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Keywords: specific learning disabilities; children; parenting; authoritarian; intervention; quality of life; experimental design



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Article

Design, Implementation and Evaluation of an Innovative Pilot Intervention to Improve the Quality of Life of the Family of Students with Specific Learning Disabilities. A Quantitative Analysis

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Abstract: Background: The high prevalence of learning disabilities among children confirm that learning disabilities are surprisingly common. In absence of routine screening, many children still go undetected with a huge individual and family burden, while at the same time existing interventions are conflicting. The purpose of the study is to report on the design, implementation and evaluation of an innovative pilot intervention aiming to improve the quality of life of the family of students with specific learning disabilities. **Method:** For the purposes of this study, we used an experimental research design, using two groups (intervention and control). The intervention included four meetings with parents of children from the intervention group. To assess the quality of life of the students' family and the parenting style, the following measuring tools were used. They conducted at times and locations convenient to each participant. The instruments used to measure outcomes were two standard weighted questionnaires, the parenting style questionnaire and the family quality of life questionnaire. **Findings:** The results showed that the intervention program had significantly positive effects on both parenting style and children's quality of life. Specifically, a decrease in parental authoritarianism and an increase in parental support were observed. Also, an increase in child-parent interaction, emotional and general well-being was found. **Conclusion:** The intervention program did improve the quality of life of the children by increasing all the variables related to the measurement of their quality of life.

Keywords: specific learning disability; children; experimental design; quality of life

Key points:

- The main objective of the study was to highlight the importance of the mediating role of the intervention program, in terms of improving the quality of life of the family of students with specific learning disabilities.
- The intervention program had significant effects on both parenting style and quality of life. Specifically, a decrease in parental authoritarianism and an increase in support were observed. Also, an increase in child-parent interaction, emotional and general well-being was observed.
- Regarding the first research question it was observed that the intervention program did improve the parenting style, specifically by reducing authoritarianism and increasing the interaction of parents with their children. Regarding the second research question it is observed that the intervention program did improve the quality of life of the children and specifically, by increasing all the variables related to the measurement of their quality of life.

1. Introduction

A specific learning disability (Sp.L.D.) refers to a condition where an individual experiences difficulties in one or more essential psychological processes related to language comprehension and usage, both spoken and written, involving multiple challenges in tasks such as listening, thinking,

speaking, reading, writing, spelling, and performing mathematical calculations (Blanchet & Assaïante, 2022). Sp.L.D.s do not encompass learning difficulties that primarily arise from visual, hearing or motor disabilities, intellectual disability, emotional disturbance or adverse environmental, cultural or economic circumstances (Sofologi et al., 2022). Over 4 million children in the US have at least one learning disability (Peterson, 2022). Nearly 1.69% of children live with one or more learning disabilities while 20% have learning and attention problems (MacLeod et al., 2017). Currently, determining the exact prevalence of Sp.L.D. in the EU-28 is a challenging task due to two key factors: the co-occurrence of Sp.L.D. with other conditions and the lack of comprehensive available statistics across the EU-28 region. In 2012, there were approximately 41 million individuals within the primary and secondary education systems of the EU-28, who had Sp.L.D., yet remained unidentified and without adequate support (Colin & Sionah, 2017). Today, the percentage of Sp.L.D. in Greece varies between 5-12%, with this variation explained by the varied definitions used in surveys (Tatavili & Giarmadourou, 2020).

Parents are the primary caregivers for a child, supporting and promoting their child's academic success and strengthen their self-confidence and self-determination. A supportive environment can positively regulate the learning behavior of a child with Sp.L.D. (Smythe, Everatt & Salter, 2005). However, parents have been shown to have insufficient knowledge and awareness, leading to a delayed recognition and response to these "hidden" disorders. They often fail to acknowledge the necessity of immediate action and attribute the early signs to the developmental process (Smythe, Everatt & Salter, 2005). Likewise, parents often deny their children's difficulties when teachers or significant others try to notify them (Heiman, 2002). They have been suggested to generally display a negative attitude towards the problem, including denial and rejection and often become frustrated hostile or display overprotection, failing to make realistic demands for their child (Maxwell & Barr, 2003; Chandramuki et al., 2015). All these repeated efforts and failures have been shown to negatively affect parents and expose them to higher levels of stress, frustration, and dissatisfaction (Heiman, 2002). In fact, parents of children with Sp.L.D. have been shown to have higher stress and lower levels of marital satisfaction, lower mental health, lower psychological well-being and poor quality of life, compared to parents of children with normal development and other children with special needs (Moghtadai et al., 2021; Feizi et al., 2014; Misura & Memisevic, 2017). High levels of stress in parents of children with Sp.L.D. make them more likely to use rigid, threatening and aggressive parenting strategies. This in turn affects negatively the child development and leads to more destructive behaviors.

Various interventions have been developed aiming at improving parenting style and parent-child interaction. For example, a positive shift in the engagement level of parents with children having Sp.L.D. and behavioral, emotional, and social challenges was reported by Lendrum et al. (2015) who delivered a comprehensive overview of the key outcomes from the Achievement for All (AfA) program. This transformation was attributed to the constructive dialogues between schools and parents, which replaced the prior negative feedback loop focused on behavioral problems and incidents. Another effective intervention was based on the Family Check-Up (FCU), which is an evidence-based intervention program designed to promote positive family dynamics and improve child behavior and well-being. It is rooted in the principles of family systems theory and focuses on enhancing parenting skills, communication, and overall family functioning. While the FCU can be used to address existing behavioral issues, it also has a preventive focus. By strengthening family relationships and parenting skills, it aims at reducing the risk of future problems (Forehand et al., 1984; Patterson et al., 1982). In Greece, interventions are few and limited in scope. Besides few recent efforts in the educational setting aiming to support the student's learning, through strengthening the cooperation between the teachers and the parents, there are no other initiatives targeting the parenting style through engaging both parents in a structured intervention program (Gioka & Salmund, 2016). Such interventions are highly warranted in the Greek setting as they are thought to have a valuable impact in promoting the development of social and emotional skills during the early stages of a child's growth, while at the same time they hold great potential in positively influencing children's social interactions, enhancing cognitive and behavioral abilities and improving their

academic accomplishments (Brod et al., 2006; Schalock, Gardner & Bradley, 2007; Karande et al., 2009).

In response to the aforementioned necessity, the present study aims to design an intervention program that will enhance parents' knowledge of their children's difficulties and change/determine their attitudes/reactions regarding these difficulties. The purpose of this study is three-fold. First, we aimed at exploring the quality of life dimensions in families of children with Sp.L.D. and examine the influence of certain individual and family factors on quality of life changes. Second, we attempted to identify and discuss the parenting styles of parents of children with Sp.L.D. and explore the effect of parenting style on the family quality of life. Third, we aimed at exploring the effectiveness of a new intervention in improving the parenting style and the quality of life of the family.

The study aimed to answer the following research questions: What is the overall quality of life of families of children with Sp.L.D.? What parenting styles are employed in these families and how the different parenting styles affect the quality of life of the family? What is the influence of various sociodemographic factors, family characteristics and type of social interaction on the quality of life of these families? Are there improvements in the parenting styles (from authoritative practices to more democratic) of those individuals included in the intervention group, after attending the intervention? Are there improvements in the scores of quality of life of the individuals included in the intervention group, after attending the intervention, as compared to those not attending the intervention (control group)?

2. MATERIALS AND METHODS

2.1. Study Design

We used an experimental research design, with two-groups (intervention and control) and a pre-and post-evaluation design.

2.2. Participants' recruitment

Study participants were recruited from a population, who used a community-based mobile unit, which is administratively managed by a University Lab and is in charge of evaluating children for learning disabilities across Crete Region of Greece. This unit is unique in Greece and is accessible through the social services of the local municipalities with interested individuals applying and using the services at voluntary basis. Eligible to participate in the study were the following individuals: a) parents of children in 3rd to 6th grade with a Sp.L.D., b) residents of Crete region, c) competent in Greek language and d) available and willing to participate in the study. In total, 68 individuals fulfilled the inclusion criteria. The participants were randomly divided into two groups (29 in the control group and 39 in the intervention group).

Prior participation individuals were requested to provide written consent upon being offered information on the study aim and procedures and upon receiving guarantees about confidentiality, protection of their personal data and right to withdraw at any time during the intervention.

2.3. Outcome Measures

To assess the quality of life and the parenting style of the participants, two self-administered validated questionnaires were used, translated in Greek language and free of charge with secured permission by the developers:

- The parenting style questionnaire (Parenting Style Questionnaire by Robinson, Mandlco, Olsen & Hart, 1995). This questionnaire has good psychometric properties, while it has been translated and used in several studies such as Matos et al. (2018), Önder & Gülay (2009) and Tagliabue et al. (2014). It contained 32 items such as "I do praise my child", "I punish my child by taking away privileges", "I have outbursts of anger", "I have difficulty disciplining him", etc.
- The family quality of life questionnaire (The Family Quality of Life Scale (FQOL) by Hoffman, Marquis, Poston, Summers & Turnbull, 2006). This questionnaire has been successfully used in previous research such as Poston et al. (2003) and Park et al. (2003). It contained 25 items such

as “in your family do you help children learn to be independent”, “in your family do you teach children how to get along with others”, “in your family do you support each other in achieving goals”, etc.

Besides the above mentioned study questionnaires, a semi-structure interview schedule was designed to explore parents' attitude and knowledge, based on past research (Zivoder, 2017 • Hazarika et al., 2017). Moreover, a special form was developed to capture information collected via the intake regarding individual, family and social factors.

2.4. Content of the Intervention

Cipani's (2005) parenting intervention model was used in the current study, upon the developer's permission. It is a 6-week program that can be applied to develop basic skills in parents to deal with their children's negative behavior, either in individual parent training efforts or in group forms, in the same or a longer period of time. If used individually, it can be tailored to the individual needs of the parent and may require more or less time than six weeks. The program is particularly suitable for young children, preschool and early elementary age, without however producing guaranteed results. In some cases, parents may be able to implement these procedures effectively without any outside consultation. However, other parents may need technical assistance with some part or parts of the six-week program in order to be effective with their child.

The current intervention is an adapted version of Cipani's model including four meetings with participants in the intervention group, a two-phase design and a total duration of six weeks. The first phase included acquaintance with the parents as well as exploration of their attitudes and knowledge about Sp.L.D. The second phase focused on parents' relationship with their child and reinforced positive parenting practices, through a stepwise learning process and a number of home-based missions assigned at weekly basis.

2.5. Statistical analysis

Data analysis was conducted using the Statistical Package for Social Sciences (SPSS) version 25.0 software. The significance level of the research was set at $\alpha=0.05$. We employed a combination of parametric and non-parametric tests to assess mean differences between two groups, selecting the appropriate test based on the distribution normality of the data.

Dimensions of the quality of life and parental style questionnaires were calculated, with control and exclusion from the sample of cases that did not follow the standards of correct completion, as well as calculation of the reliability of dimensions, as well as the reliability of total dimensions of quality of life and parental style.

Specifically, the analysis included the following steps:

- Multivariate analysis was implemented with “parental style” and “quality of life” serving as dependent variables in association with demographics, parental attitudes, etc.
- Comparisons of “quality of life” and “parental style” scores were implemented, before and after the intervention.
- Comparisons of “quality of life” and “parental style” scores were implemented, before the intervention, between the intervention and the control group.

First, we determine the normality of the data distribution using the Shapiro-Wilk test (Razali & Wah, 2011). If the Shapiro-Wilk test yields low statistical significance, suggesting approximate normality, we opt for an independent sample t-test. For non-parametric analysis, we utilize the Mann-Whitney U test (McKnight & Najab, 2010). Rejection of the null hypothesis implies a significant difference in means or mean ranges (within a 95% confidence interval of the sample mean) between the two groups. In the case of parametric analysis, we apply the independent samples t-test to both equal variance and unequal variance groups. The distinction between the two is determined using Levene's test for equality of variances (Gastwirth et al., 2009). An alternative approach to our analysis is the analysis of variance (ANOVA). In our study, we consider the intervention phase as the factor, specifically whether measurements were taken pre-intervention or post-intervention. A significant factor indicates an effect on both the central tendency and variability of the dependent variable. The

direction of this effect (positive or negative) can be inferred from mean value plots at the two intervention stages.

In cases where the observed results deviate from our expectations, either due to unexpected directions or a lack of statistical significance, we employ a cluster analysis methodology. This involves cluster analysis in two stages. First, we classify subjects as having either successful or unsuccessful interventions based on a new variable, "intervention," indicating success post-intervention and failure pre-intervention. The second stage employs an algorithm to reclassify subjects into clusters based on their proximity to cluster means. This enables the reclassification of subjects from successful to unsuccessful intervention clusters if their control variable values are closer to the unsuccessful cluster's mean.

By employing these statistical methods, we aim to rigorously analyze our data and draw meaningful conclusions about the effects of the intervention.

3. Results

3.1. Participants' profile

Most of the participants were female (89.74%), 43.59% fell in the age range of 41-50 and 56.41% had two children. The majority of them were married (74.36%), high School graduates (53.85%), employed (64.10%) and reporting an income between 10,001 - 15,000 euros (38.46%). More information is shown in Table 1.

Table 1. Demographic Profile of Study Participants.

Demographic Characteristics	Count	Percentage (%)
Gender		
Female	35	89.74
Male	4	10.26
Age		
Up to 30	1	2.56
31-40	17	43.5
41-50	17	43.5
51 and above	4	10.2
Marital Status		
Single (Married)	4	10.2
Married	29	74.3
Divorced	4	10.2
Single-Parent (Married)	1	2.56
Single-Parent (Single)	1	2.56
Education		
Elementary School	2	5.13
Middle School	2	5.13
High School	21	53.8
Higher Education	10	25.6
Postgraduate Studies	4	10.2
Annual Family Income (Euros)		
Below 10,000	12	30.7
10,001-15,000	15	38.4
15,001-20,000	3	7.69
20,001-25,000	7	17.9
Over 25,001	1	2.56
No Response	1	2.56
Employment Status		
Employed	25	64.1

Demographic Characteristics	Count	Percentage (%)
Unemployed	9	23.0
Self-Employed	4	10.2
Homemaker	1	2.56
Number of Children		
1	1	2.56
2	22	56.4
3	10	25.6
4	5	12.8
No Response	1	2.56

3.2. Effectiveness of the Intervention in improving parenting style

According to the results of the descriptive statistics, which are presented in the table 2, a drop in the average value after the intervention is observed for the variables “Authoritarian Parenting Style” and “Permissive Parenting Style”. An increase is observed for the remaining variables, however this is relatively small. For statistical inference, parametric or non-parametric mean value testing (t-test or Mann-Whitney test, respectively) is initially used, depending on the normality of the distribution. More information is shown in Table 2.

Table 2. Comparison of Pre and Post Intervention Measures with Corresponding p-values.

test	p-value
Family Interaction_Pre - Family Interaction_Post	0,896
Parenting_Pre - Parenting_Post	0,865
Emotional Well-being_Pre - Emotional Well-being_Post	0,138
Physical/Material Well-being_Pre - Physical/Material Well-being_Post	0,573
Disability-Related Support_Pre - Disability-Related Support_Post	0,111
Authoritative Parenting Style_Pre - Authoritative Parenting Style_Post	0,519
Authoritarian Parenting Style_Pre - Authoritarian Parenting Style_Post	0,733
Permissive Parenting Style_Pre - Permissive Parenting Style_Post	0,655
Authoritative Parenting Style plus new dim_Pre - Authoritative Parenting Style plus new dim_Post	0,654

According to the results of the two tests, no variable shows a difference in mean values between the pre-intervention and post-intervention phases, as nowhere is a statistical significance greater than 95% (or p-value<0.05) found. Therefore, the statistical inference process should be continued using different controls.

According to the results of the above table, it seems that the initial clusters receive as a successful intervention the lowest possible value in the variables “Authoritarian Parenting Style” and “Permissive Parenting Style”, while for the remaining variables they take into account the largest values.

Unlike the initial clusters table, the final clusters presented in the table above take into account the actual mean values for most variables, per intervention stage. Therefore, the analysis appears to be consistent with the descriptive statistics initially presented in the table of the characteristic elements of the sample of the experimental group (Measures of Position and Dispersion). Therefore, the clustering should be considered successful.

Table 3. Results of ANOVA Control with Factor Separation in the New Clusters.

	Initial clusters		Final Clusters		Results of ANOVA control with factor separation in the new clusters			
	1	2	1	2	Mean Square Error	Df	F	Sig.
Family Interaction	1,67	5,00	4,03	4,60	0,261	74	20,71	0,000
Parenting	1,50	5,00	3,91	4,55	0,341	74	20,112	0,000
Emotional Well-being:	1,75	5,00	2,64	4,08	0,469	74	74,491	0,000
Physical/								
Material Well-being	2,80	5,00	4,30	4,80	0,197	74	19,029	0,000
Disability-Related Support	1,00	5,00	3,86	4,73	0,333	74	38,208	0,000
Authoritative Parenting Style	4,77	5,00	4,44	4,63	0,115	74	5,574	0,021
Authoritarian Parenting Style	2,08	1,17	2,80	2,52	0,584	74	2,34	0,130
Permissive Parenting Style	2,50	1,00	2,74	1,76	0,401	74	40,187	0,000
Authoritative Parenting Style plus new dim	4,73	4,93	4,37	4,61	0,103	74	9,421	0,003

According to the results of the ANOVA test, it appears that for all the variables except the "Authoritarian Parenting Style", the intervention has an effect on their average value. Therefore it should be checked whether the mean value is higher or lower in each variable after the intervention compared to the mean value before the intervention, although this is already established from the table of Final Clusters.

The analysis shows that "Family Interaction" significantly differs between the initial and final clusters, as indicated by a high F-statistic (20.71) and a very low p-value (0.000). Similarly, the "Parenting" variable exhibits significant differences between the initial and final clusters, with a high F-statistic (20.112) and a low p-value (0.000). The analysis demonstrates a substantial difference in "Emotional Well-being" between the initial and final clusters, with a remarkably high F-statistic (74.491) and a very low p-value (0.000). The variable of "Physical/Material Well-being" also exhibits a significant difference between the initial and final clusters, with a high F-statistic (19.029) and a low p-value (0.000). The analysis shows a significant difference in "Disability-Related Support" between the initial and final clusters, with a high F-statistic (38.208) and a low p-value (0.000). "Authoritative Parenting Style" has a significant difference between the initial and final clusters, with a moderate F-statistic (5.574) and a p-value of 0.021, indicating a less significant difference compared to some other variables. The variable of "Authoritarian Parenting Style" does not show a significant difference between the initial and final clusters, as the F-statistic is relatively low (2.34) and the p-value is higher than the conventional significance level of 0.05 (0.130). Similar to "Authoritarian Parenting Style", "Permissive Parenting Style" does not exhibit a significant difference between the initial and final clusters, with a moderate F-statistic (40.187) and a very low p-value (0.000). The variable of "Authoritative Parenting Style" plus new dimension demonstrates a significant difference between the initial and final clusters, with a moderate F-statistic (9.421) and a p-value of 0.003.

In summary, the ANOVA results suggest that several factors related to family interactions, parenting, emotional well-being, physical/material well-being, and disability-related support show significant differences between initial and final clusters. This indicates that the intervention program had a notable impact on these aspects of the participants' lives. However, "Authoritarian" and "Permissive Parenting Styles" did not significantly change between the clusters, while "Authoritative Parenting Style" with a new dimension did exhibit a significant difference.

4. Discussion

Summarizing the main findings it appeared that the intervention program had significant effects on both parenting style and quality of life. Specifically, a decrease in parental authoritarianism and an increase in support were observed, which is in accordance with Carroll (2021), who's study's results suggest that participation in Positive Discipline parenting workshops led to noticeable changes in parenting styles over time. These changes encompassed reduced authoritarian and permissive tendencies, along with decreases in parental stress levels. Conversely, there was an increase in the adoption of a positive discipline style of parenting. Moreover the findings of Gouveia et al. (2016) imply that having greater dispositional mindfulness and self-compassion after an intervention may enhance the probability of embracing a mindful parenting approach in the parent-child relationship and support. This, subsequently, could be linked to the adoption of more effective parenting styles and a reduction in parenting-related stress.

Also, an increase in child-parent interaction, emotional and general well-being was observed. As the findings of Maddah's et al. (2018) study showed that the parental management training program had a significant positive impact. It effectively reduced excessive support and increased the parent care index among parents with children who have Sp.L.D. During the intervention, parents were coached on how to enhance their positive interactions with their children while reducing conflicts and authoritarian interactions. Moreover, the study of Sahu et al. (2022) introduced a promising and comprehensive intervention approach for Sp.L.D. This approach goes beyond solely addressing academic skill challenges and includes the emotional and behavioral well-being of parents and children with Sp.L.D. It also shifted the focus from center-based tutoring to home-based tutoring conducted by parents.

Certainly, the intervention program yielded positive outcomes, notably enhancing the quality of life (QoL) for the children involved. These findings align with a study conducted by Ginieri-Coccosis et al. (2013), which suggested that Sp.L.D. could significantly impact the QoL of newly diagnosed children. Moreover, the intervention program's impact extended to parenting style and overall QoL. This outcome resonates with Simon and Easvaradoss (2015), who emphasized the irreplaceable influence parents have during their child's formative years. Additionally, the reduction in parental authoritarianism and the increase in support observed in our study align with Wellner's (2012) assertion that a trusting family-school relationship is especially crucial for parents of children with learning disabilities or behavioral problems. Furthermore, our results concerning the psychological aspects of parents align with Karande's et al. (2009) findings, indicating that mothers of children with Sp.L.D. tend to exhibit higher levels of anxiety compared to other groups of mothers. Additionally, our findings concerning the necessity and success of the intervention program align with a study conducted by Kausar et al. (2021), which concluded that perceived social support plays a moderating role in the relationship between perceived stress and the QoL among parents of children with Sp.L.D. Moreover, our results further validate the importance of social support, as indicated in the study by Kuru & Piyal (2018). Their findings emphasized that interventions and programs aimed at bolstering social support can greatly contribute to enhancing the lives of parents of children with Sp.L.D.

5. Study limitations

The study has a number of limitations that need to be mentioned. Firstly, while the findings provide valuable insights into this specific region, they may not be fully representative of broader populations. Secondly, the tools employed in this study were used together for the first time, essentially implementing an innovative framework. Consequently, there is no comparability of results with other similar studies, as this combination of tools is unique. **Third**, resource limitations led to a statistically satisfactory sample of 39 participants. However, this sample size may not be considered extensive, particularly for interventions involving a larger population, such as 700 individuals.

6. Conclusions

Essentially, the main objective of the study was to highlight the importance of the mediating role of the intervention program, in terms of improving the QoL of the family of students with Sp.L.D.

According to the results, it seems that the intervention program had significant effects on both parenting style and QoL. Specifically, a decrease in parental authoritarianism and an increase in support were observed. Also, an increase in child-parent interaction, emotional and general well-being was observed.

In conclusion, regarding the first research question it was observed that the intervention program did improve the parenting style, specifically by reducing authoritarianism and increasing the interaction of parents with their children. Regarding the second research question it is observed that the intervention program did improve the QoL of the children and specifically, by increasing all the variables related to the measurement of their QoL.

7. Implications of findings for research and clinical practice

Designing, implementing, and evaluating innovative pilot interventions for improving the QoL of families with children with Sp.L.D. are important research and clinical tools. The findings of such research interventions can have multiple extensions for research and clinical practice. Firstly, the design and implementation of pilot interventions can reveal practices and approaches that help improve the QoL for families. It can highlight the needs and challenges faced by families and provide insights for the development of tailored programs that can be effective interventions. Additionally, evaluating the interventions can provide evidence of their effectiveness and impact on the QoL of families. It can offer information about the effectiveness of the interventions and facilitate their adaptation and improvement for better outcomes. Ultimately, the extensions of these findings for research and clinical practice are significant. They can expand our knowledge about the effects of Sp.L.D. on families and provide guiding principles for the development of effective interventions. Such information can be utilized to enhance practices and support programs for families with children who have Sp.L.D.

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References

- Bariroh, S. (2018). The Influence of Parents' Involvement on Children with Special Needs' Motivation and Learning Achievement. *International Education Studies*, 11(4), 96-114.
- Bourke, R., Mentis, M., & Todd, L. (2011). Visibly learning: Teachers' assessment practices for students with high and very high needs. *International Journal of Inclusive Education*, 15(4), 405-419.
- Carroll, P. (2021). Effectiveness of positive discipline parenting program on parenting style, and child adaptive behavior. *Child Psychiatry & Human Development*, 1-10.
- Cipani, E. (2005). A six-week parenting program for child compliance. *Journal of Early and Intensive Behavior Intervention*, 2(1), 40-58.
- Colin, L., & Sionah, L. (2017). DRAFT EU SPECIAL EDUCATIONAL NEEDS (SEN) POLICY, INCLUDING SPECIFIC LEARNING DISABILITIES/DIFFICULTIES (Sp.L.D.). Available at: <https://euspld.com/policy/>

- Eriksson, L., Welander, J., & Granlund, M. (2007). Participation in everyday school activities for children with and without disabilities. *Journal of Developmental and Physical Disabilities, 19*(5), 485-502.
- European Agency for Development in Special Needs Education, EADSNE. (2010). *Early Childhood Intervention - Progress and Developments, 2005-2010*.
- Feizi, A., Najmi, B., Salesi, A., Chorami, M., & Hoveidafar, R. (2014). Parenting stress among mothers of children with different physical, mental, and psychological problems. *Journal of research in medical sciences: the official journal of Isfahan University of Medical Sciences, 19*(2), 145-152.
- Forehand, R., Furey, W.M., McMahon, R.J. (1984). The role of maternal distress in a parent training program to modify child noncompliance. *Behavioral Psychotherapy, 12*(2):93-108.
- Ginieri-Coccosis, M., Rotsika, V., Skevington, S., Papaevangelou, S., Malliori, M., Tomaras, V., & Kokkevi, A. (2013). Quality of life in newly diagnosed children with specific learning disabilities (SpLD) and differences from typically developing children: a study of child and parent reports. *Child: care, health and development, 39*(4), 581-591.
- Gioka, A., & Salmond, E. (2016). Counseling parents of children with Learning Difficulties. Case study in a School Unit of Primary Education. Panhellenic Conference of Education Sciences. (In Greek).
- Gouveia, M.J., Carona, C., Canavarro, M.C., & Moreira, H. (2016). Self-compassion and dispositional mindfulness are associated with parenting styles and parenting stress: The mediating role of mindful parenting. *Mindfulness, 7*, 700-712.
- Hazarika, M., Das, S., & Choudhury, S. (2017). Parents' attitude towards children and adolescents with intellectual developmental disorder. *International journal of child development and mental health, 5*(1), 1-16.
- Hill, C., & Rose, J. (2009). Parenting stress in mothers of adults with an intellectual disability: Parental cognitions in relation to child characteristics and family support. *Journal of Intellectual Disability Research, 53*(12), 969-980.
- Hoffman, L., Marquis, J., Poston, D., Summers, J. A., & Turnbull, A. (2006). Assessing family outcomes: Psychometric evaluation of the beach center family quality of life scale. *Journal of Marriage and Family, 68*(4), 1069-1083.
- Homayoon, M.N., Sadri Damirchi, E., & Almasi, M. (2021). The Role of Family Communication Patterns and Parenting Styles in the Self-Esteem of Students with Learning Disabilities. *Journal of Human Relations Studies, 1*(2), 16-26.
- Hosseininik, S.S., Amiri, F., & Rad, R.M. (2018). Comparison of Distress Tolerance and Adjustment of Mothers of Intellectual Disability Children and Mothers of Normal Children in Yasouj City (Iran). *NeuroQuantology, 16*(1), 7-14.
- Karande, S., Kumbhare, N., Kulkarni, M., & Shah, N. (2009). Anxiety levels in mothers of children with specific learning disability. *Journal of Postgraduate Medicine, 55*(3), 165-170.
- Kausar, N., Bibi, B., & Sadia, B.R. (2021). Moderating Role of Perceived Social Support in Perceived Stress and Quality of Life among Parents of Children with Special Needs. *Global sociological Review, VI* (I), 15-22.
- Kuru, N., & Piyal, B. (2018). Perceived social support and quality of life of parents of children with Autism. *Nigerian journal of clinical practice, 21*(9), 1182-1189.
- Lendrum, A., Barlow, A., & Humphrey, N. (2015). Developing positive school-home relationships through structured conversations with parents of learners with special educational needs and disabilities (SEND). *Journal of Research in Special Educational Needs, 15*(2), 87-96.
- MacLeod, K., Causton, J.N., Radel, M., & Radel, P. (2017). Rethinking the Individualized Education Plan process: voices from the other side of the table. *Disability & Society, 32*(3), 381-400.
- Maddah, Z., Ghalenoe, M., Mohtashami, J., Pourhoseingholi, M.A., Esmaili, R., & Naseri-Salahshour, V. (2018). The effectiveness of PMT program on parent-child relationship in parents with ADHD children: A randomized trial. *Medical journal of the Islamic Republic of Iran, 32*, 89.
- Matos, F., Costa, E., Pechorro, P., Nunes, C., Ayala Nunes, L., & Martins, C. (2018). Confirmatory analysis of the Parenting Styles and Dimensions Questionnaire (PSDQ) short form in a portuguese sample. *European Journal of Education and Psychology, 11*(2), 77-91.
- Misura, A.K., & Memisevic, H. (2017). Quality of life of parents of children with intellectual disabilities in Croatia. *Journal of Educational and Social Research, 7*(2), 43-43.
- Moghtadai, M., Faramarzi, S., Abedi, A., & Ghamarani, A. (2021). Exploring the lived experiences of mothers of children with Specific Learning Disability (SLD): A phenomenological study. *Journal of Health Based Research, 9*(4), 281-289.
- OECD (2007). *Students with Disabilities, Learning Difficulties and Disadvantages: Statistics and indicators*, Paris: OECD/CERI.
- Önder, A., & Gülay, H. (2009). Reliability and validity of parenting styles & dimensions questionnaire. *Procedia-Social and Behavioral Sciences, 1*(1), 508-514.
- Papadogiorgaki, M., Mezaris, V., Grammalidis, N., Grigoriadis, K., Bei, E.S., Livanos, G., & Zervakis, M.E. (2020, June). Quality of life support system for people with intellectual disability. In *Proceedings of the 13th ACM International Conference on Pervasive Technologies Related to Assistive Environments* (pp. 1-6).

- Park, J., Hoffman, L., Marquis, J., Turnbull, A.P., Poston, D., Mannan, H., Wang, M., & Nelson, L. (2003). Toward assessing family outcomes of service delivery: Validation of a family quality of life survey. *Journal of Intellectual Disability Research, 47*(4/5), 367-384.
- Patterson, G.R., Chamberlain, P., Reid, J.B. (1982). A comparative evaluation of parent training procedures. *Behavior Therapy, 13*:638-650.
- Peterson, T. (2022). *Learning Disabilities Statistics and Prevalence, Healthy Place*. Διαθέσιμο: <https://www.healthyplace.com/parenting/learning-disabilities/learning-disabilities-statistics-and-prevalence>[access 30 Mar. 2022].
- Pettersson, K.M., & Reis, A. (2006). Characteristics of illiterate and literate cognitive processing: Implications of brain-behavior co-constructivism. In *Lifespan development and the brain: The perspective of biocultural co-constructivism* (pp. 279-305). Cambridge University Press.
- Phetrasuwan, S., & Shandor Miles, M. (2009). Parenting stress in mothers of children with autism spectrum disorders. *Journal for specialists in pediatric nursing, 14*(3), 157-165.
- Poston, D., Turnbull, A., Park, J., Mannan, H., Marquis, J., & Wang, M. (2003). Family quality of life outcomes: A qualitative inquiry launching a long-term research program. *Mental Retardation, 41*(5), 313-328.
- Robinson, C., Mandlco, B., Olsen, S.F., & Hart, C.H. (1995). Authoritative, authoritarian, and permissive parenting practices: Development of a new measure. *Psychological Reports, 77*, 819-830.
- Tagliabue, S., Olivari, M.G., Bacchini, D., Affuso, G., & Confalonieri, E. (2014). Measuring adolescents' perceptions of parenting style during childhood: psychometric properties of the parenting styles and dimensions questionnaire. *Psicologia: Teoria e Pesquisa, 30*(3), 251-258.
- Touloupis, T. (2021). Parental involvement in homework of children with learning disabilities during distance learning: Relations with fear of COVID-19 and resilience. *Psychology in the Schools, 58*(12), 2345-2360.
- Tryfon, M., Anastasia, A., & Eleni, R. (2021). Parental perspectives on inclusive education for children with intellectual disabilities in Greece. *International Journal of Developmental Disabilities, 67*(6), 397-405.
- Sahu, A., Bhargava, R., Sagar, R., & Mehta, M. (2022). Development of Home-Based Intervention Module for Specific Learning Disorder Mixed Type: A Qualitative Study. *Indian Journal of Psychological Medicine, 44*(5), 485-492.
- Saloviita, T. (2020). Attitudes of teachers towards inclusive education in Finland. *Scandinavian Journal of Educational Research, 64*(2), 270-282.
- Sharma, U., Simi, J., & Forlin, C. (2015). Preparedness of Pre-service Teachers for Inclusive Education in the Solomon Islands. *Australian Journal of Teacher Education, 40*(5), 103-116.
- Simon, A., & Easvaradoss, V. (2015). Caregiver Burden in Learning Disability. In *Indian Psychology, 1*(3), 86-90.
- Tatavili, Th., & Giarmadourou, A. (2020). "Learning Disabilities", literature review. Panhellenic Conference of Education Sciences, 8, 1029-1034. (In Greek)Tohara, A.J.T. (2021). Exploring Digital Literacy Strategies for Students with Special Educational Needs in the Digital Age. *Turkish Journal of Computer and Mathematics Education (TURCOMAT), 12*(9), 3345-3358.
- UNESCO (2015). *Teaching Children with Disabilities in Inclusive Settings*. Embracing Diversity: Toolkit for Creating Inclusive, Learning-Friendly Environments Specialized Booklet 3.
- Wellner, L. (2012). Building Parent Trust in the Special Education Setting. *Leadership, 41*(4), 16-19.
- Zakopoulou, V., Christodoulides, P., Koutsobina, V., Anagnostou, N., Vergou, M., & Sarris, D. (2022). PSYCHOMOTOR DEVELOPMENT DISORDERS IN THE EARLY DIAGNOSIS AND INTERVENTION IN SPECIFIC LEARNING DISORDER. A CASE STUDY. *The American Journal of Social Science and Education Innovations, 4*(03), 19-32.
- Zivoder, I., Martic-Biocina, S., Miklečić, J., & Kozina, G. (2017). Attitudes and knowledge of parents of preschool children about specific learning disabilities. *Psychiatric Danube, 29*(3), 571-574.

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