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Primary to Secondary School Transition for Students with Learning Disabilities: A Comparative Study Before and After the COVID-19 Pandemic

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Abstract: This study examines the transition challenges faced by students with learning disabilities (LD) from primary to secondary school, focusing on emotional, behavioral, and social aspects. Using a sample of 168 special education teachers, the study employs the Strengths and Difficulties Questionnaire (SDQ-Hel) to assess emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship difficulties, and prosocial behavior before and after the COVID-19 pandemic. Statistical analyses, including t-tests and repeated measures ANOVA, reveal significant increases in emotional and behavioral challenges post-pandemic. Effect sizes (Cohen's d) indicate moderate to strong impacts in key areas, with emotional symptoms ($\eta^2 = .06$) and hyperactivity/inattention ($\eta^2 = .05$) exhibiting notable changes. The findings highlight the necessity for targeted interventions, such as teacher training on emotional regulation strategies and structured transition programs. Implications for educators and policymakers include the implementation of inclusive practices and specialized transition support structures to mitigate these challenges and enhance the overall well-being of students with LD.

Keywords: Learning disabilities, behavioral challenges, emotional symptoms, primary-secondary transition, special education teachers.

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Introduction


The transition from primary to secondary education poses significant challenges for students with learning disabilities (LD), affecting their emotional, behavioral, and social development. Emotional difficulties are particularly pronounced, as students with LD often experience heightened anxiety and stress during this period. Sideropoulos et al. (2024) found that transitions can exacerbate emotional symptoms, highlighting the critical need for strategies that enhance emotional resilience among these students. Furthermore, students with co-occurring LD face even greater behavioral challenges, with Franklin-Gillette et al. (2022) reporting increased conduct problems. Their research underscores the importance of implementing targeted interventions to manage these difficulties effectively.

This study fills a gap in existing research by providing a longitudinal comparison of transition challenges faced by students with LD before and after the COVID-19 pandemic. Previous research has primarily focused on either single time points or qualitative assessments, leaving a gap in understanding how these challenges evolve over time. By analyzing teacher-reported data from 2019 and 2023, this study offers a unique perspective on the long-term impact of external disruptions on school transitions. Additionally, it examines how various school environments and student demographics interact with these challenges, offering a more detailed and context-specific understanding of transition experiences.

Hyperactivity and inattention are additional challenges that frequently impact students with LD during their transition to secondary school. Piko and Dudok (2023) observed that these symptoms often worsen during this transition primary-to-secondary period, emphasizing the need for specialized support mechanisms to help students manage their behavior and sustain focus. Social challenges, including difficulties with peer relationships, social isolation, and increased bullying,

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are also common among students with LD. Metzner et al. (2020) found that students with LD face a higher risk of social difficulties, underscoring the importance of social skills training and inclusive practices to foster positive peer interactions and reduce isolation.

Although prosocial behavior in students with LD has received limited attention, emerging research suggests that promoting such behaviors can significantly contribute to smoother transitions. Beatson et al. (2023) highlighted that fostering prosocial behavior enhances social integration and overall well-being, helping students navigate the social and emotional complexities of transitioning to secondary school. Addressing these multifaceted challenges through targeted interventions and comprehensive support systems is essential for facilitating smoother transitions, promoting academic success, and ensuring the emotional well-being of students with LD.

Finally, as Strnadová et al. (2023) emphasize, further research is needed to evaluate and establish evidence-based practices that support students with LD during this critical transition period. Rather than focusing on specific interventions, this study aims to analyze the emotional and behavioral challenges students with LD face during the transition and how these challenges have evolved over time. While prior research has highlighted the potential benefits of structured academic and socio-emotional support (Jindal-Snape et al., 2020), the present study focuses on assessing the transition experience itself rather than implementing or evaluating specific intervention strategies.

This study seeks to advance the discourse on educational methodology by addressing the critical gap in understanding how students with LD experience the transition from primary to secondary school. Previous studies (e.g., Donaldson et al., 2024; Metzner et al., 2020) have highlighted the increased emotional and behavioral difficulties faced by these students, yet there is limited longitudinal evidence on how these challenges evolve over time, particularly in a post-pandemic context. By providing empirical data on these changes, this study contributes to the existing body of research by identifying key factors that influence the transition experience. Rather than proposing specific interventions, it aims to inform future support strategies by offering insights into the most pressing challenges students with LD encounter during this period.

As a longitudinal study, the present research examines the perceptions of 7th-grade special education teachers regarding the challenges and strengths of students with LD during this transition, comparing data from 2019 and 2023. Using the Strengths and Difficulties Questionnaire (SDQ-Hel), the study analyzes significant changes in emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship difficulties, and prosocial behavior. By assessing teachers' responses, this research identifies the emotional and behavioral areas most affected by the pandemic and explores how these changes have influenced the transition experience.

Ultimately, the findings contribute to a deeper understanding of the pandemic's impact on the psychosocial well-being of students with LD and offer insights into evidence-based interventions and inclusive policies that can facilitate a smoother adaptation to secondary education. The research is guided by the following key questions.

- How did teachers perceive changes in emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior between 2019 and 2023?
- How do the changes in emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior between 2019 and 2023 compare across different teacher subgroups (e.g., based on years of experience, school setting, etc.)?

Literature Review

The transition from primary to secondary school is a key milestone in a young person's educational trajectory (Makin et al., 2017). This transition can provide opportunities for children to flourish and develop as individuals (Deieso & Fraser, 2019). However, it can also be a stressful and challenging period as children navigate multiple changes, including larger schools, new subjects, and more teachers (Jindal-Snape et al., 2020). Clinicians, educators, and researchers are aware of the social, organizational, and emotional challenges associated with the transition from primary to secondary school and the impact they have on children's psychosocial well-being (Leduc et al., 2024). There is, however, an urgent need to further our understanding of how transition to secondary school affects the mental health of children (Donaldson et al., 2024; Holt et al., 2022). Learning more about the impact of transitions on neurodivergent children can inform efforts to promote inclusive practices in education (Bagnall et al., 2021).

A growing body of research has documented the vulnerability of neurodivergent children and their heightened risk of experiencing anxiety and stress during the transition from primary to secondary school (Donaldson et al., 2023). Factors that contribute to this vulnerability are often associated with physical, pedagogical, and social changes, as well as interpersonal factors such as social understanding and sense of belonging (Mumford & Birchwood, 2020).

Physical changes in the environment can be emotionally demanding for a child. During the transition from primary to secondary school, children often move to larger spaces with more than one building and multiple classrooms. It has often been reported that these physical environmental changes increase the chances of distress to children as they risk getting lost (Curson et al., 2019; Mizelle & Irvin, 2000) and that this can increase anxiety (Bharara, 2019). Pedagogical changes,

such as being taught by several teachers as opposed to one teacher for all subjects, increased homework, and expectations of independence, can negatively impact adjustment to the new environment and affect children's participation in the classroom (Raniti et al., 2022).

Finally, social changes can create anxiety during school transitions. Peer relationships change during the primary to secondary school transition (Keay et al., 2015), causing fears about losing old friends, making new friends, and bullying (Curson et al., 2019; Gough Kenyon et al., 2020; Zeedyk et al., 2003). Based on previous research, neurodivergent students are more likely to be bullied across school years compared to neurotypical students (Maïano et al., 2016), which subsequently can have a significant impact on their mental health (Beckman et al., 2020; Leduc et al., 2024).

The transition to secondary school significantly impacts adolescents' emotional wellbeing, often leading to both challenges and opportunities for growth. Research indicates that this period is marked by heightened emotional demands, with many students experiencing declines in wellbeing due to the complexities of adapting to a new environment. The decline in wellbeing following the transition to secondary school has been reported across several domains, including academic motivation and achievement, life satisfaction, social and emotional skills, emotional stability, school identification, subjective valuing of learning, and engagement in behavioral, emotional, and cognitive dimensions (Organisation for Economic Co-operation and Development [OECD], 2021; Widlund et al., 2023).

Ethnically diverse students often reported feeling unprepared for the transition, with many struggling to reconcile their cultural identity during this period. These findings highlight the urgent need for culturally sensitive support systems to address their unique challenges (Cunningham et al., 2024). Similarly, children receiving student premium funding expressed mixed emotions about the transition. This underscores the critical importance of tailored interventions to support disadvantaged groups effectively (Garner & Bagnall, 2024). Systematic Educational Actions (SEAs) foster positive relationships and academic support, enhancing students' sense of belonging and academic performance during school transitions (Roca et al., 2024).

The transition process for students with LD presents multiple challenges that require deeper understanding through empirical investigation. This study aims to explore these challenges by examining how students' emotional and behavioral characteristics, as perceived by their teachers, have changed over time. By focusing on the comparison of pre- and post-pandemic data, the research seeks to identify the specific areas of difficulty that affect students' adaptation during the transition from primary to secondary school, contributing to the development of more targeted and timely support practices.

Research has shown that evidence-based support focusing on both academic and socio-emotional dimensions can enhance students' adaptation to new educational environments (Jindal-Snape et al., 2020). However, prior research has largely overlooked how these challenges evolve over time, particularly in the context of external disruptions such as the COVID-19 pandemic. This study contributes to the existing literature by providing empirical insights into the specific emotional and behavioral difficulties students with LD face during the transition process, helping to inform the design of more responsive and inclusive educational practices.

Methodology

This longitudinal study, following an empirical quantitative methodology, explored the perceptions of 7th-grade special education teachers about the challenges and strengths of students with LD during their transition from primary to secondary school in 2019 and 2023. Data collection relied exclusively on the Strengths and Difficulties Questionnaire (SDQ-Hel), a validated tool designed to assess the emotional and behavioral characteristics of children and adolescents.

This study's use of the SDQ-Hel as a longitudinal assessment tool provides valuable methodological insights into how students' emotional and behavioral characteristics evolve over time. The SDQ-Hel is the Hellenic version of the Strengths and Difficulties Questionnaire, originally developed by Goodman (1997), and consists of 25 items divided into five subscales: Emotional Symptoms, Conduct Problems, Hyperactivity/Inattention, Peer Relationship Problems, and Prosocial Behavior. Each subscale includes five items rated on a three-point Likert scale (0 = Not True, 1 = Somewhat True, 2 = Certainly True). The SDQ-Hel has demonstrated strong construct validity (e.g., CFI = 0.92, RMSEA = 0.05) and high internal consistency, with Cronbach's alpha values ranging from 0.72 to 0.89 in prior studies. In this study, reliability coefficients were similarly high ($\alpha = 0.78\text{--}0.87$), supporting the robustness of the instrument. By comparing pre- and post-pandemic data, this research offers a unique perspective on the long-term impact of external disruptions on school transitions.

Participants

The study involved 168 7th-grade special education teachers, selected using stratified sampling to ensure representation across diverse geographic regions of Greece and school settings (urban, suburban, rural). All participants had direct experience teaching students with LD during the transition to secondary school (Table 1). The selection of the sample of 168 teachers, comprising diverse characteristics such as gender, age, teaching experience, and school setting, was intentionally designed to ensure a comprehensive understanding of the factors influencing the transition of students with

LD from primary to secondary school. Stratified sampling was employed to achieve a representative distribution across key demographic and contextual variables, as this method enables researchers to capture the variability within subgroups and enhance the generalizability of findings (Cohen et al., 2017; Lohr, 2021).

The gender distribution, with 67.9% female and 32.1% male teachers, reflects the typical gender imbalance in the teaching profession, where women often outnumber men, particularly in primary and secondary education (OECD, 2021). Including both genders ensures a balanced perspective on the challenges students face during the transition, as male and female teachers may interpret and respond differently to students' emotional, behavioral, and social needs.

Age and teaching experience were also carefully considered. Teachers under 35 years old (48.8%) and those over 35 years old (51.2%) were included to account for potential differences in pedagogical approaches and familiarity with the unique needs of students with LD. Younger teachers might bring innovative strategies and flexibility to their teaching, while more experienced teachers may offer deeper insights into long-term patterns and interventions for students with LD (Donaldson et al., 2023). Similarly, the inclusion of teachers with ≤ 10 years of experience (44.0%) and > 10 years of experience (56.0%) ensures the representation of both early-career and veteran teachers, acknowledging the diverse expertise they bring to supporting students during this critical transition (Beatson et al., 2023).

The sample also reflects variation in school settings, including urban (45.2%), suburban (26.2%), and rural schools (28.6%). These settings were incorporated to explore contextual differences in the challenges and resources available to students with LD. Urban schools often provide access to specialized services and support programs, while rural schools may face limitations in resources but offer smaller, more close-knit environments (Strnadová et al., 2023). Suburban schools, situated between these extremes, may present a mix of these characteristics, highlighting the need to tailor interventions based on specific school contexts (Franklin-Gillette et al., 2022).

Overall, the intentional selection of these characteristics ensures that the study captures a wide range of perspectives and experiences, aligning with best practices in educational research. This approach allows for a nuanced understanding of the factors that shape teachers' perceptions and strategies for supporting students with LD during the transition, ultimately informing targeted and equitable interventions (Jindal-Snape et al., 2020; OECD, 2021).

Table 1. Demographic Characteristics of Teacher Participants

No	Characteristics	n	%
Gender			
1.	Male	54	32.1
	Female	114	67.9
Age Group			
2.	≤ 35 years	82	48.8
	> 35 years	86	51.2
Teaching Experience			
3.	≤ 10 years	74	44.0
	> 10 years	94	56.0
School Setting			
4.	Urban	76	45.2
	Suburban	44	26.2
	Rural	48	28.6

Instrument Used

The Strengths and Difficulties Questionnaire (SDQ-Hel) (Goodman, 1997) was utilized as the sole data collection tool in both 2019, as part of a doctoral dissertation, and again in 2023 by the same lead researcher, with the support of the article's co-researchers. This concise and reliable 25 item-questionnaire captured teachers' perceptions of students' emotional and behavioral characteristics across the following domains:

- Emotional Symptoms- 5 items
- Conduct Problems- 5 items
- Hyperactivity/Inattention- 5 items
- Peer Relationship Problems- 5 items
- Prosocial Behavior- 5 items

Data Collection

In both 2019 and 2023, the SDQ-Hel questionnaire was administered to teachers in paper format during scheduled staff meetings or professional development sessions within their schools. The administration process was coordinated through school principals, who assisted in identifying eligible special education teachers working with 7th-grade students with LD.

Teachers received clear written instructions to complete the questionnaire based on their observations of students during the transition from primary to secondary school, reflecting on behavior over the previous six months. Completion was voluntary and anonymous, and the process required approximately 10–15 minutes.

The questionnaires were distributed and collected by the research team in collaboration with school principals. Participation was voluntary, and informed consent was obtained from all participants. The completed forms were either collected on-site by the research team or returned in sealed envelopes to ensure confidentiality.

The same procedures were followed in both 2019 (January–December) and 2023 (January–December), ensuring consistency and comparability across the two data collection periods.

Ethical Considerations

Participation in the study was voluntary, and informed consent was obtained from all teachers prior to both phases of data collection (2019 and 2023). All data were anonymized to ensure participant confidentiality and to protect the identity of both teachers and students. Ethical approval for the study was granted by the Ethical Committee of the National and Kapodistrian University of Athens (UoA), Greece (protocol number 2345). The research was conducted in full accordance with the ethical standards outlined in the Declaration of Helsinki for research involving human participants.

Data Analyses

Responses to the SDQ-Hel were scored according to its standardized guidelines. Total difficulties scores and subscale scores (Emotional Symptoms, Conduct Problems, Hyperactivity/Inattention, Peer Problems, and Prosocial Behavior) were calculated for each time point.

Descriptive statistics were used to provide an overview of the mean and standard deviations of the SDQ-Hel scores for Emotional Symptoms, Conduct Problems, Hyperactivity/Inattention, Peer Problems, and Prosocial Behavior in 2019 and 2023.

Paired-Samples t-Tests to compare the emotional and behavioral characteristics of students with LD as perceived by teachers between the pre-pandemic period (2019) and the post-pandemic period (2023). The t-tests allowed for an assessment of whether changes occurred over time in the SDQ-Hel subscales and total difficulties scores.

Repeated Measures ANOVA to examine whether the observed changes in SDQ-Hel subscale scores (Emotional Symptoms, Conduct Problems, Hyperactivity/Inattention, Peer Problems, Prosocial Behavior) between 2019 and 2023 differed based on teachers' demographic characteristics.

Results

Table 2 presents the mean scores and standard deviations for each of the five SDQ-Hel subscales, which include 5 items each. The results indicate that teachers reported an increase in emotional symptoms (from $M = 3.21$ to $M = 4.15$), hyperactivity/inattention (from $M = 3.45$ to $M = 4.22$), and peer problems (from $M = 2.75$ to $M = 3.50$) in 2023 compared to 2019. These increases suggest a noticeable deterioration in students' emotional and behavioral well-being following the COVID-19 pandemic. In contrast, conduct problems showed a slight increase, while prosocial behavior remained relatively stable. These mean scores reflect the teachers' perceptions of students with LD and point to the growing need for emotional and behavioral support during the transition to secondary education.

Table 2. Descriptive Statistics for SDQ-Hel Scores in 2019 and 2023

Variable	2019 M (SD)	2023 M(SD)
Emotional Symptoms	3.21 (0.88)	4.15 (0.95)
Conduct Problems	2.89 (0.81)	3.10 (0.85)
Hyperactivity/Inattention	3.45 (0.90)	4.22 (1.01)
Peer Problems	2.75 (0.80)	3.50 (0.89)
Prosocial Behavior	4.05 (0.77)	4.10 (0.79)

Note. Mean (M) and standard deviation (SD)

Paired-Samples t-test

The paired-samples t-test conducted (Table 3) to compare the 2019 and 2023 SDQ-Hel scores revealed that teachers reported significant increases in emotional symptoms (Cohen's $d = 0.72$, 95% CI [0.45, 0.98]), hyperactivity/inattention (Cohen's $d = 0.68$, 95% CI [0.42, 0.94]), and peer problems (Cohen's $d = 0.50$, 95% CI [0.25, 0.74]), suggesting greater challenges for students post-pandemic. These medium-to-large effect sizes and narrow confidence intervals highlight meaningful and reliable increases in difficulties within these domains. No significant changes were observed in conduct problems (Cohen's $d = 0.10$, 95% CI [-0.06, 0.27]) or prosocial behavior (Cohen's $d = 0.02$, 95% CI [-0.13, 0.17]), indicating stability in these areas.

Table 3. Paired-Samples t-test Results for SDQ-Hel Scores

Variable	<i>t</i> (167)	<i>p</i>	Cohen's <i>d</i>	95% CI
Emotional Symptoms	5.32	< .001***	0.72	[0.45, 0.98]
Conduct Problems	1.23	0.220	0.10	[-0.06, 0.27]
Hyperactivity/Inattention	5.43	< .001***	0.68	[0.42, 0.94]
Peer Problems	4.45	0.004**	0.50	[0.25, 0.74]
Prosocial Behavior	0.30	0.732	0.02	[-0.13, 0.17]

Note: Cohen's d indicates small (0.2), moderate (0.5), and large (0.8+) effect sizes. CI = Confidence Interval;

** $p < .01$, *** $p < .001$

Repeated Measures ANOVA

To determine whether changes in SDQ-Hel scores (2019 vs. 2023) differed across teacher subgroups based on age, gender, teaching experience, and school setting, a 2×2 Repeated Measures ANOVA was conducted for each SDQ-Hel subscale (Table 4). The within-subjects factor was time (2019 vs. 2023), and the between-subjects factors were:

Age (≤ 35 vs. > 35), Gender (Male vs. Female), Teaching Experience (≤ 10 years vs. > 10 years), and School Setting (Urban, Suburban, Rural).

Table 4. Repeated Measures ANOVA results

Variable	Factor	<i>F</i> (<i>df</i>)	<i>p</i>	η^2
Emotional Symptoms	Age	$F(1, 166) = 4.10$	.044*	0.03
	Gender	$F(1, 166) = 3.89$	.050	0.02
	Teaching Experience	$F(1, 166) = 5.12$	.025*	0.06
	School Setting	$F(2, 166) = 3.45$	.033*	0.05
Conduct Problems	Age	$F(1, 166) = 2.89$	.091	-
	Gender	$F(1, 166) = 4.01$	.047*	0.03
	Teaching Experience	$F(1, 166) = 3.78$	.054	-
	School Setting	$F(2, 166) = 2.67$	.017*	0.11
Hyperactivity/Inattention	Age	$F(1, 166) = 4.98$	.027*	0.04
	Gender	$F(1, 166) = 5.43$	.021*	0.03
	Teaching Experience	$F(1, 166) = 4.67$	.032*	0.03
	School Setting	$F(2, 166) = 3.88$	.022*	0.08
Peer Problems	Age	$F(1, 166) = 3.22$	.075	-
	Gender	$F(1, 166) = 3.67$	.057	-
	Teaching Experience	$F(1, 166) = 4.90$	.029*	0.06
	School Setting	$F(2, 166) = 2.98$	.052	-
Prosocial Behavior	Age	$F(1, 166) = 2.50$	.115	-
	Gender	$F(1, 166) = 4.08$	.045*	0.03
	Teaching Experience	$F(1, 166) = 3.23$	.074	-
	School Setting	$F(2, 166) = 3.01$	.051	-

Note. $F(df)$: the F-value with its associated degrees of freedom (df) for each factor; η^2 : the effect size (eta squared), indicating the proportion of variance in the dependent variable explained by the independent variable; * $p < .05$.

Key findings

- Small Effects: Age and gender generally have small effects on emotional symptoms and specific behavioral domains such as peer relationship problems and conduct problems ($\eta^2 \leq .06$).
- Moderate Effects: Teaching experience and school setting have moderate effects, particularly on emotional symptoms, conduct problems, and hyperactivity/inattention ($\eta^2 = .05 - .11$).

- **Large Effects:** School setting has a large effect on conduct problems ($\eta^2 = .11$), indicating that the context of the school plays a significant role in shaping students' behavioral difficulties. These include challenges such as low cooperation, classroom disruptions, or noncompliance, as reflected in the conduct problems scale.

These findings indicate that both individual and contextual factors, such as school setting (urban versus rural), school resources, classroom environment, and socio-economic characteristics of the student population, play an important role in shaping teachers' perceptions of students' emotional and behavioral characteristics. Teachers' experiences, in particular, seem to significantly influence their observations of students' difficulties, with more experienced and older teachers perceiving greater increases in behavioral and emotional problems. Additionally, urban school settings appear to exacerbate behavioral issues like hyperactivity and inattention.

Discussion

The transition from primary to secondary school is a pivotal phase in students' educational trajectories, often marked by significant emotional and behavioral challenges. For students with LD, this period can be particularly stressful, amplifying pre-existing difficulties. This study investigated teachers' perceptions of changes in emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior between 2019 and 2023, along with how these changes varied across different teacher subgroups. The findings offer critical insights into the complexities of supporting students with LD during this transition.

Teachers' Perceptions of Changes in Emotional and Behavioral Attributes (2019–2023)

The findings revealed significant increases in emotional symptoms, hyperactivity/inattention, and peer relationship problems from 2019 to 2023. These results reflect broader mental health trends exacerbated by the COVID-19 pandemic, which disrupted routines, reduced social interactions, and heightened stress levels among students (Sideropoulos et al., 2024). These increases may be attributable to the broader mental health impact of the COVID-19 pandemic, characterized by disrupted routines, reduced social interaction, and heightened stress, especially affecting students with LD (Leduc et al., 2024; Sideropoulos et al., 2024).

The increased hyperactivity and inattention observed support existing findings that transitions often challenge executive functioning due to environmental shifts such as larger school settings and heightened academic expectations (Mizelle & Irvin, 2000; Piko & Dudok, 2023). Moreover, Raniti et al. (2022) highlighted the role of disrupted routines and increased uncertainty during the pandemic in exacerbating these symptoms.

The increase in peer relationship problems is consistent with Metzner et al. (2020), who found that students with LD are at greater risk of social isolation, particularly during significant transition periods. Zeedyk et al. (2003) emphasized that transitions frequently disrupt existing social networks, thereby increasing students' vulnerability to bullying and exclusion. Beckman et al. (2020) further noted that peer difficulties often compound emotional distress, highlighting the critical need for effective social support interventions.

Interestingly, no significant changes were observed in conduct problems or prosocial behavior. This stability suggests that internalized emotional challenges, rather than externalized behaviors, may dominate the transitional experience for students with LD. This finding aligns with prior research by Mumford and Birchwood (2020) and Donaldson et al. (2023), who similarly observed that disruptive behaviors often remain unchanged despite increased emotional and peer-related difficulties during transitions.

Variations in Perceptions Across Teacher Subgroups

The study also explored how teachers' perceptions varied by age, gender, teaching experience, and school setting. Significant differences were observed, underscoring the influence of teachers' demographic and professional characteristics on their observations.

- **Age:** Older teachers (>35 years) observed greater changes in emotional symptoms, hyperactivity/inattention, and peer problems, possibly due to their enhanced ability to recognize subtle behavioral shifts based on accumulated professional experience (Bagnall et al., 2021; Curson et al., 2019).
- **Gender:** Female teachers reported higher levels of perceived emotional difficulties, consistent with research indicating their greater sensitivity and empathy towards emotional and social cues in students (Gough Kenyon et al., 2020).
- **Teaching Experience:** Teachers with over ten years of experience reported more significant changes in emotional symptoms and hyperactivity, reflecting their potential increased proficiency in identifying subtle emotional and behavioral changes in students (Mumford & Birchwood, 2020).
- **School Setting:** Teachers from urban schools reported greater increases in peer relationship and emotional problems than their suburban and rural counterparts, highlighting the distinctive complexities of urban environments,

including diverse student populations and socio-economic disparities (Raniti et al., 2022; Zeedyk et al., 2003). Although urban teachers may have access to additional resources, this was not directly measured in this study and warrants further empirical investigation.

Additional empirical references or specific data interpretations regarding resource availability, school policies, and socio-economic factors would further substantiate these claims. As these variables were not directly assessed in this study, future research could explicitly examine their impact to strengthen these findings.

The post-pandemic period has seen a notable increase in emotional symptoms, hyperactivity/inattention, and peer relationship problems among students with LD, emphasizing the pressing need for targeted support interventions. Donaldson et al. (2024) highlight the importance of tailored strategies to address the unique challenges faced by these students during transitions, ensuring their emotional and behavioral needs are met.

At the same time, variations in teachers' perceptions across different subgroups underscore the influence of demographic and contextual factors in shaping observations. Bagnall et al. (2021) emphasize that professional development programs should account for these differences, equipping educators with the tools necessary to effectively support students navigating these transitions.

Interestingly, stability in conduct and prosocial behaviors suggests that internalizing difficulties, rather than externalizing behaviors, constitute the primary challenges during school transitions. Mumford and Birchwood (2020) advocate for interventions focused on emotional and social support, prioritizing the well-being of students as they adjust to new educational environments.

The results of this study highlight the need for structured transition programs that incorporate targeted interventions for students with LD. Educational policymakers should consider integrating systematic training for teachers on early identification and intervention strategies, ensuring that students receive adequate emotional and behavioral support during transitions (Beatson et al., 2023). Schools must also implement inclusive practices that address both academic and social-emotional needs, fostering an environment where students with LD can thrive.

The findings have some useful implications for educators, policymakers, and practitioners working with LD students at the transition to secondary school.

The large increase in emotional symptoms, hyperactivity/inattention, and peer relationship problems justifies targeted early interventions to address the particular challenges faced by students with LD in transitions within school. Individual programs that would focus on improving emotional regulation, social skills, and peer relationships could soften the blow of such transitions. It would be highly necessary to train teachers and other staff at school to recognize and respond appropriately to such particular challenges, so that the needs of students with LD are attended to in a holistic way.

The study's findings emphasize the importance of developing targeted interventions and structured transition programs addressing emotional regulation, social skills, and peer relationships specifically tailored for students with LD. Teacher training should include strategies for early identification and responsive support, fostering a holistic approach to meeting these students' unique needs. Additionally, comprehensive professional development focused on inclusive classroom practices and effective behavior management is essential.

Further research is necessary to understand fully how transitions impact students with LD, including studies on effective intervention strategies, the influence of school culture, and additional contextual factors like parental involvement and community support. Such efforts would strengthen understanding and facilitate improved educational outcomes during these critical transitional periods.

In addition, the findings of this study suggest that the experiences and background of the teachers themselves may color their perception of students' behavior and needs. Therefore, teacher training should aim at increasing the understanding of emotional and behavioral difficulties of students with LD. In-service training on inclusive practices, classroom behavior management strategies, and the promotion of a positive school climate will help teachers to be better equipped to support such students.

As this study pointed out, the experiences of students with LD significantly differ between schools in urban, suburban, and rural settings; as such, schools should create an inclusive and supportive environment accommodating the diverse needs of students with LD. Policy should work towards ensuring that during this critical transitional period, individual planning promotes collaboration among schools, special education staff, and families. Lastly, schools have to make deliberate attempts to reduce stigmatization and bullying, common to most of these learners with LD, by enhancing a culture that is empathetic and understanding of fellow students.

Lastly, more work on the influence of these transitions on students with LD is required in light of changes in their emotional and behavioral characteristics that took place between 2019 and 2023. It is expected that future intervention studies will attempt to clarify the role of various interventionist approaches, school culture, and other contextual factors like parental involvement and community support relevant to the well-being of students during transitions.

Conclusion

This study highlights the significant changes in emotional and behavioral characteristics of students with LD during their transition from primary to secondary school, particularly in the context of the COVID-19 pandemic. Teachers reported increased emotional symptoms, hyperactivity/inattention, and peer relationship problems between 2019 and 2023, which align with previous research indicating that such transitions, especially during the pandemic, can exacerbate difficulties for students with LD.

Importantly, the study fills a critical gap in existing literature by providing longitudinal empirical evidence on how these emotional and behavioral challenges evolve over time. Unlike previous research, which largely examined these issues at single points or in isolation, this study compared pre- and post-pandemic data, offering insights into the sustained impact of external disruptions. Additionally, by analyzing how these changes differ across subgroups based on teacher demographics (age, gender, teaching experience) and school settings (urban versus rural), the research identified specific contextual factors influencing teachers' perceptions.

Furthermore, the study explored how these changes differed across teacher subgroups based on age, gender, teaching experience, and school setting. Significant differences were observed, suggesting that teachers' backgrounds and the educational context may influence how they perceive and respond to these challenges.

While this study focuses on students with LD in Greece, the findings have broader implications for international educational research. Many countries face similar challenges in ensuring smooth transitions for students with special educational needs, particularly post-pandemic (Donaldson et al., 2024).

The practical contributions of this study lie in its implications for educators and policymakers. The results highlight the necessity of targeted support interventions tailored specifically to students' emotional and behavioral needs during critical transition periods. Educators can use these findings to implement proactive strategies, such as enhanced training for teachers in identifying emotional distress and peer relationship difficulties early on. Policymakers can leverage these insights to develop inclusive policies and structured transition programs that facilitate smoother adaptations to secondary education, thereby promoting better educational outcomes and improved emotional well-being for students with LD.

Recommendations

To improve the transition of students with LD from primary to secondary school, future research should adopt a multi-perspective approach, incorporating student self-reports, parental insights, and longitudinal studies to assess long-term adaptation. Given the findings of increased emotional symptoms, hyperactivity/inattention, and peer relationship problems post-pandemic, intervention studies evaluating targeted programs such as mentorship and social-emotional learning should be prioritized.

School administrators and policymakers should implement early identification processes, structured transition plans, and provide teachers with specialized training on LD-specific emotional and behavioral challenges. Strengthening collaboration among educators, families, and special education professionals is crucial for effectively identifying students' emotional and behavioral needs, providing consistent support during transitions, and promoting positive educational outcomes for students with LD.

Additionally, schools and educational policymakers should foster inclusive environments, enhance mental health support, and actively work to reduce stigma and bullying. These strategies can significantly ease students' transitions, improving both academic success and emotional well-being.

While cross-cultural comparisons may offer additional insights, recommendations should remain closely aligned with the study's findings to ensure their direct applicability.

Overall, the results underscore the importance of understanding the nuanced experiences of students with LD during school transitions and the role that teachers play in identifying and addressing these issues. By further investigating these changes through multi-source data and long-term follow-ups, future research can provide deeper insights into the ongoing needs of students with LD and contribute to more effective, inclusive educational practices.

Limitations

One limitation of this study is its exclusive reliance on teachers' perceptions of students' emotional and behavioral changes between 2019 and 2023, which may introduce potential biases or subjective interpretations influenced by teachers' personal experiences or expectations. Although teachers are valuable informants due to their direct and consistent interactions with students, their observations might not fully capture the range of students' challenges, especially internalized difficulties less visible in the classroom. Given that the data collection phase of this study has long been completed, incorporating additional sources such as student self-reports, parent feedback, or observational assessments was not feasible. Future research would benefit from adopting a multi-informant approach, combining

teacher observations with student and parental perspectives, to provide a more comprehensive and nuanced understanding of students' emotional and behavioral experiences during school transitions.

Another limitation is that the study examines changes between just two specific years (2019 vs. 2023), which might not fully account for the cumulative effects of the pandemic on students' emotional and behavioral development over time. Future research could consider exploring longer-term impacts by tracking students' experiences across multiple years, especially considering that the effects of the pandemic may continue to unfold. Furthermore, it would be valuable to expand research into diverse educational contexts, including varying geographical regions and school types, to assess how the challenges and teacher perceptions differ across different settings.

These suggestions for future research can offer a more nuanced understanding of the long-term impact of school transitions on students with LD. By examining these transitions across different contexts and using diverse perspectives, future studies can identify specific challenges faced by students. Ultimately, this knowledge can help educators and policymakers tailor more effective and targeted support strategies.

Ethics Statements

Because the study involved human participants, it was reviewed and approved by the University Ethics Committee. Informed consent was obtained from the teachers, who were fully informed about the study's purpose, procedures, and any potential risks.

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Conflict of Interest

The authors declare no conflicts of interest related to this study.

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Generative AI Statement

As the authors of this work, we utilized the AI tool ChatGPT to enhance and refine the English language content. Following its use, we carefully reviewed and validated the final version of our work. We assume full responsibility for the content of our published work.

Authorship Contribution Statement

Polydoros: Design, data interpretation, statistical analysis, editing/reviewing, supervision. Defingou: Conceptualization, data acquisition, writing. Antoniou: Refining the research design, shaping and evaluating the findings, editing the final text.

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Appendix

The SDQ-Hel Scale With Prosocial Behavior Subscale

The SDQ provides a total difficulties score based on the first four subscales, while the prosocial behavior subscale is assessed separately.

The Strengths and Difficulties Questionnaire (SDQ-Hel) includes a series of brief questions aimed at evaluating the behavioral, emotional, and social characteristics of children and adolescents. The questionnaire covers five subscales:

1. Emotional Symptoms
 - Often complains of headaches, stomachaches, or sickness.
 - Often seems worried.
 - Often unhappy, downhearted, or tearful.
 - Nervous or clingy in new situations; easily loses confidence.
 - Has many fears or is easily scared.
2. Conduct Problems
 - Often has temper tantrums or hot tempers.
 - Generally obedient, usually does what adults request. (*reverse-scored*)
 - Often fights with other children or bullies them.
 - Often lies or cheats.
 - Steals from home, school, or elsewhere.
3. Hyperactivity/Inattention
 - Restless, overactive, cannot stay still for long.
 - Constantly fidgeting or squirming.
 - Easily distracted, concentration wanders.
 - Thinks things out before acting. (*reverse-scored*)
 - Sees tasks through to the end, good attention span. (*reverse-scored*)
4. Peer Relationship Problems
 - Rather solitary, tends to play alone.
 - Has at least one good friend. (*reverse-scored*)
 - Generally liked by other children. (*reverse-scored*)
 - Picked on or bullied by other children.
 - Gets on better with adults than with other children.
5. Prosocial Behavior
 - Considerate of other people's feelings.
 - Shares readily with other children (e.g., toys, treats).
 - Helpful if someone is hurt, upset, or feeling ill.
 - Kind to younger children.
 - Often volunteers to help others (parents, teachers, other children).

Each item was rated on a three-point scale:

- 0 = Not True
- 1 = Somewhat True
- 2 = Certainly True