with professionals.

If the fillers are parents of the children, then the parents' total needs and "children's needs of physical and mental development and parenting skills" are significantly higher than those of other parents ( $P < 0.05$ ). This result is consistent with the research results of Gu Changfen et al. [1] and also in line with common sense, indicating that parents care more about

their children and their children's future than other caregivers.

*C. Analysis on the factors affecting the educational needs of parents having school-aged children with cerebral palsy and autism*

The research results show that the diagnosis of children's diseases has a positive prediction effect on the total needs as well as the information needs of rehabilitation services, children's needs of physical and mental development and parenting skills, the professional guidance and professional cooperation needs, and parents' psychological construction and growth needs; whether children have other diseases or not has a positive prediction effect on the legal and policy needs and a negative prediction effect on the professional guidance and professional cooperation needs; children's living place has a negative prediction effect on the total needs as well as the legal and policy needs and children's needs of physical and mental development and parenting skills; annual family income has a negative prediction effect on the legal and policy needs; mother's education level has a positive prediction effect on the total needs as well as children's needs of physical and mental development and parenting skills and the professional guidance and professional cooperation needs. It is indicated that parents of children with autism have higher total needs of parental education as well as the information needs of rehabilitation services, children's needs of physical and mental development and parenting skills, the professional guidance and professional cooperation needs, and parents' psychological construction and growth needs than that of children with cerebral palsy; parents of children also having other diseases has higher professional guidance and professional cooperation needs than those of children having no other disease; for children living with parents, their parents' education needs in the legal and policy needs, children's needs of physical and mental development and parenting skills and total needs are higher than those of children not living with parents; parents of family with high annual income has lower education needs in the legal and policy needs than those with low annual income; the higher the mother's education level is, the higher the total needs for parental education and needs in children's needs of physical and mental development and parenting skills and the professional guidance and professional cooperation needs will be. Relevant personnel are suggested to provide targeted parental education based on the children's disease diagnosis, whether they also have other diseases, whether they live with their parents or not, the family's annual income, and the mother's education level.

## V. CONCLUSION

The educational needs of parents having school-aged children with cerebral palsy and autism are very extensive and urgent; for children at different status (gender, age, diagnosis, household registration, living with parents or not, also having other disease or not, having received rehabilitation training or not, annual family income and the filler), their parents' may need different content and different extent of parental education deeds; children's disease diagnosis, also having other disease or not, living with parents or not, mother's education level and annual family income are the factors affecting the scores of the total needs of parental education and/or some dimensions. It is suggested relevant personnel carry out and strengthen targeted parental education services for parents of school-aged children with cerebral palsy and autism based on children's different characteristics and the factors affecting parental education needs, so as to promote the rehabilitation of children and reduces the stress of the parents.

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