Journal of Exceptional People

2019 – Volume 2; Number 15

Institute of Special Education Studies
Faculty of Education – Palacký University Olomouc

Journal of Exceptional People
Volume 2, Number 15, 2019, published in November 2019

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Publisher
Published and printed by Palacký University Olomouc
Křížkovského 8, 771 47 Olomouc

Journal Website: http://jep.upol.cz/

ISSN 1805-4978 (Print)
ISSN 1805-4986 (Online)
Reg. č. MK ČR E 20769

Journal of Exceptional People
An International Journal for Education and Special Studies

Editor Pavel Svoboda
Volume 2
Number 15
2019

Journal of Exceptional People is indexed in:
- List of non-impact peer-reviewed journals (Council for Research, Development and innovation, Czech Republic)
- ERIH Plus (The European Reference Index for the Humanities and the Social Sciences)
- Ulrich's Periodicals Directory (UlrichsWeb)
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BOOK REVIEWS

Introduction

Dear readers,
you are just opening an autumn issue of our magazine which is focused on publishing of interesting articles concerning the life of people with social or health handicap. Our editorial staff therefore welcomes and collects contributions from all over the world. We try to succeed in strong competition of similarly focused magazines and we are convinced that we are successful at it. We are happy to receive every well-written summarizing study, essay, news of realized research or "only" review of an interesting book on a special pedagogical subject matter. We are therefore offering you a range of articles concerning a whole spectrum of special pedagogy. We believe that our magazine can be found interesting not only by experts but also by laymen who are partly interested in this subject matter.

The current issue of Journal of Exceptional People (JEP) is introduced by an arcticle that was written by Nigerian authors dealing with oral motor coordination. This study investigated the efficacy of oral motor exercise (OME) on tongue co-ordination rate and laryngeal airflow of children with tongue thrust. (O. A. Dada, T. A. Amodu). The next article is focused on a study on family quality of life in caregivers of children with autism spectrum disorder (ASD) and its influencing factors which we got from our colleague X. Lei, an contributor from Chinese *College of the Special Education, Leshan Normal University.*

Other Chinese authors Y. Li and X. Y. Li deal with the issue of *Hearing-impaired senior high schools students* in the context and also with *Non-supportive social response.* Their study summarizes pieces of knowledge from research realized in south--east part of China.

A following article deals with inclusive education in Cameroon and Indonesia. It is an summarizing *overview essay* which was sent to us by its author L. Guo. Another contribution is an article written by four Czech special pedagogues M. Ptáčková,

K. Lukášová, L. Krejčová and H. Karunová who inform us about thoroughly realized research focused on the issue of dyslexia. Their paper presents a comparison of psychological and special-educational evaluation of adult university students/university alumni with dyslexia and without it. Another Czech author M. D. Polínek is also a contributor of the 15th issue of JEP. In his first article he concerns with the risks of bullying which cyberspace brings and he also sent us an interesting case study concerning theatrotherapy which is applied to the group of people with autism spectrum disorder (ASD) – Asperger syndrome (AS).

At the very end of our magazine you can find two reviews of technical books with special pedagogical subject matter. One of them is called *Visual impairment: behavioral approaches to education with aids* by a Czech author P. Beneš and another one called *When nothing matters anymore: a survival guide for depressed teens* was written by B. Cobain. This author is a cousin of a well-known guitarist and singer K. Cobain who suffered from depression and committed suicide at the age of 27. Above mentioned books were recommended by special pedagogues of Palacký University Olomouc (Czech Republic) L. Flekáčová and T. Hloušková.

At the end of each issue of JEP we print information for authors of contributions that concerns both form and content of their potential articles. We did it also in this issue. Have pleasant days and enjoy reading. We believe that you will find "your" articles also in this issue.

Pavel Svoboda, executive editor of JEP
Olomouc, October 4, 2019

Efficacy of oral motor exercise on tongue coordination and laryngeal airflow of children with tongue thrust

(scientific paper)

Oluseyi Akintunde Dada, Temitope Adebisi Amodu

Abstract: *Tongue thrust is a serious speech disorder that disturbs learning, leads to poor communication, involuntary control of oral movement, poor feeding, excessive drooling and swallowing. The adverse impact of this disorder demands a therapy to help the vulnerable child particularly where machine is not available. This study therefore investigated the efficacy of oral motor exercise (OME) on tongue coordination rate and laryngeal airflow of children with tongue thrust. A sample of fourteen (14) children was assigned to experimental and control groups for the investigation. The pre-test, post-test control experimental design was used for the study. Eight (8) participants were in the experimental group, while six (6) participants were in the control group. The treatment exercise took eight weeks of intensive oral motor exercise for the experimental group and normal word drill for the control. Data was collected using speech disorder diagnostic scale. The scale was validated and inter-rated by the two researchers with reliability co-efficient of .88 obtained from Scott's pi (π). The data collected were analyzed using ANCOVA. Findings of the study indicated that oral motor exercise was significantly effective in improving tongue coordination rate and laryngeal airflow. It was therefore recommended that speech therapist should be re-trained to use OME for children with tongue thrust and the clinic be equipped with OME facilities.*

Keywords: *tongue thrust, oral motor exercise, tongue coordination, laryngeal airflow*

1 Introduction

The appearance of a child with tongue thrust is characterised by a low muscle tone in lips and cheeks, breathing through the open mouth, incorrect speech sound production, dental abnormalities, weak tongue muscle, excessive drooling, poor swallowing and feeding habits. In most cases, the person with tongue thrust shows speech distortion, particularly a frontal lisp in which the tongue lies flat in the mouth against or between the teeth. Tongue thrust therefore is a disorder which is generally going with inappropriate capacity of the muscles of the tongue, lips, jaw and face. This often leads to a low forward resting posture of the tongue and upper lips. The fundamental problems that occur are connected to abnormal orofacial functions and postures. These connecting problems are many and must be attended to in order to prevent impairment of the dental arches (Masson, 2005).

From the researcher and clinical understanding tongue thrust occurs when the tongue goes forward in a detailed way amid discourse or potentially gulping. The tongue has the tendency to lie flat, too far ahead amid rest or project between the upper and lower teeth during swallowing, speech which indicates that there is low muscle tone of the tongue. Tongue thrust also has the ability to affect oral/facial muscles development/functions, dentition and oral health, appearances and speech. For this study, however, the concentration is on tongue coordination and laryngeal flow of children with tongue thrust.

Prevalence rate of tongue thrust reveals that it occurs in nearly all new-borns. About half of the children in the first grade could suffer from tongue thrust. However, the prevalence can be decreased gradually through early childhood intervention but is fairly constant in adolescent and adulthood. Statistically, around 30–40% of individuals in the human population have tongue thrust (Hanson & Mason, 2003). The symptoms of tongue thrust in youngsters varied to a great extent as far as clinical introduction, etiology, seriousness, multifaceted nature, and consequences for everyday living (Arvedson et. al, 2007). These disarranges extend from transitory formative to multidimensionality (America Speech Language, 2007; Prasse & Kikano, 2009). For instance, tongue thrust is normal in youngsters with an assortment of etiologies that incorporate, but not constrained to, cerebral paralysis (CP), separated lip and sense of taste, hereditary disorders, for example Down disorder, and craniofacial abnormalities. These clutters could likewise influence numerous parts of the sustaining, gulping and discourse process.

Tongue thrust might negatively affect the speech production in children, coordination of the articulators, open mouth posture, tongue coordination rate and laryngeal air flow in children. These difficulties could manifest into poor speech intelligibility and inappropriate oral production (Bahr, 2001). Tongue thrust could also manifest into formation of deficient bolus, deficient or ungraceful back exchange of a bolus through the oral cavity, utilization of superfluous facial muscles for the way toward starting a swallow, and additionally in the forward tongue development amid or quickly accompanying the swallow. This disorder has serious adverse effect on the speech of the vulnerable. The poor speech production is not only seen as a serious social problem but also has a terrible effect on academics or educational development of a child. This therefore demands for urgent intervention to arrest the menace.

Tongue thrust can be treated with therapies like electropalatography (EPG), word drills, and oral motor exercise, but for this study the researcher focus on oral motor exercise as a technique used for speech therapy for children speech disorder. Electropalatography is a technique that is used to monitor contact between the tongue and hard palate during articulation and speech production; it has the potential of habilitating non speech orofacial myofunctional disorder. However the use of electropalatography is not common in Nigeria because of cost related imperatives. These palates are exceptionally costly and must be fabricated for every youngster, their time of utilization is likewise constrained in light of the fact that kids outgrow it, and access to these techniques is limited and can only be found in a few centres. Tongue thrust is also treated with the use of word drills by making an individual with this disorder to repeat words in many times. The oral motor exercise is also effective but its recommendation was controversial on the basis of its effectiveness.

Recent surveys in the US, Canada, and Great Britain (Hodge, Salonka & Kollias, 2005; Lof& Watson, 2008) recommend that oral engine practices should be broadly utilized for tongue thrust. Indeed, an extensive greater part of study respondents (> 70% in each of these three reviews) posited that they made use of oral machine drill. Experience shared by discourse dialect pathologists in the two North American overviews also gave the accomplishment of enhanced discourse creation, expanded attention to the articulators, reinforcing of mouth muscles and laryngeal air flow. As indicated by information gathered from the American Speech-Language and Hearing Association (ASHA, 2005), 70% of preschool kids with tongue thrust who got oral engine practice treatment showed enhanced ability to understand and produce speech. As good as this intervention is, the cost implication and the technical know-how is a big challenge in Nigeria. This is why the efficacy of the oral motor exercise on the tongue coordination and laryngeal air flow is worth investigation. Powell (2008) have confidence in confirm based practice and along these lines trust that Speech-Language Pathologists (SLPs) need to fuse prove based practice (EBP) so as to keep up the most noteworthy, most current models in their practices in the clinic.

It is against this background that the researchers considered it necessary to critically understand how oral motor exercise enhance stongue coordination rate and laryngeal air flow for children with tongue thrust, this study investigated the effects of oral motor exercise on tongue articulation and laryngeal flow of children with tongue thrust.

2 Statement of Hypotheses

Two null hypotheses were formulated and tested at .05 to guide the study. They are:

1. Oral motor exercise is not significantly effective in enhancing tongue coordination of children with tongue thrust.
2. There is no significant effect of oral motor exercise in enhancing the laryngeal air free flow for children with tongue thrust.

3 Method

The research design proposed for this study was a pretest–posttest, control experimental design. The experimental group was exposed to OME while the control group was allowed to use conventional speech therapy (word drills) as placebo. The study involved enhancing tongue coordination rate and laryngeal air flow of children with tongue thrust. The study was carried out in Igbobi Orthopaedic, LASUTH, and Psychiatric Hospital for children and adolescent all in Lagos State, Nigeria. The three selected hospitals used for this study were selected based on the fact that they are the major public hospitals that provide speech therapy services for children with tongue thrust in Lagos state. The study assumed that OME accounted for any significant enhancement in the tongue coordination rate and laryngeal air flow of the participants in the study hence any other moderator or intervening variable is held constant.

A sample of 14 participants was purposively selected comprising of 6 and 8 in the control and experimental group respectively. The instrument used for this study was Speech Disorder Diagnostic Scale (SDDS) developed by the researcher and validated by three experts in the field of speech and language pathology. SDDS is an observational rating scale to obtain the speech functioning of children with tongue thrust. The reliability of the instrument was obtained through trial testing by the two researchers for inter rate observation of five (5) children (clients) from Lagos State University Teaching Hospital. Their ratings were correlated using Pearson moment correlation. The result gives a correlation coefficient of .88 indicating that the instrument is reliable.

Permission was obtained to carry out this study from the three centres and from the parents of the participants. Parents of the participants were adequately informed of the purpose of the research work, the importance of the research to them and a promise that all personal information will be kept confidential. A consent form was given to the parent of the participants to attest their permission for the study. Four (4) research assistants were trained and used for the investigation. The speech therapist observed the children speech baseline through the instrument to ascertain the level of speech functioning of the participants as the pretest. The treatment was given to the experimental group for six (6) weeks. The treatment was done as outlined in the treatment package. The participants were exposed to treatment in 3 days per week to ensure intensiveness of the therapy. The therapy took 40 minutes per each day for each participant. After the last therapy, the participants were observed for post treatment assessment, which was a repetition of the pre-test that was carried out before treatment in order to determine the effectiveness of the OME on the participant's tongue coordination rate and laryngeal air flow. The data collected from the study was analyzed using ANCOVA to test the null hypotheses stated at .05 level of significance.

4 Results

The results of the data analyses from which the findings are drawn are presented according to the stated hypotheses. The descriptive analysis of the variables of the post-test mean and standard deviation of the variables with respect to the participant groups are as shown in Table 1. The results showed that the oral motor exercise was very effective as it revealed a clear difference in the post treatment mean scores of the experimental (which were all higher) and control participants in the study.

Table 1: *Descriptive analysis of the post-test mean and standard deviations of the variable*

Variable	Group	Participant Groups	Mean	Std. Dev
Tongue Coordination	Treatment Group	10.88	.64	8
	Control Group	5.17	1.72	6
	Total	8.43	3.16	14
Air Flow	Treatment Group	10.50	1.51	8
	Control Group	5.00	1.26	6
	Total	8.14	3.13	14

Hypothesis 1: Oral motor exercise is not significantly effective in enhancing tongue coordination of children tongue thrust.

Table 2 revealed that at the $df_{(1, 12),}$ the $F\text{-}_{value} = 78.89$ and $p < .05$ against the data collected with respect to tongue coordination. The implication of the result is that the null hypothesis was rejected. Therefore the finding with respect to the alternative hypothesis was that oral motor exercise was significantly effective in enhancing tongue coordination of children with tongue thrust. The adjusted R^2 of .861 implies that the oral motor exercise treatment accounted for about 86.1% of the enhancement of the open mouth posture in the children. This showed the oral motor exercise is very efficacious in the enhancement of tongue coordination of children with tongue thrust.

Table 2: *ANCOVA of the effect of oral motor exercise on tongue coordination of children with tongue thrust*

Source	Type III Sum of Squares	df	Mean Square	F-rato	P-level
Corrected Model	114.19[a]	2	57.093	41.20	.000
Intercept	25.59	1	25.59	18.47	.001
Pretest	2.47	1	2.47	1.78	.209
Group	78.89	1	78.89	56.93	.000
Error	15.24	11	1.39		
Total	1124.00	14			
Corrected Total	129.429	13			

Note: [a] – R Squared = .882 (Adjusted R Squared = .861)

Hypothesis 2: Oral motor exercise is not significantly effective in enhancing free air flow of children with tongue thrust.

Table 3 revealed that at the $df_{(1, 12),}$ the $F\text{-}_{value} = 55.54$ and $p < .05$ against the data collected with respect to free air flow. This result also showed that the null hypothesis was rejected. Therefore the finding with respect to the alternative hypothesis was that oral motor exercise was significantly effective in enhancing free air flow of children with tongue thrust. The adjusted R^2 of .818 implies that the oral motor exercise treatment accounted for about 81.8% of the enhancement of the free air flow in the children. This showed the oral motor exercise is very efficacious in the enhancement of free air flow of children with tongue thrust.

Table 3: *ANCOVA of the effect of oral motor exercise on free air flow of children with tongue thrust*

Source	Type III Sum of Squares	df	Mean Square	F-ratio	P-level
Corrected Model	108.03[a]	2	54.01	30.18	.000
Intercept	16.05	1	16.05	8.97	.012
Pretest	4.32	1	4.32	2.41	.149
Group	55.54	1	55.54	31.04	.000
Error	19.69	11	1.79		
Total	1056.00	14			
Corrected Total	127.71	13			

Note: [a] – R Squared = .846 (Adjusted R Squared = .818)

5 Discussion of Findings

Oral motor exercise and tongue coordination

The finding with respect to the first hypothesis which states that oral motor exercise is not significantly effective in enhancing tongue coordination of children with tongue thrust is rejected and the alternative hypothesis is taken. This implies that oral motor exercise is significantly effective in enhancing tongue coordination of children with tongue thrust. The post treatment mean scores of the experimental and control groups revealed this finding. Again, the ANCOVA result showed that the mean difference between the experimental and control scores are significant while the adjusted R^2 also indicated that the oral motor exercise contributed very well to the improvement observed in the tongue coordination. This finding is related to the finding of Morrins and Dun-Klein (2000) that non-speech oral motor exercise is a better means of enhancing mouth and tongue muscles for speech. A unique implication from this study is that OME is more effective in enhancing tongue coordination than the mouth coordination for speech production. So, except with careful observation, one can easily conclude wrongly that there is equal improvement in the mouth and the tongue coordination.

Oral motor exercise and laryngeal air flow

The finding with respect to the hypothesis two which states that oral motor exercise is not significantly effective in enhancing free air flow of children with tongue thrust was also rejected and the alternative hypothesis upheld. This implies that oral motor exercise is significantly effective in enhancing free air flow of children with tongue thrust. The post treatment mean scores of the experimental and control groups also justified this finding. The ANCOVA result showed that the difference between the experimental and control mean scores are significant while the adjusted R^2 also indicated that the oral motor exercise contributed very highly to the improvement observed in the open mouth posture. This finding is in line with the finding of Lof (2006) that the laryngeal free air flow is better improved by the non-speech motor therapy.

Recommendations

The following recommendations were made from the findings of the study

1. Government of Nigeria should re-retrain speech therapist on the combination of OME and other speech therapies for optimum treatment of speech disorder in children with OMD as alternative therapy where sophisticated machines are available.
2. Nigerian government should also made available oral machine therapy and other needed facilities to improve the service provision for children with speech and language disorder.

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Study on family quality of life in caregivers of children with ASD and its influencing factors

(scientific paper)

Xianmei Lei

Abstract: *This study was aimed to identify quality of family life in caregivers of children with autism spectrum disorder (ASD) and its influencing factors. A total of 165 caregivers parenting a child with ASD from Sichuan province in China were investigated by the Chinese version of Beach Center Family Quality of Life Scale to assess five domains: family interaction, parenting, emotional well-being, physical/material well-being, and disability-related support. Results indicated that the caregiver's satisfaction on quality of family life was at the medium level. Caregivers felt the most satisfied with family interaction and the least satisfied with family physical/material well-being. The multiple linear regression analysis revealed that quality of family life was affected by caregiver's employment status, place of residence, monthly income, and income and expenditure situation. The findings of the study highlight the need for social support to enhance quality of family life in caregivers of children with ASD, which would be finally benefit to children in the families.*

Keywords: *caregivers of children with ASD, quality of family life, influencing factors*

1 Introduction

Autism spectrum disorder (ASD) was defined as neurodevelopmental disorder that is characterized by persistent impairment in reciprocal social communication and social interaction, and restricted, repetitive patterns of behavior, interests, or activities (APA, 2013). As a permanent developmental disorder, it will bring lifelong challenges to individuals (Hendricks, & Wehman, 2009). Families play a key role throughout the lifespan of individuals with ASD. However, families of children with ASD are more likely to suffer from depression than families of children with other disabilities, and they may also have a heritable vulnerability for depression (Tonge, Brereton, Kiomall, et al., 2006). Consequently, families raising a child with ASD are under stress that may impact their quality of family life, which in turn make against to the development of children with ASD.

Researches about quality of family life originated from quality of individual life. With the deepening of people's understanding on the importance of family to children's physical and mental development, more attention has turned to quality of family life in recent years. Quality of family life is defined as occurring when the family's needs are met, family members enjoy their life together as a family, and family members have the opportunity to pursue and achieve outcomes that are important to their happiness and fulfillment (Turnbull, Turnbull, Poston, et al., 2004). Luo (2014) reported a middle and lower level of satisfaction on quality of family life after surveying 90 caregivers of children with autism from Chengdu in Sichuan province with a self-designed questionnaire. Li (2016) also reported a middle and lower level of satisfaction on quality of family life of 211 caregivers of children with ASD, as measured by the Chinese version of Beach Center Family Quality of Life Scale. She also found four influencing factors of quality of family life, namely family atmosphere, parents mentality, children's problem, and social support. While Ma (2014) found that quality of family life of parents of children with autism was at lower level, and was affected by children's gender, the time of illness, parents work or not, parents' educational level, income, and living condition. In addition, Bayat (2005) found a significant relationship between each variable: child's age, income, depression, perceptions of positive contributions of autism and the variable: family quality of life. Schlebusch, Dada, & Samuels (2017) conducted a survey with 180 families of children with ASD in South Africa with the Beach Center Family Quality of Life Scale and found that family income, family type, and the severity level of autism were significantly associated with how satisfied families felt about their quality of life. It can be found from these existing researches that families of children with ASD had lower level of quality of family life, and the quality of family life was associated with child's characteristics and family's characteristics.

Although research on quality of life of families of children with ASD has become more common, it remains underdeveloped in developing countries like China. Considering having a child with ASD places a number of burdens on the shoulders of the caregivers, more researches should be conducted to further examine the quality of life of families with children with ASD. The focus of the current study was to survey quality of family life of children with ASD and identify its influencing factors, hoping to help improving quality of family life of children with ASD, and then create a better family environment for the development of children with ASD.

2 Method

2.1 Participants

The study focused on quality of life of families raising a child with ASD. The study followed the age criteria set by UNCRC that defines children as the period from birth to 18 years old. So the families raising a child with ASD under 18 years old had been recruited in this study. Finally, 165 families of children with ASD from Chengdu, Mianyang, Deyang, Leshan, and Bazhong of Sichuan province were surveyed in this study. As reported in Table 1, the participating families have child mostly males (n = 110, 67.10%), and others are females (n = 54, 32.90%). The children ranged in age from 2 to 17 years (M = 9.77, SD = 2.969), and severity level from mild (n = 28, 17.10%), moderate (n = 59, 36.00%), severe (n = 65, 39.60%), to very severe (n = 12, 7.30%). The participants were largely married or living with a partner (n = 140, 85.40%), and the others were divorced, separated, or widowed (n = 24, 14.60%). Most participants were unemployed (n = 76, 46.60%), others had full time jobs (n = 59, 36.20%), part time jobs (n = 16, 9.80%), or were looking for jobs (n = 12, 7.40%). Most participants had received a primary school degree (n = 48, 29.00%), while others had a junior school (n = 32, 19.40%), senior high school (n = 28, 17.00%), junior college (n = 26, 15.80%), bachelor or above degree (n = 31, 18.80%). Most participants lived in cities (n = 82, 49.70%), others lived in towns (n = 35, 21.20%) and villages (n = 48, 29.10%). A majority of participants had income more than 2000 RMB per month (n = 119, 72.60%), others had below 2000 RMB (n = 45, 27.40%). Accordingly, most families had basic balance of income and expenditure (n = 69, 41.80%), and many families could not make ends meet (n = 64, 38.80%), while only a few families income exceeded expenditure (n = 32, 19.40%).

Table 1: *Participant Families Demographics (N = 165)*

Variables	Category	Frequency	%
Child's gender	Male	110	67.10
	Female	54	32.90
Child's age	Aged 6 and under	18	11.10
	Aged 7~14	120	74.10
	Aged 15~17	24	14.80
Child's severity level	Mild	28	17.10
	Moderate	59	36.00
	Severe	65	39.60
	Very severe	12	7.30

Caregiver's marital status	Married, or living with a partner	140	85.40
	Divorced, separated, or widowed	24	14.60
Caregiver's educational level	Primary school or less	48	29.00
	Junior school	32	19.40
	Senior high school	28	17.00
	Junior college	26	15.80
	Bachelor degree or above	31	18.80
Caregiver's employment status	Full-time job	59	36.20
	Part-time job	16	9.80
	Job-waiting	12	7.40
	Unemployment	76	46.60
Place of residence	City	82	49.70
	Town	35	21.20
	Village	48	29.10
Monthly income	≦ 2000 yuan	45	27.40
	2001~4000 yuan	63	38.40
	4001~6000 yuan	18	11.10
	6001~8000 yuan	14	8.50
	8001~10000 yuan	13	7.90
	≧ 10000 yuan	11	6.70
Income and expenditure situation	Income far outweighs expenditure	14	8.50
	Income slightly exceeds expenditure	18	10.90
	Basic balance	69	41.80
	Can't make ends meet	64	38.80

2.2 Procedure

Each recruited family received a letter explained the purpose of the study and stated that participation was voluntary and the family's information would be kept confidential. If the families agreed to participate in, a parent or caregiver was asked to fill out the questionnaires on behalf of the family.

2.3 Measures

Child's gender, age, and severity level, caregiver's marital status, educational level, and employment status, and place of residence, monthly income, and income and expenditure situation were collected in the study through caregiver's reports on a brief demographic questionnaire. Then, Chinese version of Beach Center Family Quality of Life Scale (BCFQOL) was used to evaluate quality of family life. It was developed by Beach Center of University of Kansas and translated by Shuxian Zeng and Kai Liu from Central China University, consisting of 25 items across five subdomains: family interaction, parenting, emotional well-being, physical/material well-being and disability-related support. For each item, caregivers rated their satisfaction from 1 = very dissatisfied, 2 = dissatisfied, 3 = neither satisfied nor dissatisfied, 4 = satisfied, to 5 = very satisfied. Responses were summed to form a total score, ranging from 0 to 125, which was then averaged into a single mean score. The Chinese version of BCFQOL has been proved with high internal consistency (Li, 2016). In this study, the Cronbach alpha coefficients of each dimension of the scale ranged from 0.72 to 0.84, and the Cronbach alpha coefficients of the total scale was 0.93. The confirmatory factor analysis showed that $\chi 2/df$ (chi-square / degrees of freedom) was 1.380, CFI (Comparative Fit Index) was 0.954, TLI (Tucker Lewis Index) was 0.938, IFI (Incremental Fit Index) was 0.956, GFI (Goodness of Fit Index) was 0.878, and RMSEA (Root Mean Square Error of Approximation) was 0.049. This provided evidence that the scale was measured in a reliable and valid manner for the study population.

2.4 Statistical analysis

Data were analyzed using IBM SPSS version 18.0 and AMOS version 17.0. In detail, the reliability and validity of the scale were determined. Descriptive statistics were conducted to characterize the demographic characteristics of the caregivers and children, and caregiver's quality of family life. Discrepancies scores were calculated for the items on BCFQOL in demographic variables. The significance level was set at 0.05. Multiple linear regression analysis was performed to examine the effect of the demographic variables on the study variable: quality of family life.

3 Results

3.1 Quality of family life

According to the statistical analysis, the mean score of caregivers' satisfaction on quality of family life was 3.40 (SD = 0.62), which was between the general level (3 points) and the satisfaction level (4 points). As to each dimension, the mean score from high to low was family interaction, parenting, disability-related support, emotional well-being, and physical/material well-being. See Table 2. That is to say, families felt the most satisfied with family interaction and the least satisfied with physical/material well-being.

Table 2: *Satisfaction ratings of the overall quality of family life and its dimensions*

Description	M ±SD
Family interaction	3.57 ±0.77
Parenting	3.48 ±0.72
Emotional well-being	3.25 ±0.77
Physical/material well-being	3.24 ±0.77
Disability-related support	3.34 ±0.76
Overall quality of family life	3.40 ±0.62

Note: M = mean; SD = standard deviation

3.2 Differences of family quality of life in demographic variables

The Table 3 showed that there were no significant differences on the scores of quality of family life in child's gender and age ($p > 0.05$), but there were significant differences on the scores of quality of family life in child's severity level, caregiver's marital status, educational level, and employment status, and place of residence, monthly income, and income and expenditure situation ($p < 0.01$).

Table 3: *Score comparison on overall quality of family life in different demographic variables*

Demographic variables	Quality of family life (M ±SD)	F or t	p	LSD
Child's gender				
Male	3.43 ±0.64	0.846	0.399	
Female	3.33 ±0.57			
Child's age				
Aged 6 and under	3.42 ±0.77	0.021	0.979	
Aged 7~14	3.40 ±0.58			
Aged 15~17	3.37 ±0.87			
Child's severity level				
① Mild	3.57 ±0.83	4.404	0.005	① > ③, ④
② Moderate	3.55 ±0.50			② > ③, ④
③ Severe	3.23 ±0.59			
④ Very severe	3.12 ±0.45			
Caregiver's marital status				
Married, or living with a partner	3.44 ±0.63	2.771	0.009	
Divorced, separated, or widowed	3.14 ±0.45			

Caregiver's educational level				
① Primary school or below	3.11±0.45	4.480	0.002	① < ②, ③, ④, ⑤
② Junior school	3.39±0.56			
③ Senior high school	3.50±0.61			
④ Junior college	3.56±0.69			
⑤ Bachelor degree or above	3.62±0.71			
Caregiver's employment status				
① Full-time job	3.62±0.67	7.204	< 0.001	①, ② > ④
② Part-time job	3.56±0.63			
③ Job-waiting	3.44±0.51			
④ Unemployment	3.16±0.50			
Place of residence				
① City	3.58±0.66	7.016	0.001	① > ②, ③
② Town	3.24±0.51			
③ Village	3.22±0.54			
Monthly income				
① ≦ 2000 RMB	3.16±0.49	3.623	0.004	① < ②, ③, ⑤
② 2001~4000 RMB	3.40±0.61			②, ⑥ < ⑤
③ 4001~6000 RMB	3.56±0.63			
④ 6001~8000 RMB	3.48±0.76			
⑤ 8001~10000 RMB	3.93±0.43			
⑥ ≧ 10000 RMB	3.39±0.75			
Income and expenditure situation				
① Income far outweighs expenditure	3.61±0.68	11.417	< 0.001	①, ②, ③ > ④
② Income slightly exceeds expenditure	3.80±0.68			
③ Basic balance	3.55±0.60			
④ Can't make ends meet	3.09±0.46			

Note: M = mean; SD = standard deviation; F = Fisher's ratio; t = t statistic; p = p-value; LSD = least significant difference

Independent t-test was conducted for the score comparison of overall quality of family life between child's genders.

One-way ANOVA was conducted for the score comparison of overall quality of family life among child's ages, severity levels, caregiver's marital status, educational levels, employment status, places of residence, monthly income, and income and expenditure situations.

LSD method was used for post-hoc comparisons in cases when significant difference were found in one-way ANOVA.

3.3 Regression analysis for variables predicting quality of family life

This study conducted multiple linear regression analysis with demographic variables as independent variables and the quality of family life as the dependent variable, in which classification demographic variables had been set as dummy variables. As demonstrated in Table 4, caregiver's employment status, place of residence, monthly income, and income and expenditure situation were found as a significant impact on the quality of family life.

Table 4: *Multipleregression for variables predicting quality of family life*

Dependent variable	Independent Variables	B	SE	β	t	p
Quality of family life	Caregiver's employment status	−0.290	0.117	−0.235	−2.481	0.014
	Place of residence	−0.252	0.120	−0.168	−2.096	0.038
	Monthly income	−0.451	0.227	−0.185	−1.988	0.049
	Income and expenditure situation	−0.545	0.190	−0.433	−2.874	0.005
	Adj R^2			0.226		
	F			4.308		
	p			< 0.001		

Note: Method = Enter. B = unstandardized coefficient; SE = standard error; β = standardized regression coefficient; t = t statistic; p = p-value; Adj R^2 = explained variance in the dependent variable; F = Fisher's ratio

4 Discussion

One objective of the study was to describe the perceived quality of life of families raising a child with ASD in China. This study found that caregivers' satisfaction on quality of family life was at the medium level, meaning that there was still much room for improvement in the quality of family life. This result is consistent with previous researches (Luo, 2014; Li, 2016; Ma, 2014; Xue, 2014). Families of children with ASD tended to have depression, anxiety, obsession-compulsion, interpersonal sensitivity, hostility, schizoid trait, paranoia, and schizophrenia (Gau, Chou, Chiang, et al., 2012). In other words, families of children with ASD usually experienced higher level of psychological stress than families of children with other developmental disabilities (Sanders, Morgan, 1997; Bromley, Hare, Davison, et al., 2004). Besides, families of children with ASD had heavier professional and financial burdens than families with typically developing children (Yang, & Wang, 2014). So caregivers of children with ASD might face pressure from a smaller range of interpersonal relationships, lower financial resources, changes in family structure, lack of specific rehabilitation methods, and children's medical conditions and so on (Sun, 2011). All of these seriously affect the quality of life of families with children with ASD.

The mean score of satisfaction on five dimensions of quality of family life from high to low was family interaction, parenting, disability-related support, emotional well-being, and physical/material well-being, illustrating that caregivers of children with ASD felt the most satisfied with the communication and interaction between family members. The result is consistent with the result found by Luo (2014), Li (2016), and Hu and Wang (2012). It explains that the appearance of children with disabilities can improve some families' marital status. As one survey showed, 50 percent of families believed the arrival of children with autism had a positive impact on their marriage bonds (Luo, 2014). This is probably because some families communicated more with each other due to the educational needs of children with ASD, and thus their satisfaction on the internal family interaction was improved. And Rodrigue et al. (1990) found the family cohesion of caregivers of children with autism was at a high level, which further lends evidence that there are close emotional connections between family members of children with ASD. Besides, consistent with the research of Hu and Wang (2012), but inconsistent with those of Luo (2014), and Li (2016), caregivers of children with ASD reported the least satisfied with their physical or material well-being, such as medical care, and transportation and so on. Children with ASD usually have difficulties in understanding social cues and facial expressions, issues expressing emotions in conventionally recognizable ways, inflexibility and discomfort with change, and difficulty adapting to new tasks and routine (Wehman, Lau, Molinelli, et al., 2012). Therefore, compared with families of children with other disability types, families of children with ASD experienced the highest level of stress in performing parental roles and parent-child interaction (Guan, Yan, & Deng, 2015). This means that families of children with ASD have more material needs than families with other types of disabilities. However, a study found that China's current social security system was not perfect, and there were relatively few preferential and universal policies for caregivers of children with ASD (Liu, & Liu, 2018). Therefore, policy support for families of children with ASD needs to be strengthened to promote family stability and harmony, so as to ensure the benign development of children with ASD.

Another objective of the current study was to explore the influencing factors of quality of family life. Studies have shown that there was a high correlation between children's characteristics and the quality of family life (Li, 2016). This study examined the effect of child's gender, age, and severity level on the quality of family life, and found that there were significant differences in the quality of family life among different severity levels. Caregivers of children with mild and moderate autism scored significantly higher on family quality of life than caregivers of children with severe and very severe autism. It is similar to the result of Wang et al. (2004). There is no doubt that the more severely disabled a child is, the more complex the problem behaviors will be and the more difficult it will be to deal with them. Therefore, education and rehabilitation will be more difficult for them, which will bring some negative effects on the quality of family life. However, the severity level of autism was not included in the regression analysis, showing that the severity level had no significant impact on the quality of family life under the comprehensive effect of caregivers and family factors. This may be because the diagnosis of autism can be devastating to the family regardless of the child's condition, and the ensuing confusion and constant worry about the future combined affect the quality of family life.

This study also examines the impact of caregiver's marital status, education level, and employment status on the quality of family life. First of all, there was a significant difference in the quality of family life between caregiver's marital status. Married or having a life partner families scored significantly higher on quality of family life than divorced, separated or widowed families. It indicates that family marital status would affect the quality of family life, which is consistent with the findings of Ren et al. (2018). Because of the complex of autism, caregivers of children with ASD have the greatest difficulty in raising child and bearing the greatest pressure compared with those of other disabled children (Guan, Yan, & Deng, 2015). So well-married family members can encourage and support with each other and jointly cope with the pressure and challenges of raising children with ASD, which is of great significance to improve their quality of family life. Secondly, there were significant differences in the quality of family life on the educational level of caregivers. Caregivers with primary school or less degree had significantly lower score on quality of family life than those with junior school degree or above. It reveals that the education level was related to the quality of family life, which is consistent with the research of Ma (2014). The higher the degree of education parents received, the higher their expectations for their children were, the more they could actively acquire as many special education books as possible, and they would choose a more active way to deal with the problems while educating children (Huang, & Liu, 2006). Therefore, the higher the education level of caregivers of children with ASD, the more able they were to cope with the challenges in raising their children. At the same time, they could regulate their emotions more reasonably and seek ways to release pressure, thus improving the quality of family life. At last, there were significant differences in the quality of family life among different employment status. Regression analysis found that caregivers' employment status had a significant impact on the quality of family life. It is consistent with the research of Ma (2014). Regular work could help caregivers reduce their pain and increase their happiness (Möller-Leimkühler, Wiesheu, 2012). Therefore, full-time working families could not only get a relatively stable source of income, but also obtain a sense of career achievement to relieve the physical and mental burden of long-term care for children with ASD. However, unemployed caregivers need to take care of children with ASD around the clock for a long time, and they may also be constantly on the move to seek suitable jobs. So physical fatigue and psychological burden lead to the decline of quality of family life.

The study explored the impact of place of residence, monthly income, and income and expenditure situation on the quality of family life as well. First of all, there were significant differences in the quality of life among different places of residence. Further regression analysis showed that the place of residence had a significant impact on the quality of family life. It is inconsistent with the research of Ma (2014), may be related to the difference of the sample region. Effective social support could improve the quality of life of parents with disabled children (Guan, Yan, & Deng, 2015) because appropriate social support could improve the ability of families to cope with challenges and adapt to the environment to some extent (Gray, 2002). However, a survey found that the social support for families of children with ASD was affected by where the family lives. Education resources were relatively abundant in big cities, while insufficient in small towns and rural areas (Xiong, & Sun, 2014). This suggests that we should strengthen social support for families and improve their quality of life, so as to create a good family environment for the development of children with ASD. In addition, there were significant differences in the quality of family life in terms of monthly income, and income and expenditure situation. The result is similar to researches conducted by Ma (2014), Wang et al (2004), and Schlebusch, Dada, & Samuels (2017). The monthly income, income and expenditure situation of the family were included in the regression analysis, indicating that family's socioeconomic status was an important factor affecting the quality of family life. Families with high socioeconomic status had more resources at their disposal than low-income families to overcome the challenging problems posed by children's disabilities (Turnbull, & Turnbull, 2001) and children received intervention training or not affected the quality of family life (Ren, et al., 2018). Therefore, families with higher income were more able to cope with education costs of children, and the progress made by children in intervention training increases the positive psychology of families, thus improving the quality of family life. However, the annual income of families of children with ASD was lower than that of families with typically developing children, and the annual average cost of education training for children with ASD was higher (Yang, & Wang, 2014). It suggests that it is necessary to strengthen financial support for families to help them increase their ability to cope with challenges and improve the quality of family life, and finally contribute to create a good family environment for children with ASD.

5 Conclusion

The present study found that the satisfaction on quality of family life of children with ASD was at the medium level. Families felt the most satisfied with family interaction and the least satisfied with physical/material well-being. Quality of family life was affected by caregiver's employment status, place of residence, monthly income, and income and expenditure situation.

Acknowledgment

I would like to appreciate all the families who shared their time to participate in this study. This study was supported by a grant from the Research Center of Applied Psychology in Sichuan at Chengdu of China (CSXL-172014).

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Study on the perception of non-supportive social reaction status of high school students with hearing impairment in southwest China and its influencing factors

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Abstract: *In order to understand the status of non-supportive social responses among high school students with hearing impairment in Southwest China, 328 students from Southwest China were randomly selected for the investigation. The results show that the non-supportive social responses perceived by the respondents were generally at the middle and low level; there was no significant difference in scores whether they are male or female, and whether they are left-behind or not. Significant differences existing in invalid factor scores of students with different resident accounts; The difference in scores of perceptual keep distance, blame, and invalid factors of hearing-impaired high school students in different provinces and cities is extremely significant; There is also a significant difference in the perception of keep blame and unsupported social responses among students with different family monthly income. Students of different grades tend to score significantly different on the perceptual keep distance; there is a significant crossover effect between different family monthly incomes and grades in the factors of maintaining distance and blaming, too.*

Keywords: *southwest region, hearing-impaired senior high school students, non-supportive social response*

1 Introduction

A non-supportive social response is a stressful event which an individual perceives a non-supportive and disappointing response from others in life [1]. Members of the social system do not always response to face individuals who are in negative life events in a supportive way. The non-supportive social reactions perceived by individuals are often related to negative emotions, and negative social interactions always inducing individual negative self-evaluation, leading to negative emotional reactions [2]. Studies have shown that people with higher non-supportive responses are more emotionally motivated, and interpersonal relationships are related to mental health [3]. Non-supportive social reactions are related to depressive symptoms and overall psychological distress [4]. The loss of social support may have an important effect on one's adaptability and health [5]. When an individual receives a lot of non-supportive reactions from others, he/she may have more anxiety and other emotional problems, and this may lead to a decrease in his/her social function [6]. At present, less research focuses on the negative reactions and effects of individuals from others on a specific life stress event; positive social interactions are often followed by most researchers, and negative interactions can explain a large amount of variation of individual health and well-being, so it is a subject worth studying [7]. The measurement of non-supportive social responses lacks a study of the perceived non-supportive social responses of high school students with hearing impairment. Therefore, this study will target the high school students with hearing impairment in the southwestern region of China, and understand the level of perceived non-supportive response and its influencing factors, in order to improve the mental health of high school students with hearing impairment.

2 Research methods

2.1 Research objects

The study used random cluster sampling to select 6 special education schools from Sichuan, Chongqing, Guizhou and Yunnan, and selected 328 high school students with hearing impairment as subjects. During the survey, 328 questionnaires were distributed and collected, and the questionnaire recovery rate was 100%. Through screening 309 valid questionnaires was selected, and the effective rate of the questionnaire was 94.21%. The basic situation of the respondents is shown in Table 1.

Table 1: *Basic information of the survey object*

N	percentage (%)	N	percentage (%)
Male147	47.6	Left-behind children 53	17.2
Female 162	52.4	Non-left-behind children 256	82.8
Rural 209	67.6	Senior one 151	48.9
Town 100	32.4	Senior two 158	51.1
Sichuan 90	29.1	Senior 121	39.2
Chongqing 85	27.5	1500 yuan or less 90	29.1
Yunnan 68	22	1501–3000 yuan 125	40.5
Guizhou 66	21.4	More than 3001 yuan 94	30.4

2.2 Research Tools

General information: compiled by the researcher, including gender, hookup nature, province and city, grade, family monthly income, whether left behind children, etc. The non-supportive social response questionnaire used the non-supportive social response questionnaire compiled by Lan Jumei et al. [8]. The questionnaire includes distance, blame, and invalidity dimensions blame and invalidity both includes 7 questions, and distance includes 6 questions. This questionnaire have 20 questions in sum. The scale uses the four-point scoring method, which is ranked in the order of "always, often, occasionally, never". The scores are 4, 3, 2, and 1 respectively. The higher of the total score, the more non-supportive social reactions of individual percevied. After analysis, the internal consistency Cranach's α value of the scale used in this study were: 0.589, 0.736, 0.683; the Cranach's α value of the total scale was 0.841, and the KMO value was 0.870. The non-supportive social response scale has good reliability.

2.3 Statistical processing

The statistical software SPSS 18.0 was used for statistical analysis and processing. Descriptive statistics, t-test, F-test, cross-effect, simple effect analysis, etc. were used. The difference was statistically significant at $p < 0.05$.

3 Research results

3.1 The overall situation of non-supportive social responses in Southwest China

The survey suggests that the average scores of the three dimensions of non-supportive social responses of high school students with hearing impairment in the Southwest are between 2.131 and 2.330. The average scores of the three dimensions are ranked from high to low: "invalid" and "blame" and "keep distance". The non-supportive social response scale has an average score of 2.264, which is between "occasionally so" (2 points) and "often so" (3 points). The overall bias is "occasionally so" and reacts with non-supportive societies. Median (The questionnaire used in this study used a four-point scoring method, which was recorded as 4 points, 3 points, 2 points, and 1 point respectively. Therefore, the median = (4 + 3 + 2 + 1) / 4 = 2.5, which is the value of the non-supportive social response at the middle level), compared with the non-supportive social response perceived by the hearing-impaired high school students in the Southwest. The overall level is at the lower middle level, see Table 2 for details.

Table 2: *Overall situation of non-supportive social responses in Southwest China (M ±SD)*

	Keep distance	Blame	Invalid	Total amount
M	2.131	2.313	2.330	2.264
SD	0.505	0.591	0.549	0.461

3.2 Differences in demographic variables in non-supportive social responses

3.2.1 Independent sample T test of gender in non-supportive social responses

Table 3: *Comparison of gender differences in non-supportive social responses (M ±SD)*

	Gender		*t*
	Male (N = 147)	Female (N = 162)	
Keep distance	2.155 ±0.486	2.108 ±0.522	0.822
Blame	2.323 ±0.585	2.303 ±0.598	0.286
Invalid	2.306 ±0.538	2.352 ±0.517	−0.371
Total amount	2.267 ±0.471	2.262 ±0.453	0.094

*Note: *P < 0.05, **P < 0.01, the same below*

Table 3 shows that on the “keep distance”, “blame” factor and non-supportive social response totals, the average score of male students are higher than that of female students; in the “invalid” factor, the average score of female students is higher than that of male students. However, they have not reached the level of significance.

3.2.2 Independent sample T test of non-supportive social responses

The survey suggests that the high school students with hearing impairment in rural households score higher on the three dimensions and total scale of the non-supportive social response scale than the high school students in the urban hukou; the high school students with hearing impairment perceived much more invalid and unsupported social reaction level than those in urban district. Supportive social response level is significantly higher than urban hearing impaired high school students (P = 0.011 < 0.05, P = 0.016 < 0.05), see Table 4 for details.

Table 4: *Comparison of differences in the nature of household registration in non-supportive social responses (M ±SD)*

	Account nature		*t*
	Rural (N = 209)	Town (N = 100)	
Keep distance	2.163 ±0.500	2.063 ±0.512	1.623
Blame	2.355 ±0.582	2.223 ±0.602	1.853
Invalid	2.385 ±0.539	2.216 ±0.554	2.557*
Total amount	2.308 ±0.450	2.173 ±0.474	2.433*

3.2.3 Independent sample T test for left-behind children in non-supportive social responses

Table 5: *Comparison of differences in non-supportive social responses among left-behind children (M ±SD)*

	Whether left-behind children		*t*
	YES (N = 53)	NO (N = 256)	
Keep distance	2.233 ±0.521	2.109 ±0.500	1.623
Blame	2.380 ±0.651	2.299 ±0.578	0.914
Invalid	2.364 ±0.580	2.323 ±0.543	0.492
Total amount	2.330 ±0.474	2.250 ±0.458	1.147

Table 5 shows that the left-behind children with hearing-impaired high school students scored higher on the dimensions and total scale of the non-supportive social response scale than the non-left-behind children with hearing impairment, but none of them reached a significant level.

3.2.4 One-way analysis of variance in non-supportive social responses in the provinces and cities where they are located

The survey suggests that the scores of the “keep distance”, “blame”, “invalid” and “non-supportive responses” of the hearing-impaired high scholl students in different provinces and cities in the non-supportive social response are statistically significant ($P = 0.000 < 0.001$). After the LSD multiple comparative analysis, it was found that the high school students of the hearing-impaired in different provinces were ranked from high to low: Sichuan, Guizhou, Chongqing, Yunnan, and reached significant differences ($p < 0.05$). High school students with hearing impairment in different provinces and cities scored on the total level of perceived blame, ineffectiveness and non-supportive response, Sichuan < Chongqing < Guizhou < Yunnan, and both reached significant level ($p < 0.05$), see Table 6 for details.

Table 6: *Comparison of differences in non-supportive social responses between provinces and cities (M ±SD)*

		Descriptive statistics		F	LSD
		N	(M ±SD)		
Keep distance	Sichuan (A)	158	1.889 ±0.425	24.354***	A < C < B < D
	Chongqing (B)	85	2.116 ±0.549		
	Guizhou (C)	66	2.088 ±0.452		
	Yunnan (D)	68	2.510 ±0.360		
Blame	Sichuan (A)	158	2.016 ±0.479	29.881***	A < C < B < D
	Chongqing (B)	85	2.202 ±0.639		
	Guizhou (C)	66	2.372 ±0.520		
	Yunnan (D)	68	2.372 ±0.402		
Invalid	Sichuan (A)	158	2.086 ±0.438	34.122***	A < C < B < D
	Chongqing (B)	85	2.177 ±0.567		
	Guizhou (C)	66	2.364 ±0.472		
	Yunnan (D)	68	2.813 ±0.402		
Total amount	Sichuan (A)	158	2.002 ±0.354	46.842***	A < C < B < D
	Chongqing (B)	85	2.167 ±0.520		
	Guizhou (C)	66	2.284 ±0.355		
	Yunnan (D)	68	2.713 ±0.206		

Note: A: Sichuan, B: Chongqing, C: Guizhou, D:Yunnan

3.2.5 One-way ANOVA of different monthly incomes in non-supportive social responses

Table 7 shows that the difference in scores of blame among high school students with different family monthly income is statistically significant ($p = 0.03 < 0.01$). Score differences in non-supportive social responses were also statistically significant ($p = 0.012 < 0.05$). After the LSD multiple comparative analysis, it was found that the perception level of blame of high school students with hearing impairment less than 1500 was significantly higher than that of students from the family whose monthly income is 1501–3000 yuan ($P = 0.031 < 0.05$), and it was extremely higher than students whose family mothly income is more than RMB 3001 ($P = 0.001 < 0.01$). The perceptual non-supportive social response level of hearing-impaired high school students whose family monthly income is less than 1,500 yuan was significantly higher than that of family monthly income of 1501–3000 yuan ($P = 0.046 < 0.05$), and was extremely significantly lower than the high school students with hearing impairment of more than 3001 yuan ($P = 0.003 < 0.01$).

Table 7: *Comparison of differences in different monthly incomes among non-supportive social responses (M ±SD)*

		Descriptive statistics		F	LSD
		N	(M ±SD)		
Keep distance	1500 yuan or less (E)	90	2.215 ±0.485	2.431	
	1501–3000 yuan (F)	125	2.129 ±0.447		
	More than 3001 yuan (G)	94	2.051 ±0.583		
Blame	1500 yuan or less (E)	90	2.473 ±0.571	5.987**	E > F E > G
	1501–3000 yuan (F)	125	2.298 ±0.570		
	More than 3001yuan (G)	94	2.178 ±0.606		
Invalid	1500 yuan or less (E)	90	2.416 ±0.517	1.588	
	1501–3000 yuan (F)	125	2.303 ±0.547		
	More than 3001 yuan (G)	94	2.284 ±0.549		
Total amount	1500 yuan or less (E)	90	2.376 ±0.418	4.461*	E > F E > G
	1501–3000 yuan (F)	125	2.249 ±0.443		
	More than 3001 yuan (G)	94	2.177 ±0.506		

Note: E: 1500 yuan or less, F: 1501–3000 yuan, G: more than 3001 yuan

3.3 Development of non-supportive social responses

Table 8 shows that the scores of non-supportive social responses, blame, and ineffectiveness of high school students with hearing impairment in different grades did not reach statistical significance ($p > 0.05$). Different grades tend to have significant differences in maintaining distance ($P = 0.051$). After multiple comparison analysis by LSD, it was found that the first grade of high school students with high hearing impaired perceived a significant distance compared with the second grade students ($P = 0.026 < 0.05$).

Table 8: *Developmentstatseniorus of non-supportive social responses*

		Descriptive statistics		F	LSD
		N	(M ±SD)		
Keep distance	Senior one (H)	121	2.218 ±0.513	3.011	
	Senior two (M)	108	2.069 ±0.475		
	Senior (N)	80	2.081 ±0.518		
Blame	Senior one (H)	121	2.347 ±0.561	0.579	
	Senior two (M)	108	2.265 ±0.534		
	Senior (N)	80	2.325 ±0.701		

Invalid	Senior one (H)	121	2.347±0.538	0.096	
	Senior two (M)	108	2.318±0.525		
	Senior (N)	80	2.321±0.601		
Total amount	Senior one (H)	121	2.308±0.450	0.986	
	Senior two (M)	108	2.225±0.418		
	Senior (N)	80	2.251±0.530		

Note: H: senior one, M: senior two, N: senior

From the perspective of the average score, the grades of the grades in the non-supportive social response scale and in all dimensions are ranked from high to low: high one, high third, and high two. This shows that the level of non-supportive social response perceived by high school students with hearing impairments had a tendency to decline first and then increase with the increase of grades.

3.4 Analysis of interaction effects and simple effects of non-supportive social responses

Analysis shows that the grade and monthly income had crossover effect on the factors of keep distance (F = 3.025, p = 0.018 < .05), blame (F = 3.545, p = 0.008 < .01) and non-supportive response (F = 3.160, p = 0.014 < .05), as shown in Figures 1–3.

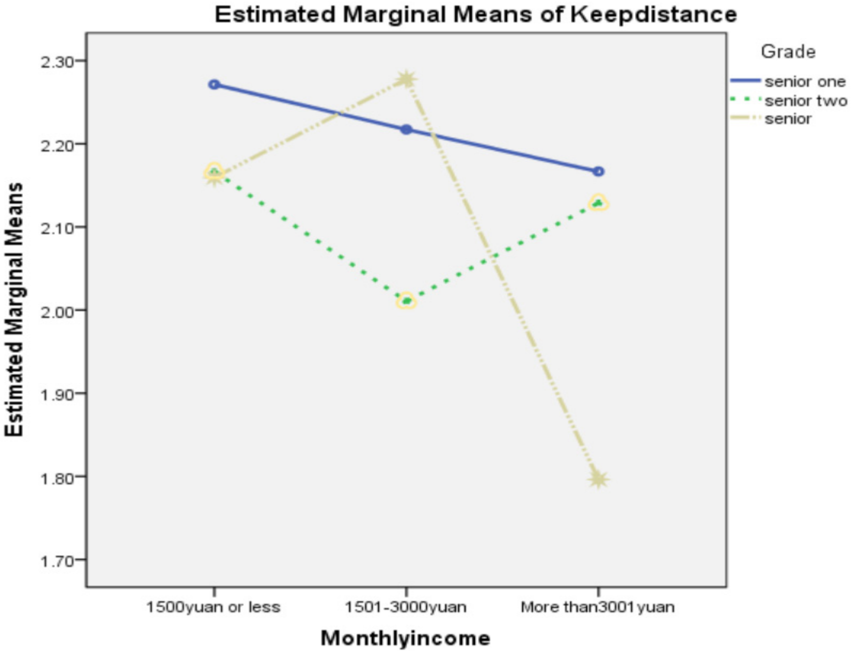

Figure 1: *Gender and monthly income cross-effect*

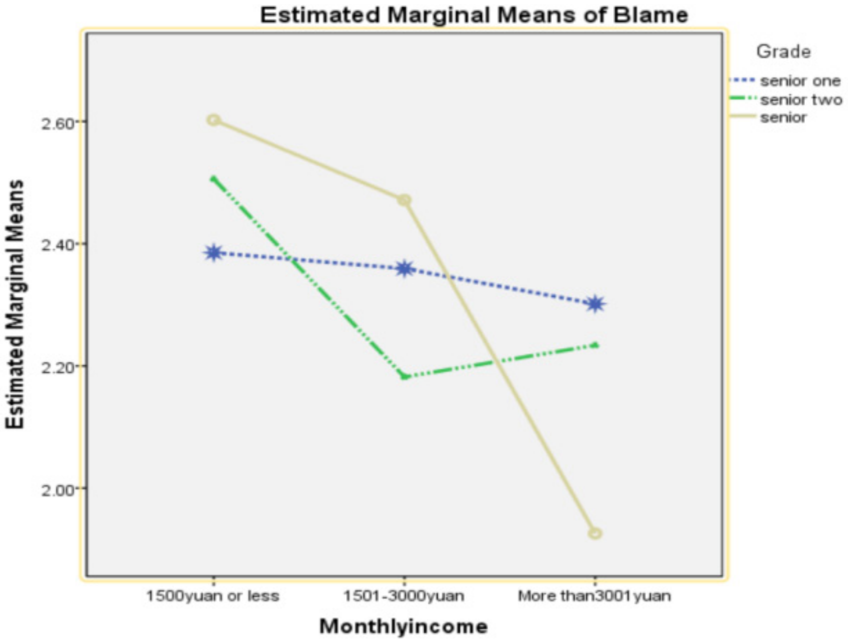

Figure 2: *Grade and monthly income cross-effect*

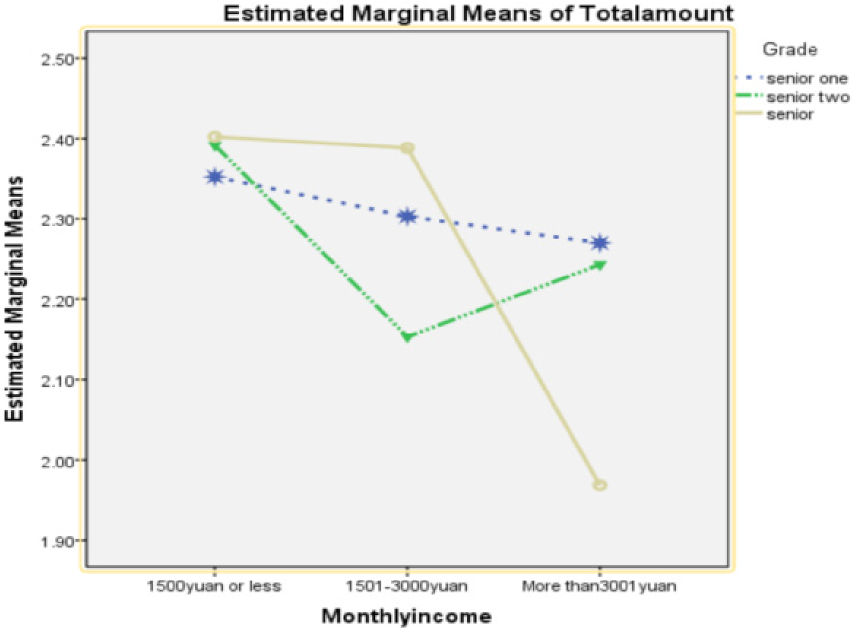

Figure 3: *Grade and monthly income cross-effect*

According to the simple effect analysis, the students' perception of keep distance whose family a monthly income of 1500 yuan or less in the third year of high school was significantly higher than that of students whose family monthly income above 3001 yuan (p = .029 < .05). Students' perception level of keep distance in the high school family with a monthly income of 1501–3000 yuan was significantly higher than that of the family with a monthly income of more than 3001 yuan (p = .001 < .01). The level of awareness blame of the monthly income of less 1500 yuan in the third year of high school was extremely higher than that of students with monthly income of more than 3001 yuan (p = .000 < .001), and the family monthly income of high school family is 1501–3000 yuan, the students' perception level of blame was significantly higher than students whose family monthly income above 3001 yuan (p = .001 <. 01). High school students' perception level of non-supportive response with family monthly income of less than 1500 yuan are aware that the level of non-supportive response is significantly higher than that of students with monthly income of more than 3001 yuan (p = .002 < .01), and that of high school students with monthly income of 1501–3000 yuan is aware of non-supportiveness. The response level and its significantly higher than the students above 3001 yuan (p = .002 < .01) are shown in Table 9.

Table 9: *Analysis of simple effects of non-supportive social responses*

Grade monthly income (P)		Monthly income (Q)	P – Q
Keep distance senior	1500 yuan or less	1501–3000 yuan	–.118
		more than 3001 yuan	.363*
	1501–3000 yuan	more than 3001 yuan	.481**
Blame senior	1500 yuan or less	1501–3000 yuan	.131
		more than 3001 yuan	.677**
	1501–3000 yuan	more than 3001 yuan	.546**
Total amount senior	1500 yuan or less	1501–3000 yuan	.014
		more than 3001 yuan	.434**
	1501–3000 yuan	more than 3001 yuan	.420**

4 Discussion and analysis

4.1 Overall status of non-supportive social responses of high school students with hearing impairment in Southwest China

The non-supportive social responses perceived by high school students in the southwestern region are generally at a lower-middle level. Students with hearing impairment have certain difficulties in learning, language understanding, language expression and social interaction [9], which limits their opportunities to communicate with hearing people. The scope of participation in social activities is relatively small, and the sources of social support are relatively less, combined with these hearing-impaired students are easy inferiority, there are also a large number of people who are discriminating against the disabled in real life, so they will also perceive some negative social reflections [10]. In the southwestern region, the overall level of perceived non-supportive social response of high school students with hearing impairment is at a lower-middle level, which has a greater relation with the country's long-term policy support. As the Outline of the National Medium- and Long-Term Education Reform and Development Plan (2010–2020) [11] proposed, every student deserves the care they deserve to get better development for each student. The National Special Education Promotion Plan for the second phase also pointed out that all sectors of society must work together to take care of and support the development of special education and create a good environment suitable for the development of special education. At the same time, it is necessary to help disabled students and their parents to fully realize that the development of special education has important practical significance for promoting the growth and development of disabled people and lifelong development. [12]

The hearing-impaired high school students, as the only disabled students who participated in the college entrance examination, received more attention and support, so they generally felt a low non-support level.

4.2 Influence of demographic variables on non-supportive social responses of high school students with hearing impairment

4.2.1 The influence of the nature of the household registration on the non-supportive social reflection of high school students with hearing impairment

The average scores of the hearing-impaired high school students in the rural hukou on the dimensions and the total scale of the non-supportive social response scale are higher than those of the hearing-impaired students in the urban hukou; the "ineffective" dimension and the total non-supportive social response on the scale, the non-supportive social responses perceived by the high school students with different hukou characteristics were significantly different and the difference reached a significant level. The reason may be the perception of non-supportive social reactions has a certain relationship with mental health. The mental health status of hearing-impaired students in urban areas was generally better than that of rural hearing-impaired students [13], so the rural hearing-impaired students are less likely to feel positive support. The urban economic conditions are better, the infrastructure and corresponding educational conditions are better than those in the rural areas.

The urban hearing-impaired high school students are better able to fully integrate resources and solve the negative life events according to the suggestions and opinions of others. The level of ineffectiveness perceived by urban hearing-impaired students was significantly lower than that of rural hearing impaired high school students. Secondly, compared with rural areas, the social concept of urban residents is more open, people's acceptance of hearing-impaired groups is higher, and the value of disabled people is more certain. The resistance of hearing-impaired students seeking support and corresponding compensation is much less. The hearing-impaired students from the city feel a higher level of support[14], so the non-supportive social response level perceived by them was low.

4.2.2 Influence of the provinces and cities on the non-supportive society of high school students with hearing impairment

Studies have shown that the scores of high school hearing-impaired students in different provinces and cities in the distance of perception, blame, ineffectiveness and non-supportive response are extremely significant. In addition to maintaining distance dimension, different provinces and cities students' scores in blame ineffective, and the total level of non-supportive responses are: Sichuan < Chongqing < Guizhou < Yunnan. Relevant data showed that there are 23 schools across the 2019 to recruit high school students. There are 9 undergraduate colleges to recruit undergraduate students, including Tianjin Polytechnic University, Changchun University, Beijing Union University, Chongqing Normal University, and Zhengzhou Normal University. Nanjing Normal University of Special Education, Jinling Institute of Technology, Suihua College, Xi'an Academy of Fine Arts. There are 3 colleges and universities for the national recruitment of Zhengzhou Engineering and Technology College, Zhejiang Special Education Vocational College and Changsha Vocational and Technical College. Undergraduate colleges with local enrollment include Leshan Normal University. There are 8 local colleges and universities to recruit hearing-impaired students, they are Guangzhou University, Municipal Technical College, Tianjin City Vocational College, Liaoning Special Education Vocational College, Shandong Special Education Vocational College, Guangdong Province British Vocational and Technical School, Fuzhou Vocational and Technical College, Xinjiang Disabled Vocational Secondary School. It can be seen from the universites' geographical distribution that hearing-impaired students in Yunnan and Guizhou do not have the opportunity to enter local colleges which are specialized for them, so they must participate single-study examinations in other provinces. The pressure for further study is relatively large, and it is easier to feel negative support for these students. While hearing-impaired students in Sichuan and Chongqing, they can enrolls in colleges in local region, this can make them live close to their family members and can relieve their pressure so they can feel social support. The level of non-supportive social reaction is relatively low. Students in Sichuan province have the least stress because they can enroll in Leshan Normal University, so their feeling of negative support level is the lowest.

4.2.3 Impact of family monthly income on non-supportive social responses of high school students with hearing impairment

Hearing-impaired high school students from different family monthly income scored significantly on blame and non-supportive social responses. Further analysis found that the blame and non-supportive social response perceived by hearin-impaired high school students with family monthly income below 1500 were higher than that of family monthly income was 1501–3000 yuan and more than 3001 yuan. Low-income family students may experience more stressors than middle-class family students. Studies have confirmed that [15], [16]. SES (family socioeconomic status) is closely related to the development of children, and youth who are from higher SES will get more academic attention and feel more family happiness, and all these will promote their personal development; while families with lower SES have more family conflicts, their happiness is lower than the middle class, which is harmful for the development of adolescents' personality. According to Maslow's hierarchy of needs, after the basic needs were met, they will turn to their growth needs, and take much care of their psychological and spiritual world. Therefore, hearing-impaired high school students with higher monthly household income will get more psychological attention, while hearing-impaired high school students with lower monthly household income will receive less psychological support. This can explain why the hearing-impaired high school students with high family monthly income feel less non-supportive social reactions, while the hearing-impaired high school students with low monthly household incomes perceive more non-supportive social reactions.

4.2.4 Influence of other demographic variables on non-supportive social responses of high school students with hearing impairment

The results of the study showed that the scores of male and female in the "keep distance", "blame" dimension and the non-supportive social response scale were different, and boys' scores were higher than girls' in these dimensions, but the difference did not reach the level of significance. High school for hearing impaired students are boarding systems, in these school, students' age difference is also small. And their education and general life experiences are similar. Therefore, the level of of non-supportive social response perceived by high school boys and girls was not significant. Studies have shown that [17], hearing-impaired high school students generally have higher levels of mental health, and there is no significant difference between men and women, but boys are more likely to have psychological problems than girls in all aspects, and they perceived a relatively high level of non-supportive social response. The research by Cao Juan [18] also shows that the overall social support status of girls is higher than that of boys, that is, the negative social interaction of boys is higher than that of girls. Therefore, the level of non-supportingness of boys' perception is generally higher than that of girls.

The results of the study showed that left-behind children with hearing-impaired high school students scored higher on the dimensions and total scale of the non-supportive social response scale than the non-left-behind children with hearing impairment, but did not reach the significant level. Some studies have used the Adolescent Quality of Life Self-Assessment Scale and the Social Support Rating Scale to test left-behind children and non-left-behind children. The results showed that non-left-behind children received higher subjective support and total social support than left-behind children [19]. Compared with non-left-behind children, the mental health problems of left-behind children are more serious, and they are higher than those of non-left-behind children [20]. Non-left-behind children are slightly higher than left-behind children in learning anxiety. It can be seen that because left-behind children are lack of effective communication with others and because their psychological characteristics are sensitive, they are often at a disadvantage state in social interactions, and thus feel more non-supportive social reactions than non-left-behind children, but this difference has not reached the level of significance.

4.3 Developmental characteristics of non-supportive social responses among high school students with hearing impairment

Studies have shown that scores of grades in the non-supportive social response scale and all dimensions are ranked from high to low: Senior One, Senior, and Senior Two, and there was a significant difference in keep distance between different grades. From the first grade of senior to the third grade of senior of high school, the grades gradually increase, and the students' age and physical development tend to be mature. Lin Chongde pointed out that one's physical development is closely related to his/her psychological development. As teenagers begin to look forward to integrating into the social life of adults, they explore a new social rule which is different from the past and learn to play a new social role, hoping to get a new social evaluation. At this stage, the personality of youth is gradually mature and tends to be stable, and the individual's self-awareness, social adaptability, values, and moral values are highly developed and mature [21]. Kohlberg's theory of moral reasoning also states that when individuals are at the customary level, they will abide by the rules to obtain the approval of the authoritative figures and avoid opposition. Individuals at the post-custom level begin to establish their own beliefs about right and wrong. Therefore, the high school students with hearing impairment in adolescence increased with the grade level, their sociality developed, their behaviors gradually conformed to social requirements and behavioral norms, and they were more recognized and accepted by the society. On the other hand, with the dual development of physiology and psychology, the emotional management ability of high school students with hearing impairment is improved. In the study, Sai Liyang [22] confirmed that the emotional adjustment ability of adolescents was significantly higher than that of early adolescents, and the ability of emotional regulation increased with age. In summary, with the increase of grades, the socialization of high school students with hearing impairment gradually develops at a higher level, and the behavior gradually conforms to social norms. The ability of emotional adjustment increased with the grade (age). Therefore, there is a tendency for non-supportive social responses to decline with increasing grades.

4.4 The cross-impact of demographic variables in various dimensions of non-supportive social responses

Studies have shown that grade and monthly income have cross-effects on keep distance, blame, and non-supportive response factors, and reach a significant level. High school students with a family monthly income of less than 1,500 yuan perceived a significantly higher non-supportive social response than students with a family monthly income of more than 3001 yuan. Students with a high family monthly income of 1501–3000 yuan perceived a significantly higher non-supportive social response level than the high school students with hearing impairment above 3001 yuan. Coupled with economic pressure, a considerable number of students are unable to bear the burden of life and they need to seek help from others. Because they live and study with their peers and teachers at most when they explore their negative emotion, their peers are busy learning about their negative emotions so their peers' main response method of blaming or maintaining distance. Their teachers pay more attention to the results of the study, and they have difficulty to pay much attention to other things. Therefore, the level of keep distance, blame, and non-supportive social response perceived by students with poor economic conditions in the third year of high school feel is higher.

5 Research conclusions

The non-supportive social responses perceived by the respondents were generally at the middle and low level. It shows that the overall level of perceived negative support for high school students with hearing impairment in the Southwest is low. The factors are mainly the nature of accounts, province, monthly income and grade, and there are still cross influences between grade and monthly income.

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Reflection on inclusive education: based on experience in Cameroon and Indonesia

(overview essay)

Ling Guo

Abstract: *As a worldwide trend for the development of special education, inclusive education has been implemented in various forms in different countries. This article is based on two qualitative researches about inclusive education for children with hearing impairment in north-region of Cameroon and Indonesia. In both researches, interview and observation were used for collecting data. Based on comparison of these two studies from the aspects of background, research methods and main research findings, reflections on inclusive education in terms of understanding of inclusive education, practice of inclusive education for children with hearing impairment and limitations of research methods has been described in this article.*

Keywords: *inclusive education, hearing impairment, reflection*

1 Introduction

Inclusive education, as a desirable form to implement Education for All, had been formally initiated in June 1994 during the World Conference on Special Needs Education, held in Salamanca, Spain. Since then, inclusive education has been gradually accepted in different areas of the world and has written into educational laws or governmental policies in many countries. Over the past two to three decades, in most developed countries there has been a significant trend towards the placement of students with special educational needs in mainstream schools rather than in segregated special schools and special classes (Prakash, S. S., 2012). On one hand, the wide spread of inclusive education has led to dramatic change of the forms of special education all over the world (Deng, M., Xiao, F., 2009). On the other hand, considering of different cultural backgrounds and socioeconomic conditions in different countries, inclusive education may have various forms and broad ranges.

As an approach to achieve Education for All in different countries, inclusive education may vary from physical placement for students with special educational needs into mainstream classrooms to thoroughly transforming of educational system including curricula, teaching program and evaluation method in consideration of every child's unique characteristics, interests, abilities and learning needs (Alur, M. & Timmons, V., 2009; Xu, S. Q., Cooper, P. & Sin, K., 2017). Generally speaking, the practice of inclusive education in developing countries is more preliminary compared to the situation in developed counties because of many social factors, including restricted understanding of disabilities, limited social resources, unsatisfied professionals and so on.

Hearing impairment, together with blindness and intellectual disability have long been regarded as the most traditional and widely accepted three kinds of disabilities with long history of educational practice for persons with these three kinds of disabilities. Hence, in some developing countries, these three kinds of disabilities are often taken into consideration of access to inclusive education as priorities (Deng, M., & Poon-McBrayer, K. F., 2012; Xu, S. Q., Cooper, P. & Sin, K., 2017). For children with hearing impairment, on one hand, receiving education in general classrooms is a guarantee of their equal access to education as their peers without hearing impairment. On the other hand, they have to deal with their different communication way and learning characteristics deriving from their hearing loss.

Based on diverse practice of inclusive education among different countries and practical characteristics of children with hearing impairment, this article is aiming at revealing the practical situation of inclusive education in developing countries on the basis of two articles about inclusive education from Cameroon and Indonesia.

2 General description of two articles

This first article was published in 2017 by Beryl Ndongwa Bamu and her colleagues in Ghent University in Belgium with the title of "Inclusive Education for Students with Hearing Impairment in the Regular Secondary Schools in the North-West Region of Cameroon: Initiatives and Challenges". This research is part of the results from an ongoing qualitative study in the North-West region of Cameroon addresses the different initiatives and challenges involved with including students with hearing impairment in regular schools by collecting data through interviews, participant observations as well as field notes from six teachers and six students with hearing impairments in the only regular school at secondary and high school level in the whole region provides education to students with hearing impairment. In this research, academic support, classroom placement and the way of working of the sign language interpreters were considered the major initiatives and challenges in the education of the students with hearing impairment in regular schools. Moreover, it was found that adequate adjustments had not been made within the schools to meet the needs of the students with hearing impairments.

The second article with the title of "Risks and Resilience of Students with Hearing impairment in an Inclusive School at Bengkala, Bali, Indonesia" was also published in 2017 by Kadek Suranata and other three researchers in Indonesia. It is a phenomenological study describes some risks and sources of resilience of students with hearing impairment in an inclusive school by collecting data from four students with hearing impairment and some related key informants through semi-structured in-depth interview and observation. This research has found that family poverty, student's difficulties in understanding verbal language and learning materials, student's emotional distortion are three serious risk factors for children with hearing impairment to receive education in general classroom. Moreover, for children with hearing impairment in inclusive education, self-efficacy, cooperation skills, talents or special skills, gratitude, and positive hope have been regarded as five personal sources of resilience and family, school, peers, and community have been regarded as four social support sources of resilience.

Even though these two researches had been carried out in different countries, it is obvious that both of them are about the practice of inclusive education for children with hearing impairment in developing countries with common poor socioeconomic status. Thus, family poverty or limited resources has been mentioned as challenges for children with hearing impairment to receive high quality inclusive education. At the same time, the emphasis of these two researches are different as the first one pays more attention to superficial limiting factors about the organization of inclusive education for children with hearing impairment in the preliminary phase of inclusive education practice in that area of Cameroon, while the second one has aimed at exploring the deep-seated risk factors as long as personal and social support source of resilience. The research perspective of the second research is more integrated as children with hearing impairment have also been regarded as one important factor for successful practice of inclusive education in consideration of their personal resilience factors besides of the environmental limiting factors and social supporting sources.

3 Comparison of the two articles

Apart from the general comparison of these two articles, further analysis in terms of research background, research method, main research findings and research limitations will be described in the following paragraphs.

3.1 Social background for inclusive education

Even though both of these two researches had been carried out in developing countries, the socioeconomic situation and development level of special education are different, which constitute specific social background for the development of inclusive education in these two researches.

The first research took place in the north-west region of Cameroon, which is one of the 10 regions of the country and equally one of the two English-speaking regions. Moreover, this region is also one of the poorest of the 10 regions with agriculture being the main source of livelihood for many families. According to previous research, prevalence of hearing impairments of moderate severity or greater is estimated at about .9%, which accounts for 12,000 to 20,700 people. (Cockburn, L., Cleaver, S., & Benuh, E., 2014) Moreover, only one regular school in the whole region provides education to students with hearing impairment at the secondary and high school level with students enrollment of 56 in a total of 571 students. As teachers in that regular school do not have knowledge in the sign language, students with hearing impairment are facilitated by sign language interpreters provided by a Christian-oriented organization. And there were just 3 sign language interpreters for all 56 students and American Sign Language is the mainly used sign language within the school system, along with poor organization in the provisioning of the sign language interpreters. Moreover, the school does not feel it is their responsibility to provide reasonable accommodations for all students, which on the contrary means that the inclusive education there is more about placement and children with hearing impairment are supposed to take the responsibilities of having abilities or supports to catch up with the instruction in general classrooms.

The second research was carried out in Indonesia, one developing country in Asia. As a response to the Salamanca statement in 1994, the Indonesian Government has issued new government regulations and policies to support the implementation of inclusive education in Indonesia (Suranata, K., Atmoko, A., Hidayah, N., Rangka, B. I. & Ifdil, I., 2017). In 2004, the first national conference on Inclusive Education in Indonesia was held in 2004, which is known as Deklarasi Bandung. In Indonesian government policy, inclusive education is an education system that provides opportunities for all learners who have learning needs and have special intelligence and/or talents enabling them to follow education or learning in the educational environment along with learners in public schools (Ministry of the National Education Republic of Indonesia, 2009). Based on this understanding of inclusive education, designated public schools as providers of inclusive education are supposed to make adjustments in terms of their curriculum, educational facilities, and infrastructure, as well as the development of learning systems tailored to students with the specials needs (Suranata, K., Atmoko, A., Hidayah, N., Rangka, B. I. & Ifdil, I., 2017).

However, according to previous research, the implication of inclusive education in Indonesia is not satisfied in consideration of decrease in quality, limited number of inclusive schools compared to the total population of children with special needs, failure of applying adjustments to the curriculum, or providing facilities to support the learning process, absence of art and sports activities as well as vocational education for children with special needs (Suranata, K., Atmoko, A., Hidayah, N., Rangka, B. I. & Ifdil, I., 2017). Moreover, other recent study also shows that problems faced by inclusive schools in Indonesia are linked to teachers' competence in developing an appropriate learning process for children with special needs, the lack of parental care, poor support from social, government, and related professionals within the inclusive school (Suranata, K., Atmoko, A., Hidayah, N., Rangka, B. I.& Ifdil. I., 2017).

According to the introduction of backgrounds issues in both two researches, it is clear that the developmental backgrounds of inclusive education in these two countries are different. Obviously, Indonesia is with better developmental situation of special education, which means the development of inclusive education is under central government policies based on the core values of inclusive education from Salamanka statement. In other words, the implication of inclusive education in public schools is guaranteed by governmental policies and has been explored in depth by recent research.

3.2 Research methods

Both two researches were carried out through qualitative research approach. Research data were gained with semi-structured in-depth interviews and observations with the aim of obtaining spontaneous information from the participants and understanding phenomena in the natural setting. Though both researches used the method of observation for collecting data, the kind of observation is different as the research in Cameroon used participant observation while passive observation was used in the research from Indonesia. In both researches sign language interpreters had been invited to interpret the research questions from given verbal language into sign language for the participants, and vice versa.

The obvious difference of these two researches lies in the research participants in terms of constitution and age. The first research was carried out in one secondary school, so the participants are six regular school teachers and six students with hearing impairments between the ages of 17 and 23 years. The second research was carried out in one primary school, so the participants were constituted by four students with hearing impairment at the age range of 7 to 11 years old. Besides them, key informants of students with hearing impairment were also included in the research, including (1) the school principle, (2) chosen teachers who had five years teaching experience in that school, (3) two special supervisors, (4) the parents of the student participants. (5) students without hearing impairment in the same class, (6) participant's peers outside the school, and (7) public figures in the local village, namely the head of the village and adults from communities within the participants broader neighbourhood (Suranata K., Atmoko A., Hidayah N.,Rangka B. I. & Ifdil I., 2017).

Even though similar research methodology and data collecting approaches has been used in these two researches, the contents and depth of the research findings vary a lot in consideration of different age and range of research participants along with different social background.

3.3 Main research findings

As the research question in the first study is "What are the initiatives and challenges in educating students with hearing impairments in a regular school in the north west region of Cameroon?" Several aspects of initiatives have been found in the study. First, use of sign language interpreters is revealed as the major initiative in inclusive education of students with hearing impairment as general teachers cannot use sign language by themselves in teaching. On the other hand, dependence on sign language interpreters leads to delay in the teaching pace as the teacher has to wait for the interpreter to finish interpretation before continuing instruction, along with the dramatic shortage of sign language interpreters with the ration of 3 : 56 (sign language interpreters: students with hearing impairment).

Secondly, academic support has been regarded as one of the initiatives implemented by the teachers in inclusive classrooms including students with hearing impairment, which is ensured through the provision of more details or extra explanation and visual clarification during teaching. It has been found out that students with hearing impairments are supposed to reach the same level as their classmates without hearing impairment during teaching through teachers' efforts in reducing the pace of teaching. Moreover, classroom placement is another initiative which has been considered in the inclusive education of students with hearing impairment. In this research, students with hearing impairment in inclusive classrooms occupy the last column of the classroom and the sign language interpreter stands in front of that column to interpret the lectures to all of them, which however, creates a distance between them and their hearing peers and hinders opportunities to work cooperatively during classes (Bamua, N. B., Schauwera, D. E., Verstraeteb, S., & Hove, V. G., 2017).

Besides these initiatives, remarkable characteristic of hearing impairment, complexity in language including English, local sign language and American Sign Language, ambivalence in collaborative teaming and ambiguity of sign language interpretation have been considered as challenges for children with hearing impairment to participate inclusive education in north-west region of Cameroon.

As the second study was intended to describe the manifested risks for students with hearing impairment in inclusive school and the ability, skills and/or personal characteristic of them in facing difficulties, along with external sources supporting achievement and optimal development (Suranata, K., Atmoko, A., Hidayah, N., Rangka, B. I., & Ifdil, I., 2017), in-depth interview and passive observation of children with hearing impairment and key informants around them had been carried out to obtain research outcomes.

According to the findings, family poverty, difficulties in comprehending verbal language as well as comprehending learning materials, and the effects of emotional disorder has been regarded as the most disturbing aspects of risk felt by all four participants. Among these, family poverty meant that participants could not have their educational needs met, including proper school uniforms, and having money for buying something, while difficulties in comprehending verbal language and learning materials reduced their motivation for learning and emotional disorder impeded their social interaction with friends and also other people who cannot understand sign language. Meanwhile, the study also shows that there are five types of dominant sources of personal resilience, including self-efficacy, cooperation skills, talent or special skills, gratitude, and positive hope. Moreover, family support, school support, peer support, and community support has been identified as four social support sources of resilience from environments.

Generally, both two studies are about practice of inclusive education for children with hearing impairment, which could be helpful for the further development of inclusive education for children with hearing impairment in their social background. But the emphasis are different, as the first study focus more on superficial responding strategies and challenges for the situation of including children with hearing impairment in general classrooms, while the second study focuses more on risk factors which influence the quality of inclusive education for children with hearing impairment and potential sources of personal resilience and social support. To some extent, the research perspective of the second study is more integrated with consideration of individuals with hearing impairment and the environments around them.

4 Reflection about inclusive education based on these two articles

Both two articles are studies about practice of inclusive education for children with hearing impairment in developing countries. But the research intentions and main findings are different along with different developmental level of inclusive education in these two countries. Based on the introduction and comparison of these two studies above, further reflections of these two studies in terms of understanding of inclusive education, practice of inclusive education for children with hearing impairment and also limitations of research methods will be introduced in the following.

4.1 Understanding of inclusive education

Practice of inclusive education is always based on the understanding of inclusive education. According to Salamanka statement in 1994, inclusive education has been regarded as the approach to bring Educational for All (EFA) into reality by providing educational access for every community without discrimination. Inclusive education is aiming at eradicating the barrier of children with the special needs to receive education in regular schools along with children without special needs.

Nowadays, this literal understanding of inclusive education is widely spread among the world. However, when it comes to practice, the inclusive levels of education for children with special needs in general classrooms vary a lot corresponding to specific social background and economic conditions. For example, in China, the objects for inclusive education were restricted to children with hearing impairment, children with blindness or children with intellectual disabilities at mild level according to policies from government and have been broadened to children with other kinds of special needs in recent years. This restriction indicates that general education is not education for all, children with special needs can be included into general classrooms only if they could catch the instruction by themselves with limited supports.

4.2 Practice of inclusive education for children with hearing impairment

Both two studies are about practice of inclusive education for children with hearing impairment. From both, we can see that sign language interpreters are highly emphasized in classroom instruction by children with hearing impairment and general teachers. However, there are more factors which should be taken into consideration, including proper cooperation between sign language teachers and general teachers, communication abilities of children with hearing impairment, classroom placement, after-school activities and so on. Besides these, we should also pay attention to sources of personal resilience from children with hearing impairment, which could help them in coping with difficulties in general education setting as well as out of school system. Moreover, lack of supports is still a limitation for children with hearing impairment to receive high quality of inclusive education.

4.3 Limitations of research methods

As for research methods, both two studies are qualitative researches which chose interview and observation as approaches for collecting data in consideration of the advantages of obtaining information in natural setting. However, the limitation of research methods is obvious in these studies. As the studies are about inclusive education for children with hearing impairment, the number of children with hearing impairment is quite limited, as there are six students in the first study and 4 students in the second study. Moreover, the sources of research participants are also restricted in both studies. In the first study, all participants are from one secondary school in that region of Cameroon while all the participants are from one primary school in Indonesia. Hence, it is hard to tell whether the research findings in these studies could fully reveal the situation of inclusive education for children with hearing impairment in their country or whether they could be applied to other countries with similar situations.

Acknowledgements

The article is dedicated to solved project "Research on admission system of special education teachers in Sichuan", No. CJF14024. and grant" IGA_PdF_2019_019".

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Dyslexia from special education and neuroscientific perspective: selected aspects of the first stage of the research

(scientific paper)

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Abstract: *Currently, dyslexia is a frequently discussed topic, which is central in many fields of science, such as special education, speech therapy, psychology, linguistics, or neuroscience. The report is a part of the international research which interconnects all the fields mentioned above. The paper presents a comparison of psychological and special-educational evaluation of adult university students/university alumni with dyslexia and without it. In this part of the research, 27 participants were assessed by a series of six tests. The data obtained were processed in IBM SPSS Statistics 23 with the help of Multivariate analysis of variance (MANOVA). The results showed that group with dyslexia varied in their test performance aimed at reading and reading abilities, and there were no significant intelligence, attention or short-term memory differences. At the end, the report includes partial data taken from functional magnetic resonance imaging (fMRI).*

Keywords: *dyslexia, adult, reading, student, neuroscience, special education*

1 Introduction

Dyslexia is a specific developmental learning disorder which has an impact not only on the school performance, but also on other aspects of life (Mortimore & Crozier, 2006). According to the International dyslexia association (IDA), dyslexia is defined as „*a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can* *impede growth of vocabulary and background knowledge*" (Lyon & Schaywitz, 2003, p. 2). Even though the term dyslexia is still used, the International Classification of Diseases and Related Health Problems, 11th revision, presents dyslexia as *a developmental learning disorder with impairment in reading* (ICD 11 International Classification of Diseases 11th Revision, 2018).

There are several theories dealing with the origins of development of reading difficulties in people with dyslexia, such as magnocellular, cerebellal or phonological theories (Vellutino at al., 2004; Jošt, 2011). Phonological deficits can be demonstrated in some of the functional data which show the differences in the activation of brain regions in dependance on the type of the text read (if it is a word/a pseudoword), and also the differences between the groups with and without dyslexia in the tests aimed at the phonological processing of information without reading a text (e.g. some of the subtests of DysTest assessment battery described below [Cimlerová et al., 2014]). There are also motor differences in eye movement while observing a non-text objects (e.g. a moving point, graphic symbols, etc.) in people with dyslexia compared to normal readers (Vyhnálek et al., 2006; Lukášová et al., 2016).

Throughout the educational process, the specific reading disorder is observed in particular features of learning the reading skills. Even though there are various compensatory strategies which help to deal with these difficulties applied at school, dyslexia impacts the lives of adults too. Nowadays, as there are high demands on reading and written communication, some less serious forms of dyslexia may be diagnosed later in life when those demands increase (Reid & Kirk, 2000). Besides, psychological impact of this specific disorder on adults was also described (Kejřová & Krejčová, 2015). These problems may include a lower level of self-confidence as a result of former recurring failures, etc. (Carawan et al., 2016).

The following part presents partial outputs of the project focused on the university students and alumni. The group with dyslexia and a control group with normal readers were assessed by a group of tests aimed at reading skills and the level of various partial cognitive functions as well as undergone measuring in functional magnetic resonance (fMRI) and eye tracking. The data are supposed to enable the comparison with commonly cited foreign research and to contribute to the development of knowledge considering the specific reading disorder in the context of Czech language environment. Moreover, the research also examines the brain regions which are activated in the process of reading. Among these, we can mainly name the visual parts of occipital cortex, the fusiform gyrus in the left hemisphere, where our Visual Word Form Area is located, and some other parts of superior and middle temporal gyrus, as well as the prefrontal cortex (Waldie et al., 2017). Other research has shown the differences in the brain activation of dyslexic people when reading. A significantly lower engagement of some brain regions of the dyslexic people when reading was found too; these were, for example, fusiform gyrus and intraparietal sulcus in the left hemisphere (Maisog, 2008). Current literature describes considerably higher engagement of other brain areas whose function can be compensatory. Pollack et al. (2015) points out, for example, some of the right hemisphere areas (frontal gyrus inferior or dorsolateral cortex).

For the potential comparison and evaluation of the functional data, it was necessary to make profiles of the participants with the help of available assessment material. The psychological tests of 27 participants and their evaluation will be described in the text. These are preliminary results of the project lasting from 2018 to 2019.

2 Material and Methods

There were 27 participants included in the research, 14 of them with dyslexia and 13 of them within a normal range reader (control group). All of the participants were or have been university students, their mother tongue was Czech, and they had no history of being diagnosed with attention disorder. The average age of the group was 23,7 with the age span 19–31. The potential participants were addressed via university centres for students with special needs in Olomouc (UPOL), Brno (VUT) and Prague (UK), social networking sites and the database of potential participants of the Laboratory of multimodal and functional imaging (CF MAFIL, CEITEC MU, Brno).

A series of six tests was used for extracting and consequent comparison of the profiles of individual participants and groups. The tests were conducted with every participant individually, always in the same order and the whole assessment procedure lasted approximately1 hour.

The series included the following tests:
1. The Adult reading history questionnaire (Jira, 2014);
2. Digit span – adapted from WAIS-III (Wechsler, 2010);
3. The attention test – the Brazilian version of Teste de Atenção por Cancelamento with Czech instructions (Seabra & Dias, 2012);
4. The test of rapid automatized naming – taken from CTOPP, subtest RAN (Rapid automatized naming) (Wagner et al., 1999);
5. TIP – Non-verbal intelligence test, progressive matrices – a subtest taken from KIT (Říčan & Laciga, 2017);
6. Three subtests from DysTest – aimed at the perception of familiar phonemes (blending and segmenting words, backword repetition of words), reading of pseudowords (text Latyš) and phonological competence (Cimlerová et al., 2014).

The first test applied is the Adult reading history questionnaire (Lefly & Pennington, 2000; Jira, 2014). It is a self-report screening tool containing 23 questions. In each question, the participant determines his agreement or disagreement with the assertion given on the scale 0 to 4. The questions are mostly focused on the participant's current experience with reading (how often he/she reads, whether he/she reads at work or in his/her leisure time, whether any difficulties with reading occurred in the childhood) and on his/her performance at school. Due to the questionnaire's characteristics, we are able to obtain a subjective evaluation of participant's own difficulties. Based on that, we can only determine the existence or non-existence of reading difficulties. Nevertheless, the questionnaire proved to be a reliable tool in former research, and it could represent one of the most accurate diagnostic tools for the adults who often use compensatory reading strategies (Lefly& Pennington, 2000; Jira, 2014).

The second test used is the digit span test. It is a part of WAIS-III which is applied to evaluate participant's cognitive abilities. This test mainly evaluates the level of short-term and working memory. It is divided into two parts. In the first part, the participant's task is to repeat chains of digits. This part contains 8 tasks whose difficulty increases with the length of digit chains (from 2 to 9 digits). In the second part, the participant should repeat the digit chains backwards.

The third is the attention test, which was adapted from the Brazilian test Teste de Atenção por Cancelamento (TAC). The participant works with symbols depicted on a sheet. Out of those depicted on the page, his/her task is to cross out symbols depicted in the upper part. The test includes three parts – in the first one, the participant crosses out one symbol, in the second part, there are two symbols, and there is a different symbol for each line in the third part. The evaluation criteria are the time needed to complete each part of the test and the number of omitted symbols and symbols which were marked incorrectly. The aim of the test is to assess the level of attention.

Another part of the series of tests is the Rapid automatized naming (RAN) test which is included in the CTOPP (Comprehensive test of phonological processing). The test is divided into four parts. In each part, the participant should name colours/objects/digits/letters, which he/she can see on the page in front of him on separate lines as fast as he/she can. The administrators measure the time in which the participant both names everything on the page and evaluates correctness. The ability of rapid automatized naming of people with specific reading disorder often appears to be deficient (Wolff, 2013). Regarding scientific applicability of the RAN subtest, all of its parts have been used despite of the fact that the naming of colours and pictures is standardised for children only.

The fifth test included is the Test of intellectual potential (TIP), which is a part of KIT (the Short test of intelligence [Říčan&Laciga, 2017]). This test was included with the purpose of estimating an approximate comparison of the participant's level of intelligence. The TIP was chosen with due to its short administration and nonverbal nature. The results of a verbal test could be affected by deficient reading abilities and the time limit for pursuing the reading tasks. In the TIP a participant has to choose the right symbol from the symbols given which belongs to the logical picture chain. According to correct answers, it is possible, with the help of a PC application, to obtain an approximate value of the IQ. However, it is necessary to consider this value to be only approximate due to its extraction from the original series of tests.

Besides the above mentioned, we have also included three subtests from the DysTest series which is used for the assessment of specific learning disorders in university students. The first subtest chosen was aimed at the perception of familiar phonemes (DysTest 3). The participant had to 1) segment heard pseudowordsinto phonemes, then 2) blend pseudowords, and 3) repeat the words backwards. The other task (DysTest 10) included reading pseudowords. Text Latyš is used for this purpose in the DysTest battery. The results of this test can prove to be interesting when compared with the functional data acquired when reading pseudowords. The last test focused on phonological elision. In this part, a participant is asked to manipulate with phonemes in the series of heard words (e.g. he/she should omit the second phoneme). The subtests taken from DysTest may provide an approximate comparison of the groups of participants with dyslexia and without it. In addition, they can provide a comparison of the functional data with the results of the tests used in clinical practice.

The results of the above mentioned tests were recorded and further processed by MANOVA in IBM SPSS Statistics 23 programme (IBM Corp., 2015).

3 Results

The Table 1 describes the average scores and standard deviation together with the results of statistical comparison of the groups in all the tests.

Table 1: *Profiles of the results of the participants with and without dyslexia in a selection observed*

Tests	Group with dyslexia (N = 14)	Control group (N = 13)	F [1,27]	p
Adult reading history questionnaire (score)	24,69 (7,49)	56,42 (4,73)	175,67	0,001
Digit span (score)	15,64 (3,27)	16,92 (3,75)	0,90	0,353
Attention test (score)	103,07 (6,27)	104,00 (6,52)	0,14	0,709
RAN (seconds)	168,91 (23,63)	131,95 (17,05)	21,42	0,001
TIP (score)	26,07 (1,94)	25,00 (2,65)	1,46	0,239
DysTest 3 (score)	28,43 (4,03)	26,07 (1,94)	5,86	0,023
DysTest 10 (score)	1,72 (0,46)	0,96 (0,22)	28,33	0,001
DysTest 12 (score)	27,36 (5,60)	28,92 (4,11)	0,68	0,418

The results of the tests with a significant difference will be further demonstrated in charts. These are namely ARHQ, RAN test and two subtests from DysTest series. Box plots which show the average values, upper and lower quartile and variance of standard deviation were chosen for graphic presentation of the results. There is also a significant difference of the two groups represented by „p" value and grouped by the following symbols: „*" if $p < 0.05$, „**" if $p < 0.01$, „***" if $p < 0.001$.

Regarding the Adult reading history questionnaire (ARHQ), there was a significant difference found between the groups, i.e. there is a noticeably higher possibility of reading difficulties in the group with diagnosed dyslexia in comparison with the control group. Such results indicate a high assessment value of this self-report screening tool for adults as well as a significant impact of dyslexia on reading success of so called *„high-achieving adult dyslexics"* (Cavali et al., 2017). The result is graphically demonstrated in the chart (Figure 1).

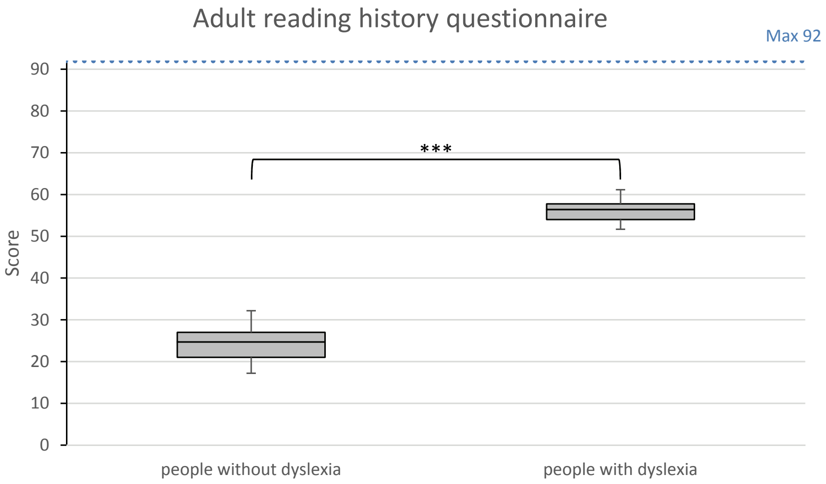

Figure 1: *Comparison of the results of two groups observed in ARHQ (the lower the overall score, the lesser the probability of reading difficulties).*

Another statistically significant difference was found in the score of the Rapid automatized naming. This difference was shown in individual subtests as well as in the overall evaluation. In general, the participants with dyslexia needed more time for pursuing the task in comparison with the participants without dyslexia, which is an indication of slower lexical access in the group with the disorder. Overall results are demonstrated in Figure 2.

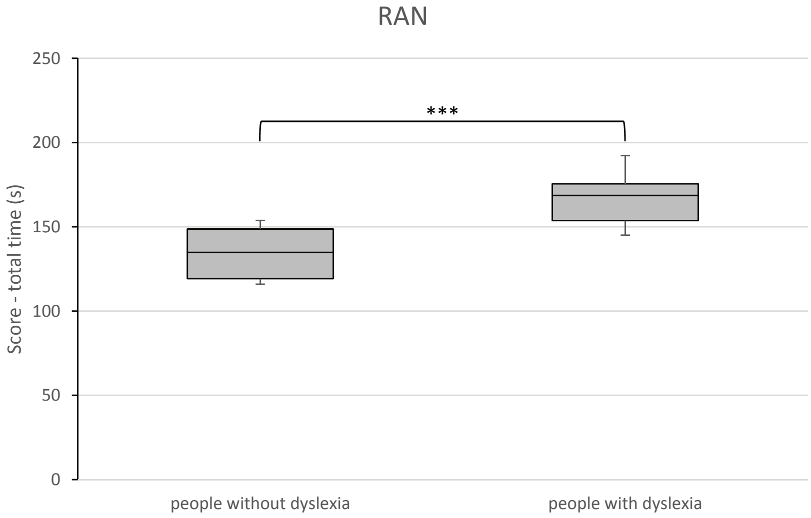

Figure 2: *Comparison of the results of two groups observed in the rapid automatized naming test (RAN). The chart shows the overall score in all four subtests (colour, object, digit and letter naming).*

Another statistically significant difference was found in the subtest aimed at the perception of familiar phonemes. This result shows that the participants with dyslexia experienced more difficulties when dealing with the correct blending and segmenting of the words heard. This difference may be caused by possible phonological reading difficulties. The results of the subtest are demonstrated in the following chart (Figure 3).

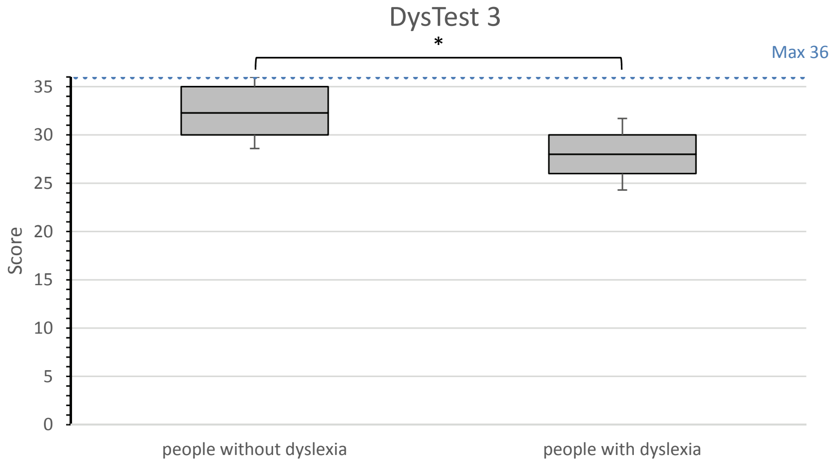

Figure 3: *Comparison of the results of two groups observed in the perception of familiar phonemes (DysTest).*

Last significant difference was reported in the second out of three selected sub-tests of DysTest which dealt with reading pseudowords. This result indicates that the people with dyslexia made more mistakes when reading the Latyš text, which was composed of pseudowords, and their reading speed was lower than in the control group.

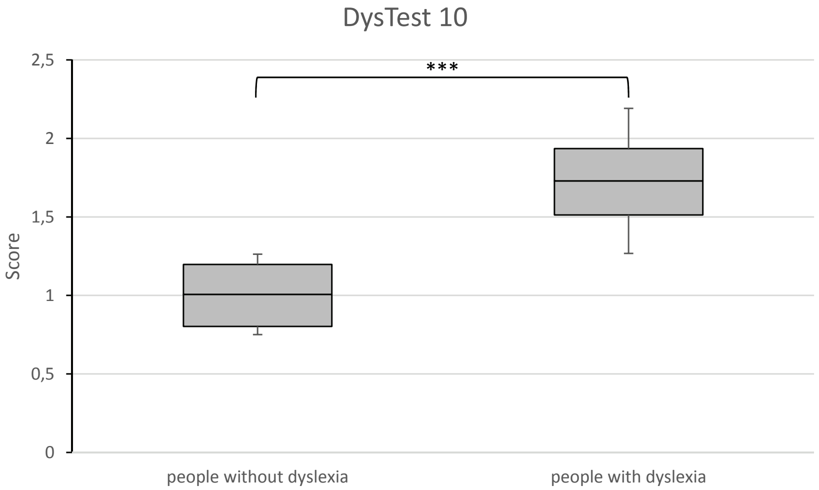

Figure 4: *Comparison of the results of two groups observed in the reading of pseudowords test (DysTest). Higher overall score is a sign of worse efficiency (more mistakes and lower reading speed).*

4 Discussion

The paper introduced a series of neuropsychological tests focused on dyslexia in adulthood with the purpose of acquiring approximate profiles of the participants and their comparison between the groups with and without dyslexia. The profiles and the outputs obtained provide a foundation for processing of further data acquired – namely the data acquired by magnetic resonance and eye tracking.

Regarding the statistical analysis of selected neuropsychological tests, it was proven that the two groups were selected by standardized criteria. It means that they vary in their performance in reading, phonological awareness and lexical access abilities and they do not vary in the level of intelligence, attention, or working memory. There were certain features of specific reading disorder in adulthood found in the target group, even though the research focused on a relatively distinctive group of university students or alumni – so called *„high-achieving adult dyslexics“* (Cavalli et al., 2017).

The only exception from the anticipated results in this part of the research is one test aimed at the level of reading abilities, namely subtest no. 12 from DysTest. In subtest no. 12 from DysTest (which examines the level of phonological competence), there were no statistically significant differences found when comparing the performance of both groups (F [1,27] = 0,677; p = 0,418). However, the results of this subtest were supposed to show the signs of reading disorder. We assume that this unexpected result could have been caused, among others by low quality of acoustic conditions in relation to the audio recording containing pseudowords which was used during the test. Moreover, it is necessary to consider that the subtest takes into account incorrectness but not the time which was needed to pursue the tasks. Such time can be noticeably longer for people with dyslexia due to the compensatory mechanisms, which they use (e.g. visualization which facilitates phoneme processing). Another reason for such results could be a relatively high complexity of this type of the task for people without dyslexia (in comparison with dyslexic people who could be used to such type of testing due to the previous repetitive testing in counselling centres). On the other hand, relatively successful performance of the people with dyslexia could have also been caused by previous practice of the skills under discussion and by acquired use of compensatory strategies (taking into account that all the dyslexic participants were university students or alumni, we may assume that their results would be generally better than those made by all dyslexic people in the population).

There were no significant differences found in the level of attention, working memory or intellectual abilities, which only proves that the differences observed in other tests (e.g. fMRI and eye tracking, which we used) can most likely be caused by the specific reading disorder.

In the process of evaluating the results, all limits of the research which could have had an impact on the results need to be considered. When taking into account the results of the psychological tests, setting and external conditions could be the case. The tests were administered by two people, and therefore, the instructions could not have always been precisely the same (the speed of speaking, the administrator's mood, etc.) despite the preceding trials. These factors should not influence the understanding of instructions since it had been verified by a short training session before most of the tests. Nevertheless, these factors could have had an impact on the participant's mental state. Similar impact could have been caused by time factors (the tests taken in the morning vs. the tests taken in the afternoon), fatigue of the participant, etc. The results of neuropsychological tests could have been influenced, to a certain degree, by the settings where the tests were administrated (acoustics of the room, etc. – the neuropsychological tests were usually taken in the same room, however, due to insufficient capacity and time limits of the volunteers, some of the tests were administered in other rooms. Even in such cases, there were demands for quiet and calm setting). Another considerable limit was a low number of respondents.

From the results mentioned above, we can deduce that the groups under the research differ in reading of pseudowords (as one can see in DysTest 10, in which the participant is required to read the test consisting of pseudowords). For this reason, it would be purposeful to outline the focus of other parts of the research, in which fMRI measuring was used as there were apparent differences between the groups found in reading of words and pseudowords. While the neuropsychological tests show the difference in the performance of reading abilities (speed of reading and making errors), the data acquired in fMRI indicate the core of this difference – the brain regions which are activated more/less when compared with activation the other group.

One of the tasks in fMRI test was quiet reading presented on a screen. Stimuli which include words and pseudowords had been designed for such purpose. The words and pseudowords had been chosen and made up according to their length, frequency and orthographicsimilarity. The source of appropriate Czech words was the Czech national corpus SYN2015 (Filozofická fakulta Univerzity Karlovy, 2015). The words were selected with the help of our own script in MS Excel and Wolfram Mathematica programme. The pseudowords were checked by a linguist.

As the fMRI data are not objective of this report, only the preliminary results are presented below as complementary for the psychologicaltesting (for details see Jirásková, 2019). When comparing brain activation during word reading, participants with dyslexia,compared to normal readers, had more prominent activation in inferior frontal gyrus of the left hemisphere, intraparietal sulcus and fusiform gyrus (so called Visual Word Form Area).

During pseudowords reading, participants with dyslexia, compared to normal readers showed activation in lateral occipital cortex, that can indicate higher dependence on visual processing. These regions are involved in brain system frequently reported in studies on reading and written language processing. This pattern is in accord with other studies and shows higher demand on brain processing when reading (Maisog, 2008). Differently from other studies, no compensatory activation was found in right hemisphere (Pollack et al., 2015). Specific activation pattern of the dyslexic group in the preliminary results is coherent with the neuropsychological profile described above and suggests that even highly functional adult university students / university alumni dealing with written language continue to produce behavioural and neurofunctional specifics.

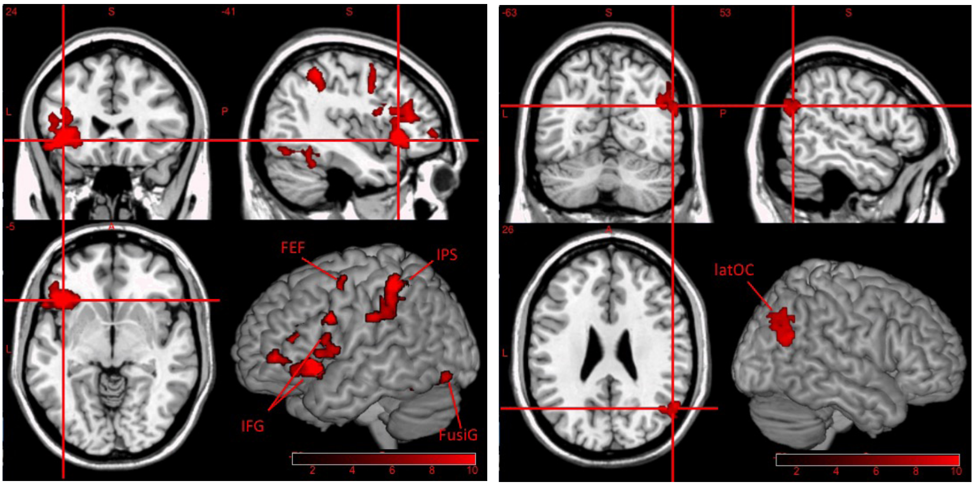

Figure 5: *Regions activated by dyslexic participants when compared to normal readers. On the right activation related to reading words compared to pseudowords is depicted; on the left reading pseudowords compared to words can be seen. The pictures were taken with permission from Jirásková, 2019.*

We are now seeking to involve more participants in both groups, which would contribute to a higher accuracy and validity of the gained results. The current number of participants is, to a certain degree, influenced by the criteria for participation in the research, which arise from the nature of technical devices used (fMRI and eye tracking – the limiting factors were e.g. more prominent eye disabilities, use of contact lenses, existence of metal parts in bodies, claustrophobia, or pregnancy). Regarding the prospective follow-ups of the research, we are planning to compare the results of both groups with the available data from the Brazilian research (see Lukášová, 2018).

5 Conclusion

Neuropsychological profiles of the participants. A series of psychological assessment tools was implemented in order to conduct the research. The results presented above refer to differences in some specific functions as well as to subjective perception of the disorder among participant of the research, taking into account the fact that the participants are adults who have studied at university. In combination with the data from fMRI, the results of the tests can reveal important connections in the scientific field of specific reading disorder. Taking into consideration the comparison of the result with the parallel research in Brazil, we can also observe the specific features of dyslexia in the context of Czech language environment. The collection of data is still in progress due to insufficient target number or participants. Therefore, the data are to be further developed and supplied.

We have presented the first, testing part of the ongoing research, whose purpose was to obtain approximate

Acknowledgements

This paper was written as part of the research project „Reading and visual motor adaptation task in adults with developmental dyslexia: international study in different orthographic system", which was conducted in cooperation with the University of Sao Paulo, Brasil, MAFIL laboratories, CEITEC MU in Brno, the Faculty of Arts Palacky University of Olomouc and the Faculty of Arts Charles University of Prague.

Scientific data have been acquired with the help of MAFIL laboratory, CEITEC MU, with the support of Czech-BioImaging infrastructure (LM2015062) financed by MŠMT ČR.

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Risks in cyberspace and possibilities of prevention

(overview essay)

Lenka Szokalová, Martin Dominik Polínek

Abstract: *The central theme of the article is the phenomenon of online communities within cyberspace. We reflect on why they are important for many adolescents who experience unacceptance and failure in their lives, and above all we draw attention to the downsides of cyberspace and the risks these young people may encounter. This current and little explored topic is supported by research on the role-playing game operators and players. Based on the results, we are considering how to maximalize cyberspace prevention and make the cyber environment safer.*

Keywords: *prevention, cyberspace, cyberbullying, cybergrooming, cyberstalking, sexting, online communities, qualitative research*

1 Introduction

Prevention, as understood and practiced today, focuses on cyberspace only marginally. Prevention means all measures aimed at preventing and minimizing the phenomena associated with risky behavior and its consequences. Prevention may be any type of formative, educational, medical, social or other intervention aimed at preventing the occurrence of risky behavior, preventing its further progression, mitigating existing forms and manifestations of risky behavior or helping to address its consequences.[1] The term is based on the Latin word praeventio and must be distinguished from the term repression. Repression should only be used when a phenomenon cannot be avoided or prevented. It is ideal to combine these two strategies; however, the so-called balanced approach does not mean a 1 : 1 ratio of

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[1] National Strategy of Primary Prevention of Risky Behavior of Children and Youth for the Period 2013–2018. Prague: Ministry of Education, 2013, p. 8.

prevention to repression, as prevention proves to be far more effective and also more economical (Hutyrová, Růžička, Spěváček, 2013).

Although cyberbullying is classified as risky, prevention of this phenomenon is far less sophisticated than in other types of risky behavior (eg substance abuse) (cf. Polínek, 2015, Polínek, Polínková, 2016). This is due to the fact that cyberspace is a relatively new and constantly evolving phenomenon, and also because there are certain specifics that are not expected to be a common preventive action. Polínek (2015), for example, in his preventive decalogue mentions a long-term relationship as a protective factor in the child's healthy development, which is a phenomenon difficult to implement within cyberspace. It also deals with the phenomenon of creativity in the same spirit, but it also has its specifics within the virtual environment (cf. Polínek, Polínková, 2016). Let's try to look into the specifics of one virtual environment: role-playing games (RPG).

2 Role-play games

Adolescents experiencing peer unacceptance in their lives, problems at home, school failure, often spend most of their free time at the computer. Through virtual games, they can create a second life, build a strong avatar, and experience success through the game. There are so-called role-playing games where players enter a role-playing game. One type of RPG game is that players choose the look of their "avatar" and through the keyboards they go into a fantasy world where they fight for some rewards. In addition, there is a less known variant of RPG games, so called text games. By the literary form the player describes the appearance and behavior of his character, which are by means of the text with interaction with other characters. These games also often offer secondary benefits, which are online player communities. Hine (2008 in Ševčíková 2014) describes the community as a social space in which people interact and engage in certain activities. The advantage of the community in the online space is the fact that it enables fast connection with people throughout the Czech Republic. Although online communities are not even remotely established for therapeutic reasons, there is a certain interaction among members which is often supporting. Miovský (2010) sees the community as a means of primary prevention. He perceives that way rather the therapeutic community, but he himself states that the communities historically originated just from interest groups at the turn of the 19th and 20th centuries.

Online communities have certain specific features compared to real-world communities. First, it is important to mention anonymity and distance, which greatly supports the effect of "behavior with released brakes" (Suller, 2004 in Ševčíková, 2014). This "release" could be more accurately described as greater openness and less inhibition in communicating with others. We can also talk about the induced feeling that our behavior in the online world may not have any real consequences in the offline world. There is also a certain change in behavior and acting in the online space compared to the behavior and acting in real everyday life.

Why do individuals look for community membership during adolescence? We often find connections to the social background of the offline environment. Towards online communities are often directed young people who, for some reason, are refused or even excluded from their normal environment and within the community they find understanding for their diversity and they find the feeling of belonging.

The research (cf. Ševčíková, 2014) suggests that there is indeed a link between online community search and peer rejection in the real world. Furthermore, the community can be an attractive environment for young people seeking new experiences. So we can say that online communities offer adolescents experiencing real-life problems at home, at school, or among peers a safe environment where they can experience a corrective experience, share similar problems and feel acceptance. But is this environment really safe? There are several real risks that we can encounter on the Internet.

3 Internet risks

One of the most common risks in the Internet environment is **cyberbullying**. Unlike ordinary bullying, cyberbullying takes place in a virtual environment. Vanessa Rogers (2010) lists several types of how to affect a victim in cyberbullying:

- Flaming – Internet discussions which are aggressive and attacking.
- Harassment – Repeatedly sending offensive and offensive messages.
- Denigration –Spreading lies and slander to disrupt victims' relationships or tarnish their reputation.
- Impersonation – Commenting and distributing materials under a pseudo name.
- Outing – Disclosure of sensitive information or secrets without the person's consent. (Outing is also used in connection with the intentional disclosure of homosexual orientation without the consent of the person concerned.)
- Trickery – Coercion or persuasion of the victim to disclose secrets and subsequent publication on the Internet.
- Exclusion – Deliberate excluding from an online group. (Unsupported as a precautionary measure. Exclusion is with the intention of harming the victim.)
- Cyberstalking – Repeated humiliation and harassment. It often involves threats and intimidation.

Another risk on the Internet is **cyberstalking**. These are persecution on social networks, repeated sending of messages and e-mails or attacking a profile on social networks or the whole computer. Most of them are offenders the victim knows (Čírtková, 2004).

No less serious risk on the Internet is cybergrooming. The term cybergrooming refers to the behavior of some Internet users that results in intimate rapprochement with the prospective minor. Once the intimate relationship is established, the cybergroomer induces the child to have a personal meeting that can lead to sexual abuse, abuse for child prostitution, child pornography production, etc. It is therefore a kind of psychic manipulation that is realized through the Internet (Berson, 2002 in Kopecký and Szotkowski, 2015).

Cybergooming is often closely related to sexting. It is an act of electronic distribution of your own photos or videos with sexual context (Kopecky, Szotkowski, 2017).

4 Specifics and risks within online communities linked to textual RPGs

Research has been conducted across several online communities in text-based games focused on the Harry Potter story, which is still a popular topic for a large number of adolescents. The research focused on the perception of potential risks by the text game operators, their experience with them, and whether they are interested in helping them to maximize the prevention of projects and gain knowledge on how to proceed in case of threat to players.

Research questions also targeted text game players; they focused on what the game or community membership offers them, how safe they feel in the environment, whether they have direct experience with some of the risks on the Internet, and what they have dealt with in such a situation.

In general, therefore, the research intent was to examine the current situation of combating the dangers in cyberspace in the Harry Potter theme text games environment, to shed light on the seriousness of the current situation. This is a qualitative survey, as the aim was not to determine the frequency of risks but their severity. Based on specific cases, both management and players identified the needs of these communities in preventing cybersecurity.

Two questionnaires were created for data collection of this research. For the first questionnaire there could be identified as the basic set of people from operators positions who are involved in the creation of text role-playing games, especially from the Czech Republic. The basic sample was narrowed to a selection method by the method of deliberate selection, the criteria of which were the following conditions: the subjects of the research had to be people forming the operator positions of text games focused on the Harry Potter story mainly from the Czech Republic. The questionnaire was disseminated using the snowball method, i.e. the questionnaires were sent out with a request to share with other project leaders on the topic of the Harry Potter story (cf. Miovský, 2006).

For the second questionnaire, all text game players from the Czech Republic were designated as the basic set. The intentional sample consists of text game players focused on the Harry Potter story. These games are Czech, but often there are also players from the Slovak Republic. The questionnaire was disseminated through the institution, i.e. the management of the game shared a questionnaire with its players asking to complete it.

Questions addressed to the game operator focused on several topics. At the beginning on the time of the existence of the text game, the number of active players, the age limit of the players, the most common age category, the possibilities of "out-of-the-box" communication (so if there is an online community of the players) Consequently the questions were focused on risks on the Internet, if they occured, how they were dealt with and if there is interest in professional advice in this area.[2]

Questions for text game players focused on the age of the players, what school they were attending, how long they had been playing a text game, and whether they were playing one or more games on the subject. Furthermore, the questionnaire focuses on the benefits of the game and the online community, whether players have found new friends in the community, whether they have met them in person, whether they use official meetings organized by game operators and whether their parents know about these activities. The conclusion of the questionnaire focuses on their subjective sense of security, whether they have already encountered negative experiences within the online community and how this situation has been solved.

The questionnaire intended for operators of text games thus showed some important information. Text game players are mostly 15–20 years old. With a few exceptions, projects have no age limit. All games have established extra-game communication. An overwhelming majority of respondents have already encountered a situation where there was a need to deal with the dangers on the Internet, and most operators are interested in consulting in this area. Respondents chose a handbook designed specifically for the operators of text games as the most useful option, but they also see some advantages in carrying out a lecture with an expert in this field.

Regarding the results of the questionnaire survey designed for players, we can say that in the largest representation players are aged between 17–20 years, mostly students of secondary schools and grammar schools. Half of the players have been

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[2] The operators of the game are mostly recruited from persons aged 18–20 years who are oriented in the field of information technology, programming, design and of course in the themes the game is oriented to. Within the game and the community, they create the authority to which players turn with confidence to expect advice and, in case of direct confrontation, intervention to resolve the situation. It can be assumed that in the case of serious risks that players can encounter on the Internet, without studying optimal strategies, it is difficult to cope.

playing text games for over a year. Most of them are kept on one text game. Very interesting are the answers, which examine what participation in a text game or online community of players gives to players. In addition to the default answers, there are also very remarkable answers that players have verbally added. They appreciate the fact that they are practicing creative writing with a text game. Interesting is the answer, which indicates that the author is fully aware of the fact that within the online community he/she can manipulate others without serious sanctions. Players appreciate the opportunity to make new friends through the online community. Up to 91.1% of players made new friends thanks to a Harry Potter text game. Moreover, in most cases, friendship does not just end at cyberspace. A total of 71.4% of respondents have already had personal meetings with these "online friends" several times. Half of the players used organized official meetings for personal meetings, but the results also showed fear of not accepting in a real meeting.

More than half of the respondents told their parents that they were playing text games, some even showed them pages, and 20% of the players showed their parents the channel of communication of the gaming community. However, 19% of respondents said parents had no idea of this because they were not interested in their leisure activities.

The results regarding the subjective feeling of safety of the players on the discord (communication channel) could be evaluated positively. The vast majority of players feel safe, but they are attentive to whom they confide in personal matters. The results also point to the confidence that players have with text game operators. This is paradoxical given that 58.9% of the respondents encountered negative phenomena as part of their work in the text game or online community. Relatively positive, however, is the finding that most of the negative phenomena encountered by players in text-game environments and, above all, online communities are social phenomena that we can commonly encounter outside the Internet. However, the occurrence of the risks mentioned above (see Chapter 3) has been confirmed.

The final question asked how these negative manifestations were dealt with. The most common answer was that nothing had to be done. The second most common answer was that the respondents confirmed their confidence in the game operator, who solved the situation. Two players admitted that the situation was not resolved because they were afraid to admit it. None of the respondents contacted real-life friends or parents. Several respondents added to the 'other' option that they could handle situations of this type themselves. One of the respondents added the following sentence: "It is impossible to solve it. The stronger will always control the weaker."

If we compare the results of the questionnaire survey by contrast and comparison method, we find the points of view from the operators and players of text games are not very different.

Table 1

TOPIC	Game operators	Text game players
Age	15–20 years	17–19 years
Communication of players	100% established extra-game communication	91,1% found friends within community
Encounter with danger in cyberspace	68,8% yes	58,90%
Concrete situation	Most often sexting	Most often sexting and kybergrooming
Solution	Exlusion of the attacker	Reporting to the operators / manage individually / with a friend from the community

5 Discussion: Ethopedics and cyberspace

Both sides, both the game operators and the players themselves, admit encountering the issue of cyberspace danger. These are often problems associated with sexting and cybergrooming. These problems need to be solved in some way. Players put trust in the hands of the game operators. They investigate the situation and after warning / agreement they often proceed to expel the attacker from the game and community. However, there is a fact that an attacker can easily create a new e-mail and create a new account with a different identity and project, and they return to the community soon. Which brings us to the need to develop a more effective solution strategy. Game operators perceive as one of the effective options the creation of a handbook directly for their needs, which would lead them to the possibility of increasing the effectiveness of prevention and, where appropriate, to refer to the relevant organizations that are designed to solve these serious phenomena.

Based on the findings, a text game guide has been developed for the operators to ensure that players are prevented, as up to now there has been intervention in the occurrence of a particular problem. But is this sufficient help to ensure increased security in online communities?

When creating this research, the unfortunate fact arose that most of the Czech professional literature dealing with these risks falls under sociology and not ethopedy. The most beneficial source of information was the eSafety project, and Kamil Kopecký (the operator of the project) himself said that he did not know how to apply the ethopedist to his team. In today's world, countless everyday matters, including human communication, are moving into the online space, and it is no different for manifestations of behavioral and emotional disorders. It is evident that the effects of ethopedy should begin to focus on cyberspace. Contemporary adolescents are looking for help, acceptance, friends, establishing intimate relationships, and are a very easy target for cyber attackers. Therefore, maximizing prevention in this area with a view to ensuring the greatest possible safety should be one of the cardinal topics implemented in the modern concept of ethopedic care.

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Various specifics of theatrotherapeutic intervention in work with client diagnosed with Asperger syndrome

(scientific paper)

Martin Dominik Polínek, Dominik Lipovský

Abstract: *Following text aims to describe certain specifics of theatrotherapeutic process, which are based on subjective perception of its partakers. The specifics are formulated on the basis of qualitative research methods, using participant observation, case study and interview with client-actor diagnosed with Asperger syndrome. The research follows a theatrotherapeutic process that has been evolving for over two years inside an inclusive theatre, which primarily works with method of plastic-cognitive style of movement, a specific artistic and rehabilitation approach evolved by Moscow psychologist and director Natalie TimofejevnaPopova.*

Keywords: *Theatrotherapy, Inclusive theatre, Plastic-cognitive style of movement, qualitative research, Asperger syndrome*

1 Introduction

Following text aims to describe certain specifics of theatrotherapeutic process, which are based on subjective perception of its partakers. The specifics are formulated based on qualitative research methods, using participant observation, case study and interview with client-actor diagnosed with Asperger syndrome. The research follows a theatrotherapeutic process that has been evolving for over two years inside an inclusive theatre that primarily works with a method of plastic-cognitive style of movement, a specific artistic and rehabilitation approach evolved by a Moscow psychologist and director Natalie Timofejevna Popova. The results of this research are meant for mere orientation and concretization of selected research activities in this area, hereby disclaiming its universal application. Described experiences are short-term and subjective. Nevertheless, they might inspire other work with this type of clientele, not only in the area of an inclusive theatre.

2 Theatrotherapy and Inclusive Theatre

Social theatre is working with marginalized social groups (various ethnic groups, homeless people etc.) – **inclusive theatre** – the one where actors with disability and other specifics (e.g. pensioners) meet actors without such specifics. Focus here is on the socialization and integration goals.

- **Osobyjtyatr (specific, individual theatre)** – in comparison to inclusive theatre, *osobyjtyatr* focuses primarily on artistic form and fulfilling therapeutic and formative necessities comes as a secondary effect. "*Osobyjtyatr* allows audience to see personal part of an individual, to recognize their necessities. Its specificness lies in a unique view of the world, view interconnecting both the archaic and the phenomenon of theatrotherapy is in general very difficult to define. We can perceive theatrotherapy as an expressive-formative approach, consisting in therapy, prevention, psychosocial affection of an individual and process of preparation and realization of a theatrical piece (Polinek in Muller, 2014). Theatrotherapy, although, is not possible without theatrical creation, so to speak without theatre *per se.* Subjects of theatrotherapy do not perceive their doings as a therapy, but as an artistic or recreational activity. Thus, it is safe to define theatrotherapy as a specific style of theatre. Andrey B. Afonin, one of the prevailing personalities in this field, recognizes three types of theatrotherapy (2018):
- **Social theatre** – in Afonin'sopinion the most important contemporary theatre due to its content, which is pondering social questions through an art form. Two qualities constantly meet in this type of theatre – art and society. Equally specific is the audience, meaning it is a *socially active audience*, prone to active participation in changing public space and carrying out social changes. Social theatre inspires its audience by bringing in social topics on one side and resolutions on the other. One part of contemporary side of the art." (Afonin, 2018 s. 36). What particularly allows us to distinguish between *osobyjtyatr* and other types of theatrotherapy are the outcoming art forms. If actors with specific necessities are unnecessary for the performance, it is not *osobyjtyatr.* For example, according to Afonin (2018), in *osobyjtyatr* participate only persons with disabilities.

Generally speaking, among effective theatrotherapeutic factors we recognize (Kodetova in Pavlovsky, 2004):

- submerging into the role,
- artistic experience,
- the continuity of theatre rehearsals and the outcoming product (performance),
- theatrical creation,
- acting techniques,

- artistic expression,
- theatrotherapeutic exam (more in Polinek, 2015).

Often, so called ***community theatre*** becomes an equivalent of theatrotherapeutical theatre. Therefore, it would be fitting to ponder effective factors in the area of therapeutic community that stem from psychoanalytic theories and researches (Polinek in Finková, 2013; Kalina, 2008)). Let us highlight those that can be effectively used in communitive theatre work (Polínek, 2013):

- **Attachment –** very close and yet very clearly bordered relationships are indispensable in community theatre. Focus is on the feeling of the sense of belonging, being a part of safe and supportive relation network.
- **Containment** – a situation when subject can express their emotions and problems in a safe environment to the community that is able to capture these problems – tolerate subject's expressions and help him with managing them. In theatrotherapy these problems can be "coded" (safely bordered) f. e. in artistic expression, through an experience of submerging into a certain role throughout a metaphor.
- **Involvement** – in other words learning from interpersonal feedbacks in the community
- **Action** – perceived as gradual feeling of responsibility of one's actions. Important factor is the extent to which the actor takes part in co-deciding and then accepting and subordinating himself to the common decision (comprasion Polínek, Růžička, 2013).

Therapeutical goals are (Polínek, 2017):

- **Universal** – it is possible to apply theatrotherapy on various groups, with various-specifics and handicaps.
- **Unspecific –** goals are usually defined in a more general way, without particular focus on specific handicap or disorder.
- **Multilateral –** endorsing various components of personality.
- **Inclusive** – targeted groups of the ratrotherapy are often marginalized by the majority, therefore it is difficult for them to find a mutual dialogue.

Paratheatrical work enables these groups to search for common ground with intact persons, either their co-workers in preparation of their project or the audience of the outcome (more in Polinek in Muller, 2014).

Abovementioned facts are further supported by the results of the research, where aforementioned atrotherapeutic specifics as well as earlier listed effective factors spontaneously appear during an unstructured interview.

The effect of the atrotherapy targets various areas, nevertheless certain specifics are to be seen:

- "developing both verbal and nonverbal communication,
- relieving of social anxiety,
- diminishing social isolation,
- enhancing self-reflection,
- strengthening self-restrain and sense of duty,
- further developing creativity,
- enhancing adaptability,
- enhancing self-consciousness,
- endorsing management of emotions,
- endorsing ability of spontaneous behavior,
- widening the repertoire of different life roles" (Polínek, 2015, s. 41).

3 Method of plastic-cognitive style of movement

The method of plastic-cognitive style of movement is an autonomous system applied by its creator N. T. Popova, who is interconnecting artistic goals with rehabilitation ones. In other words, therapeutic effect in artistic activity is as important for the actor as aesthetic quality of the outcoming artform (comparison Popova, 2013). The method is based mainly on profound physiotherapeutic work with client's body. This work follows the ontogenetical development of an individual, interconnecting scheme of physical vessel with emotional experiences and neurological development. Physical level is therefore a basic communicational instrument in theatrical expression. This level is equally accessible to intact actors and actors with any type of specifics, unlike f. e. verbal communication, that can be limiting to certain types of cognitive disability.

This system consists in working with a motional stereotype that is the first step towards activating an artistic process. Primarily developed motional parts of body are activated in form of ceaseless repetition of bodily exercises, later causing heightened sensibility of partner on stage. Process then continues in developing a dance motion and its use to create a theatrical performance in so called "plastic specific theatre". A great attention is paid to strengthening one's consciousness of his own body. Each exercise is followed by a brief relaxation, during which the client perceives and realizes his physical feelings, provoked by the exercise (comparison Popova in Polínek, 2015).

4 Basis of the research

The research focuses on actor with Asperger syndrome and his development during long-term activity in an inclusive theatre ModroDiv, which applies the method of plastic-cognitive style of movement as the only theatre in Czech Republic. In the research, a several methods were used:

- a participant observation (of the atrotherapist – the director and the assistants-intact actors);
- unstructured interview;
- a case study.

As for the analysis we chose searching for *gestalts* and comparison of the results with theoretical phenomena of the atrotherapy (more above).

The respondent was well-informed and agreed to publish the results. It is a 21-year-old man who was diagnosed with Asperger syndrome moderately late (in his 17-teens). Before this diagnosis we could observe diagnosed social anxiety, suicidal attempts and bullying in his primary school in the anamnesis. Client was absolving a long-term individual therapy using gestalt-therapy, expressive therapies (among others skazkotherapy, poetotherapy and bibliotherapy). Further, report mentions over two years long period of extreme isolations. (After a suicide attempt and hospitalization in a psychiatric facility he does not leave the apartment and communicates verbally only with his therapist and his younger brother. Moreover, and extreme fear of human touch and physical contact is perceived.)

Later on, we therapeutically succeeded in diminishing the isolation and the client is able to exist in a social facility supporting individual with ASD (autistic spectrum disorder). Whilst also participating in an inclusive theatre, where he at first did not verbally communicate nor did he bear any physical contact. Often, he experiences affective states related to hyperventilation. Then these symptoms recede and the client is starting to communicate. In terminal part, client is able to recite his own verses in front of the audience. Furthermore, client starts to embrace physical contact with other members of the theatre group, not only his therapist. Now he can participate in social events outside the theatre.

5 Theatrotherapeutic process in the perspective of actor with Asperger syndrome

Following text comes out of analysis of unstructured interview with abovementioned respondent, in which we define basic phenomena occurring throughout the interview. These phenomena correspond with general specifics of the atrotherapy (more above):

Reduction of tension, alleviation of social anxieties, development of verbal and nonverbal communication

"In the beginning I had no idea what I am going for. I feared beating, because I already had experience with bullying. Especially when I knew that young men will be present. At first, I had trouble participating in any way. It is beyond any comparison how I function today. Not only I am able to speak in front of others, but I am also expressing emotion by movement."

Containment (possibility of expressing one's emotion in safe environment of community)

"And most importantly I understood and believed that expressing emotion on the outside is good. For us, people with ASD, it is hard to estimate, how we should behave in which situation and if we behave correctly. I, too, had problem with this and so I preferred not to express myself in any way… I did not even know, that I have ASD."

"We are all different. It is difficult to function in group, whilst not forgetting others' individualities. For example, you cannot afford to behave one way towards one person and the same way towards different person."

Attachment – feeling of togetherness

"It was difficult for me to realize that we act as a group, collectively, not as individuals. That is important for us, people with ASD. We are great individualists, as for functioning in life and our interests. That is another great experience for me that in theatre we can cooperate, not only coexist. Now I can express what I dislike and what bothers me towards others."

The effect of the continuity of rehearsals in terms of plastic movement

"At first it was extremely difficult, physically speaking. Exhausting. After the rehearsal I was utterly exhausted and the day after I could hardly work. Now I enjoy it. To come home full of energy."

The specifics of work with body –becoming conscious of one's physical scheme

"It is of key importance to me to work on the ground. When I move on the ground, I touch it with all parts of my body, thus experiencing my boundaries. If I just 'float through the air' I am not sure of myself, and unable to realize the shape and borders of my body. It is something one cannot really grasp."

The effect of interconnecting the rehabilitation with artistic expression

"When we need to rehearse, there is no time to exercise moving on the ground. No time to realize one's self and free one's self from everyday thoughts that could get in the way of

the rehearsal. When we work just with movement for hour or two, it also feels different when acting… I am able to move in a way that I normally cannot, not thinking about anything and thus I can relax. Practically, I think all the time and I enjoy when I cease to think, however difficult that is for me."

Accepting one's own responsibility

"When the director did not comply with my demands, e.g. abolished my solo scene, I felt hurt in the moment, but after some time I understood. When he did not have my needs in mind, I was forced to think of the needs of the group."

Meaning of the theatrical work and its outcome (attachment, inclusiveness)

"It is now unimaginable for me that we would not perform. We are a theatre and the evolution of theatre itself is related to shows that stem from our experiences. Without performing, it would all lose sense and I would lose motivation; I would not be able to realize that I can act. I would lose the good feeling of doing something that I found unimaginable not so long ago. The important message of the performance is to show unity. The audience does not care about individuals, it sees performance as a whole. Therefore, spectators do not distinguish between person with ASD, an actor or a psychologist. They all have their role during the rehearsals but when the show comes, we are all in it together."

Specifics of submerging one's self into acting role (esthetic distance)

One of the atrotherapeutical rules is distance. If the content of play stems from life experiences (stories) of one of the actors, as a matter of principle he does not depict himself. This attitude allows him not only to maintain safe distance, but also enables him to see his own story in a different perspective during the performance.

"It was very important for me to see my own story depicted by a different actor. In relation to my past – the bullying, it allowed me to move on. Although I did not feel well about it, I was connected to the viewers – I felt they cared about 'me'. Even though in one scene I felt so bad I could not even be a co-actor, it did not affect my acting self-consciousness. Putting it simply, I started believing in myself in ModroDiv."

6 Theatrotherapeutic process in the perspective of an intact actor

"What I saw was a transformation of insecure and isolated person to a self-conscious individual realizing his own specifics and embracing them. Perhaps it would be best to compare it to the opening of a blossom.When I think back to the beginning of the process, it is almost unbelievable for me to find ourselves in the place where we are now. I think

the major leap occurred, when he (the client with ASD) *recited his own poem in front of entire hall, one hundred and fifty people minimally. It was something rather incredible.*"

7 Conclusion

Above described research affirms universality, versality and inclusive character of theatrotherapeutic goals. Besides that, it supports the fact that the atrotherapy stands exactly on the imaginary border between treatment, rehabilitation and art. We can thus talk about phenomenon that can integrally develop person with any kind of specifics and moreover bring research qualities to the artistic sphere.

"I wish ModroDiv, our theatre, a lot of sensible spectators. And I wish to thank the theatre greatly for enabling us to work as a whole and bring a quality towards the audience, in spite of our individualities."

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Visual impairment: behavioral approaches to education with aids

Beneš, P. (2019). *Zraková postižení: behaviorální přístupy při edukaci s pomůckami*. Praha: Grada

Reviewed by Lucie Flekačová

Applied behavioral analysis (ABA), which comes predominantly from the Anglo--American countries, is becoming more and more prominent in the Czech environment. ABA analyses human behavior from the point of view of this behavior change, reactions to these changes and the person's response. In the first four chapters of the book, the author Pavel Beneš presents theoretical grounds of the ABA, while the last chapter deals with the research itself.

The introductory chapter defines the basic terminology and thus briefly presents the topic to the reader. Firstly, the author specifies and differentiates the terms "integration" and "inclusion", then outlines different branches of special pedagogy. The first chapter focuses on the term "ABA" as a science which is based on the norms of behavior with the aim to improve this behavior according to social norms. The author presents seven dimensions of ABA: applied, behavioral, analytic, technological, conceptually systematic, effective and generalizing. Furthermore, the three steps on which the ABA analysis is based on are emphasized. It is an ABC model: antecedent, behavior, consequence.

The second chapter deals with general notes on the key topic. The methods of evaluation of obtaining information are listed, such as interview, questionnaire, test, direct and indirect observation. Additionally, ABA techniques are presented. An example of such techniques can be fading, shaping or generalization. The author also mentions the variables of the analysis.

The following third chapter briefly defines who the person with a disability is and what the visual impairment classifications are. The author writes about the basic terminology in special education of visually impaired, such as visual acuity, optotypes, contrast sensitivity, convergence, accommodation, visual field and many others. Subchapters about refractive errors and other eye diseases are also included.

For the theory to complete the research, the fourth chapter deals with corrective optical aids for people with visual impairment. The author writes about glasses and contact lenses for corrections of refractive errors, specifically for myopia and astigmatism. Nowadays, people with visual impairment can use not only classic corrective aids, but also the ones on the basis of assistive technology. The author emphasizes that the rehabilitation process with the use of an aid is different for every individual. Besides other factors, the process is influenced by the progressive character of the eye disease.

The research part of the publication aims to compare the data of each group and evaluate the practice time of each optic and electronic aid used by intact, visually impaired and mentally disabled people. The participants are divided into three groups: the first group is of persons with mild mental disability, the second, control group is of intact persons, and the third group is of persons with visual impairment. A total of 699 people participated in the study. The results show the need of an individual approach to each person, either with mental disabilities or visual impairment, as well as intact persons.

This scientific publication focuses on a current topic of ABA in scientific research. Although the ABA is usually used with persons with autism spectrum disorder, mentally disabled persons or persons with another disability, the author uses it also with visually impaired persons. That is why this publication brings a new and unique viewpoint on the target group of people with visual impairment, primarily in the possibility of using the ABA with this specific group.

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When nothing matters anymore: a survival guide for depressed teens

Cobain, B. *Když už naničem nezáleží: Rádce pro dospívající s depresí a poruchami nálad*. 1st ed. Praha: 2018. 149 p. ISBN 978-80-262-1387-1

Reviewed by Tereza Houšková

As the title suggests, this is a book with a difficult content addressing a mental disorder identified as depression. Research clearly suggests an increase in mental disorders, primarily in the teenage period. Therefore, this monograph, which is intended especially for teenage persons, is absolutely desirable.

One of the main motives of the author Bev Cobain for writing this book was the death of her cousin. The Nirvana singer Kurt Cobain, who was a model for many teenagers, committed suicide as a result of deep depressions. Because the author herself is a licensed practical nurse in psychiatry and mental health and as a teenager had rich experience with sexual abuse, panic disorder, alcoholism, depression and suicidal thoughts, she decided to offer a helping hand to those who suffer from these problems. Bev Cobain is also member of several boards in suicide prevention associations. She is the co-author of the monograph Dying to Be Free: A Healing Guide for Families After a Suicide, which she wrote together with Jean Larch.

The book "When Nothing Matters Anymore" has two main parts and seven chapters. Chapters one to five present the basic facts about depression, types of depression, manifestations, effects of depression in the brain, and associations between depression and suicide. In the second part of the book the author presents practical information on where to find help and how to keep up one's strength when symptoms of depression occur. The author describes various approaches to the treatment of depression including pharmacotherapy, therapeutic approaches, self-help techniques and exercise. A very important part of the last chapter is a section entitled Top Ten Questions, in which Cobain summarizes what her readers ask in their letters. Using a supportive language, the author briefly explains everything or refers to various parts in the book. Cobain says: *"No one is immune to tragedy, bad luck or ill fate. But everyone can learn to stand strong against hardship and adversity. Don't let depression* *get the best of you. You can survive physically, emotionally and spiritually. Some problems may even be gifts in disguise."*

The language of the monograph is very warm-hearted even for the lay community. In the text, young adults should be able to find both scientific facts relating to depression and support and encouragement. The chapters of the book also include case reports, which explain specific problems using specific cases of the persons who underwent these problems.

As a reviewer, however, my subjective opinion is that the many case reports concerning this very negative issue are likely to give a rather frustrating and anxiety-causing impression. A minor negative aspect is that the original was written in a different country with different mentality. This need does not always match the Czech mentality including the population of young people. Specifically, this includes children's gangs and various services which are provided in a different way.

On the other hand, a great advantage is the large number of worksheets that can be freely copied and used. The book also includes a number of references to websites, telephone numbers and other services available in the Czech Republic that people suffering from depression, problems with habit-forming substances or suicidal tendencies can use.

Overall, I think the monograph is a useful guide for a young person who fights depression. In conclusion, I would like to cite the words of Bev Cobain that she addressed to the parents of these young people. These words express the mission of the whole book. *"You are your teen's most valuable ally in the fight to defeat depression. Depression is a treatable problem. You have every reason to feel hopeful about your teen's future."*

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