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**Kertas Asli/*Original Articles***

# A Study of the Relationship of Academic Achievement and Impulsivity in Children with Specific Learning Disabilities to Parenting Strain and Sense of Competence in their Mothers

(Kajian Mengenai Hubungan Pencapaian Akademik dan Impulsiviti Kanak-kanak Hilang Upaya Pembelajaran Spesifik dengan Terikan Keibubapaan)

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ABSTRACT

*The purpose of this research was to study the relationship of academic achievement and impulsivity in children with learning disorders with parenting strain and self-competence of their mothers. A sample of 70 students with learning disorders along with their mothers was recruited for the study. Data were collected using the UPPS Impulsive Behavior Scale, a modified version of Zarit Burden Interview, Parent Sense of Competence Scale and each student's grade point average as an index of academic achievement. Data were analyzed using Pearson's correlation coefficients and multiple regression analysis. Findings revealed that academic achievement correlates significantly and positively with mothers' sense of competence but negatively with their experience of parenting strain. Furthermore, children's impulsivity was negatively associated with mothers' sense of competence but showed no relationship to parenting strain. Regression analysis indicated that while children's impulsivity predicted mothers' sense of competence but not their parenting strain, children's academic achievement predicted both. Findings imply that when children with learning disorders are highly impulsive, their mothers only report an incapability to cope with stress. But when children's academic achievement is low, mothers tend to not only experience increasing parenting stress but also report feeling overwhelmed by the stress. Findings imply that features of children with learning disorders have a differential impact on the mental health of their mothers.*

*Keywords: Academic achievement; impulsivity; sense of competence; parenting strain; learning disorder*

ABSTRAK

*Tujuan utama kajian ini adalah untuk menyelidiki hubungan antara pencapaian akademik dan impulsiviti bagi kanak-kanak hilang upaya pembelajaran dengan terikan keibubapaan dan kecekapan diri ibu mereka. Satu sampel 70 pelajar hilang upaya pembelajaran bersama-sama ibu mereka menyertai kajian ini. Data dikumpul menggunakan Skala Tingkahlaku Impulsif UPPS, versi ubah suai daripada Temuduga Zarit Burden, Skala rasa kecekapan ibu bapa dengan purata mata gred setiap pelajar sebagai indeks pencapaian akademik. Data dianalisis menggunakan pekali korelasi Pearson dan analisis regresi berbilang. Penemuan menunjukkan bahawa pencapaian akademik berkorelasi secara bererti dan positif terhadap rasa kecekapan ibu tetapi secara negatif terhadap pengalaman terikan keibubapaan mereka. Tambahaan lagi, impulsiviti kanak-kanak berhubungan secara negatif terhadap rasa kecekapan ibu tetapi menunjukkan tiada hubungan dengan terikan keibubapaan. Analisis regresi mendapati bahawa sementara impulsiviti kanak-kanak menjangka rasa kecekapan ibu tetapi tidak terikan keibubapaan mereka, pencapaian akademik kanak-kanak pula menjangka kedua-duanya. Penemuan menunjukkan bahawa apabila kanak-kanak dengan kecelaruan pembelajaran mempunyai impulsif yang tinggi, ibu mereka hanya melaporkan ketakupayaan menangani tekanan. Tetapi apabila pencapaian akademik kanak-kanak rendah, ibu mereka cenderung untuk bukan hanya mengalami tekanan keibubapaan yang meningkat bahkan juga melaporkan rasa ditenggelami oleh tekanan tersebut. Penemuan menunjukkan bahawa ciri kanak-kanak dengan kecelaruan pembelajaran mempunyai impak berbeza ke atas kesihatan mental ibu mereka.*

*Kata kunci: Pencapaian akademik; impulsiviti; rasa kecekapan; terikan keibubapaan; kecelaruan pembelajaran*

## INTRODUCTION

A specific learning disorder (SLD) is a neurodevelopmental disorder involving specific deficits in an individual's ability to perceive or process information accurately. This condition is marked by difficulties with learning the basic academic skills in reading, writing, and computing math. It can also affect a person's attention, memory, coordination, social skills and emotional maturity. The diagnosis requires persistent difficulties in reading, writing, arithmetic, or mathematical reasoning skills during formal years of schooling. Symptoms may include inaccurate or

slow and effortful reading, poor written expression that lacks clarity, difficulties remembering number facts, or inaccurate mathematical reasoning (American Psychiatric Association 2013). The diagnosis is made by identifying whether children are unable to perform academically at a level appropriate to their intelligence and age.

While the term *learning disability* is often used interchangeably with *learning disorder*, they differ in many ways. *Learning disabilities* describes a group of disorders characterized by inadequate development of specific academic, language and speech skills, problems, which may not be enough to warrant an official diagnosis. *Learning disorder* on the other hand is an official clinical diagnosis, whereby the individual meets certain criteria. The difference is in degree, frequency and intensity of reported symptoms and problems. In this paper the two terms are used interchangeably.

Specific Learning disorder commonly occurs with Attention Deficit Hyperactivity Disorder (ADHD). Therefore, children with SLD may manifest inattention, hyperactivity and/or impulsivity as well as several cognitive processing deficits associated with lower academic attainment that are also found in ADHD (American Psychiatric Association 2013). Significant problems with inattentive behavior and impaired cognitive processing are not uncommon in SLD and may serve as risk and prognostic factors (American Psychiatric Association 2013). Previous research has suggested that executive function deficits play an integral role in children's underachievement at school. Support has been provided for the notion that learning disabled readers' poor word recognition and comprehension performance reflect deficits in a central executive system (Swanson & Ashbaker 2000). In another study, arithmetic-disabled children as well as reading plus arithmetic-disabled children were impaired on tasks requiring both inhibition and shifting (van der Sluis et al. 2004).

More recently, the academic achievement of children was found to correlate with complex executive functions and this correlation was seen to vary across ages, but the developmental pattern of the strength of these correlations was remarkably similar for overall math and reading achievement, suggesting a domain-general relation between complex executive functions and academic achievement (Best et al. 2011). Research on children with mathematics as well as reading difficulties has shown that these children show extensive deficits on phonological storage and executive functions on both verbal and numerical tasks (Peng et al. 2012). The impairments to executive functions may be selective including working memory, planning and attention, but not shifting and inhibition (St Clair-Thompson 2011).

In another line of research, associations between self- and teacher-rated temperament traits (activity, inhibition, negative emotionality, persistence, distractibility and mood) and mathematics grades in children independent of motivation and intelligence (Hintsanen et al. 2012) were documented. These temperament traits along with the deficits in executive functions suggest that children's disinhibition or impulsivity should be taken into account when considering their achievement in school.

Impulsive children are often described as children who, when facing a particular problem-solving situation, tend to respond quickly without thinking about consequences or possible solutions; and as a result make mistakes. The term impulsivity has been associated with different childhood behavioral problems such as aggression, disruptive behavior, peer relationship problems, antisocial behaviors or as an essential characteristic of attention-deficit hyperactivity disorder (ADHD).

As regards children with learning disabilities, previous research had confirmed that self-regulation mediated the relationship between type of learning disability and reading and mathematical achievement for children (Weed et al. 2011). In another study, subjects with dyslexia were found to respond faster than both the other groups in response time ($p < 0.05$), clearly showing a significantly higher cognitive impulsivity than the other groups. These data seem to confirm the idea that, similar to ADHD children, dyslexic children have impaired frontal/prefrontal functions. It can be concluded that the achievement of children with learning disabilities is at stake because of their executive function deficits as well as because of their impulsive temperament.

SLD can have negative functional consequences apart from lower academic attainment, including higher levels of psychological distress and poorer overall mental health (American Psychiatric Association 2013). Students with special educational needs and disabilities are at a greatly increased risk of experiencing poor psychosocial outcomes (Humphrey et al. 2013). However, high levels of social or emotional support predict better mental health outcomes. (American Psychiatric Association 2013). Family involvement is a significant predictor of positive child behavior outcomes (Semke et al. 2010). Overall, several studies have suggested that poor-quality family environments, including those characterized by low emotional support or high conflict, are associated with dysregulated stress responses throughout childhood and adolescence. In contrast, children and adolescents in families with high emotional support or low conflict seem to be protected from developing stress regulatory problems (Lucas-Thompson & Goldberg 2011). A recent study also found that parental engagement mediated the positive effects of socioeconomic status and placement in regular and integrative schools on children's school achievement (Szumski & Karwowski 2012). These findings imply that effective parenting can help children with learning disabilities achieve better academic and psychosocial outcomes.

Parents raising children with learning disabilities face various challenges. These challenges arise from parent–child relationships due to lack of awareness of the disability, or difficulties in parenting the child. As a result, many of these families face episodes of disruptiveness and

tension within their families (Fine et al. 2003). Research has consistently indicated that parents and other family members who are taking care of a child with physical/ intellectual disabilities often experience higher levels of stress than those with normally developing children (Crnic et al. 2005; Roach et al. 1999). Rayner and Moore (2007) suggested that parents experienced stress and poor social life in caring for a disabled child because of the higher demands for caregiving, and inadequate social support obtained from family members and health professionals. The considerable demands of managing these children's academic and life skills, sudden mood changes and challenging behaviors could further increase parents' caregiving stress (Phetrasuwan & Miles 2009). Parents of children with learning and other disabilities may face several challenges including increased financial and time strains (Rogers & Hogan 2003), restrictions on daily routines and social life (Kenny and McGilloway 2007), maintaining positive perceptions of the child (White & Hastings 2004). It seems that specific characteristics associated with the disability are important correlates of parental stress.

Among the factors causing most stress in caregivers are behavior problems in the child. Ohan et al. (2000) found negative correlations for both mothers and fathers between parenting satisfaction scores and their children's externalizing and internalizing behavior problems. Some early studies of self-efficacy in parents of children with disabilities indicated that this may be predictive of parental stress (e.g. Friedrich et al. 1985; Frey et al. 1989). One recent study found that self-efficacy mediated the effects of child behavior problems on anxiety and depression in mothers of children with special needs (Hastings & Brown 2002). Other studies (Hagekull 2001; Wiggs & Stores 2001) on the sense of control parents have shown that low personal control is associated with higher parenting stress and psychological distress. Weiss et al. (2013) found perceived self-efficacy and social support mediated the link between the pile-up of stressors and family hardiness, and that hardiness was a partial mediator in explaining how stressors were associated with family distress.

To sum up, children with learning disabilities manifest deficits in executive functions as well as behavior problems. Parents of children with learning disabilities experience parenting stress as they try to meet the specific needs of their children. The stress these carers face is a function of not only the learning disability itself but also of the temperament and behavior characteristics of their children. The present study was designed to explore how much of the stress and strain of mothers of children with learning disabilities is a function of their children's achievement in school and how much is a function of their children's impulsivity.

## EXPERIMENTAL METHOD

### PARTICIPANTS

Seventy children with learning disabilities and their mothers took part in this study. All children were enrolled in the first or second grades of elementary school for children with learning disabilities in a large city. Children enrolled in this school are those who have been identified as having a learning disability in more than one area on the basis of standardized psychological and educational assessments and referred by a registered school psychologist to receive special education. The majority of the children (81.43%) had learning disabilities in reading and mathematics, and the rest had learning disabilities in writing as well. All children ranged in age from 7 to 9 years of age with a mean age of 8.3 years (SD = .97). All mothers were aged between 31 and 40 years. There was a good distribution across levels of education for the mothers: 34.28% held high school diplomas, 20% had associate degrees, 37.14% had bachelor's degrees and 8.57% had post graduate qualifications. The majority of the mothers (74.28%) perceived their socioeconomic status to be middle class. All mothers gave written informed consent to participate along with their children in this study.

### MEASURES

*The Parenting Sense of Competence (PSOC) (Gibaud-Wallston & Wandersman 1978)* The Parenting Sense of Competence is a 17 item scale designed to measure parents' satisfaction with parenting and their self-efficacy in the parenting role. PSOC items measure parents' beliefs, values, and perceived skills regarding being a parent. Parents indicate their level of agreement with each item by circling a number between 1 (strongly agree) and 6 (strongly disagree). Eight items (1, 6, 7, 10, 11, 13, 15, 17) are reverse scored so that high scores indicate positive parental experience. Total scores on this scale range between 17 and 102. Acceptable levels of internal consistency (range .75 - .88) have been reported for the PSOC in a number of studies including Johnston and Mash (1989) and Ohan et al. (2000). The internal consistency of the scale in this study was found to be 0.80.

*Parenting Strain Interview* The Parenting Strain Interview has been specially designed to reflect the stresses experienced by parents of children with special needs. This instrument was a modified form of the Zarit Caregiver Burden Interview (Zarit et al. 1980). Similar to the Zarit Caregiver Burden Interview, the Parenting strain Interview is completed by parents of children with disabilities. Parents are asked to respond to a series of 22 questions about the impact of their child's disabilities on their life. For each item, parents indicate how often they felt that way (0 = never, 1 = rarely, 2 = sometimes, 3 = quite frequently, or 4 = nearly always). The Parenting Strain Interview is

scored by adding the numbered responses of the individual items. Scores may range from 0 to 88 and higher scores indicate greater caregiver distress. The Cronbach's alpha value for the Parenting Strain Interview items was 0.91; the correlation coefficient for the test-retest reliability of the instrument was 0.87.

*Modified UPPS Impulsive Behavior Scale (Whiteside & Lynam 2001)* The UPPS Impulsive Behavior Scale is a 45-item self-report questionnaire that was designed to measure impulsivity across dimensions of the Five Factor Model of personality. All items are rated on a 4-point rating scale (1= Agree strongly, 4 = Disagree strongly) and constitute 4 sub-scales : lack of premediation, urgency, lack of perseverance and sensation-seeking. Lack of Premeditation refers to the tendency to fail to think and reflect on the consequences of an act before engaging in that act. Urgency refers to the tendency to experience strong impulses under conditions of negative affect. Lack of Perseverance refers to difficulties remaining focused on a task that may be long, boring or difficult. Positive Urgency is the tendency toward rash action in response to very positive mood. Sensation seeking encompasses two aspects: (a) the tendency to enjoy and pursue exciting activities and (b) an openness to trying new experiences that may or may not be dangerous. was used. Scores may range between 45 and 180 with higher scores indicating more impulsive behavior.

In this study a modified version of the UPPS Impulsive Behavior Scale in Persian was used. The scale items were modified so that mothers provided information about their children. The scale was found to have an internal consistency (Cronbach's alpha) of 0.91. Test retest reliability obtained by comparing the ratings of all mothers in this study before and after a period of 2 weeks was 0.84.

*Academic achievement* Children's academic achievement is graded from 1 to 4.

*Procedure* Mothers of all children enroled in the first or second grades of the elementary school for children with learning disabilities were invited to participate in this study. On receiving informed consent, all the mothers were individually administered the scales on the impulsive behavior of their children, parenting sense of competence and parenting strains. Each child's grade point average based on the recent mid-year exams was used to indicate academic achievement.

*Data analysis* All data were analyzed using Pearson's correlation coefficients and multivariae regression analysis.

## RESULTS

Findings indicate that on average, children in this sample had low to average scores on academic achievement and were reported to display moderate levels of problems with premeditation and perseveranc. Mothers in this study reported mild amount of caregiving strain and less than moderate levels of a sense of competence (Table 1). Results of correlation analysis revealed that parenting strain experienced by mothers correlated negatively with the academic achievement of the children and positively with only one component of impulsive behavior, lack of premeditation. Mothers' sense of competence correlated positively with their children's academic achievement and negatively with two components of impulsive behavior, lack of premeditation and sensation seeking. Results are presented in Table 2.

TABLE 1. Showing the means and standard deviations of learning disbled children on impulsivity and academic chievement as well as their mothers' sense of competence and parenting strain

| Variable | Mean | Std.deviation |
|---|---|---|
| Academic achievement | 2.55 | 1.03 |
| Parenting strain | 33.34 | 16.75 |
| Impulsivity | | |
| Premeditation | 31.41 | 5.24 |
| Urgency | 17.04 | 9.90 |
| Sensation seeking | 20.11 | 8.99 |
| Perseverance | 26.20 | 7.40 |
| Parent sense of competence | 51.6 | 7.55 |

TABLE 2. Correlations between children's academic achievement and components of impulsivity and mothers' sense of competence and parenting strain

| Variables | Sense of Competence | Parenting Strain |
|---|---|---|
| Academic achievement | 0.36* | -0.27* |
| Premeditation | -0.39* | 0.28* |
| Urgency | -0.091 | 0.11 |
| Sensation seeking | -0.29* | -0.15 |
| Perseverance | 0.17 | 0.081 |

*correlation significant at .05 level

Multiple regression analyses were run to predict mothers' parenting strain and sense of competence using the children's academic achievement and impulsive behavior scores. Results indicated that while academic achievement alone predicted parenting strain experienced by mothers, both academic achievement and the sensation seeking component of impulsive behavior predicted mothers sense of competence (Table 3).

TABLE 3. Results of multiple regression analysis predicting maternal sense of competence and parenting strain using academic achievement and components of impulsivity

| Criterion variables | Predictor variables | Standardized coefficients | Unstandardized coefficients | | | |
|---|---|---|---|---|---|---|
| | | Beta | B | Std. Error | t | sig |
| Mothers' sense of competence | Constant | | 17.27 | 4.05 | 4.26 | 0.000 |
| | Academic achievement | -0.15 | -0.75 | 0.58 | -2.30 | 0.041 |
| | Sensation seeking | 0.28 | 0.15 | 0.78 | 2.02 | 0.047 |
| Parenting strain | Constant | | 42.72 | 13.54 | 3.15 | 0.002 |
| | Academic achievement | 0.26 | -4.28 | 1.94 | -2.19 | 0.031 |

## DISCUSSION

The aim of this research was to study the associations of the impulsivity and academic achievement of children with learning disabilities with their mothers' sense of competence and parenting strain. The results of the study indicate a significant positive relation between the school grades of children with learning disabilities and their mothers' sense of competence or self-efficacy. That is, the higher the children's school grades, the greater the degree of self-efficacy reported by their mothers. Although not specifically in relation to academic achievement, several studies have shown that parents of children with special needs do report lower levels of self-efficacy than parents of normal children (Rogers & Mathews 2004). Other studies (for e.g. Heiman & Berger 2008) have highlighted the need for social support for parents with a child with special needs and underscored the importance of developing awareness and intervention programs to facilitate parents' coping abilities and their family interactions. These studies indirectly indicate that parents of children with disabilities require help to increase their competence and self-efficacy in order that accompanying effects in terms of better academic achievement may be observed.

There is strong evidence linking parental self-efficacy to parental competence as well as to parental psychological functioning. Parental competence and self-efficacy may impact child adjustment directly or indirectly via parenting practices and behaviors. Therefore, the influence of parental competence and self-efficacy as an indicator of risk cannot be overlooked and can serve as an appropriate target for prevention and intervention efforts (Jones & Prinz 2005). A comparison of parents of normal children with parents of children with ADHD has indicated that the latter report lower levels of parenting competence and self-efficacy (Rogers et al. 2009).

Ostberg and Hagekul (2000) carried out an extensive study which revealed that children with learning disabilities are often problematic so that the irregularities and difficulties that mothers experience daily while caring for such children bear a direct relationship with decreased self-efficacy in mothers.

There is a body of research documenting that mothers of children with learning disabilities report lower levels of general health, greater anxiety (Karande et al. 2009) and lower psychological well-being (Cramm & Nieboer 2011). That is, the psychological well-being of mothers of normal children as indicated by a sense of autonomy, mastery over the environment, personal growth and self-acceptance is greater than that of mothers of children with physical or mental disorders. Research evidence shows that families with an exceptional child, especially with children labeled as learning disabled, show high levels of maladjustment, as these children do not comply with the instructions of their parents and teachers, do not do their home work, have low academic achievement and display more negative behaviors than their peers. Such families function inefficiently, with parents lacking self-efficacy and self-confidence.

Family relationships, particularly negative parenting practices, are known to contribute to different forms of psychopathology (Harold et al. 2012). Parental stress, parental interest and parental behavior with the child all contribute to the child's behavior problems and mood (Bakoula et al. 2009). Similarly, children's academic and behavior problems influence parents' efficiency, mothers' self-efficacy (Sevigny & Loutzenhiser 2009). The finding that students' school achievement was associated with their mothers' self-efficacy in the present study is in line with the results of the above studies.

Another finding of the present study is the positive correlation between the impulsivity of children with learning disabilities and their mothers' sense of competence and self-efficacy. Children's scores on the lack of premeditation (positively) and sensation seeking (negatively) also correlated significantly and with mothers' sense of competence. That is, greater impulsivity in children was associated with decreased sense of competence in mothers.

Studies (Baker-Ericzén et al. 2005; Gupta 2007) on children with ADHD have revealed that the symptoms of this disorder are associated with psychiatric and psychological disorders in the family such as parental depression and anxiety and mothers' self-efficacy. Furthermore, Feber and colleagues showed that family dysfunction is related

to anxiety symptoms and behavior problems in children. Another study found that mothers of children with learning disabilities experience high levels of stress and depression compared with mothers of normal children (Abasiubong et al. 2006). Dyson (2010) showed that children with learning disabilities had a range of effects on their families, including family stress and parenting discrepancies. Low self-efficacy has also been seen in mothers of children with autism and other pervasive developmenal disorders (Kuhn & Carter 2006). Therefore, all the above mentioned studies indicate that mothers of children with special needs experience more stress than mothers of normal children, greater frequency of anxiety and mood disorders, inefficiency in parenting, and dissatisfaction with their parental role. As impulsivity in children is an index of behavior problems, the negative association between children's impulsive behavior and mothers' sense of competence is consistent with findings from previous research.

The third hypothesis of the study concerned the relationship between school achievement of children with learning disabilities and their mothers' parenting strain. Results obtained showed a significant negative relation between the two variables. Other studies have indicated that parents of children with learning disabilities often react with denial, argumentativeness, depression and finally, acceptance and adjustment. Children with neurodevelopmental disorders such as specific learning disorders and hyper-activity/attention deficit disorder require daily and continual monitoring and care which can cause stress and reduce the mental health of parents. Recently, the idea that children's low academic achievement may impact parenting practices which in turn, may impact children's self-concept was examined (Assor & Tal 2012). Adolescents' perceptions of their mothers' use of conditional positive regard as a means to enhance academic achievement was found to predict self-aggrandizement following success and self-devaluation and shame following failure. That is, the practice of conditional positive regard results in significant emotional and coping costs for adolescents. Findings of this study indicate that mothers do experience adaptational difficulties with regard to school. It is not uncommon for mothers to hear from their learning disabled child's school that their child has missed assignments or has had a failing grade on a unit test. To cope with such instances of academic failure, mothers may employ a variety of coping strategies which, if inappropriate, can result in greater parenting stress.

The fourth hypothesis of this research concerned the relation between impulsivity in children with learning disabilities and their mother's sense of parenting competence. Results revealed no correlation between children's impulsivity and their mother's sense of competence, thereby rejecting the study hypothesis. This finding appears inconsistent with findings of previous studies (Kuhn and Carter 2006; Shechman and Glit 2005) which found that teaching appropriate parenting and behavior management techniques to mothers of children with ADHD or learning disabilities, who manifest impulsivity and associated behavior problms, reduces parenting stress, anxiety, and depression, while increasing self esteem and positive feelings of mothers towards their role.

The final hypothesis examined in the present study pertained to determining the contribution of the academic chievement and impulsivity of children with learning disabilities in the prediction of their mothers' sense of parenting competence and parenting strain. It is of interest to note that, while both the impulsivity and academic achievement of children with learning disabilities contributed to their mothers' sense of competence, only academic achievement contributed to the mothers' parenting strain. Findings imply that when children with learning disabilities are highly impulsive, their mothers only report an incapability to cope with stress. But when children's academic achievement is low, mothers tend to not only experience increasing parenting stress but also report feeling overwhelmed by the stress. In other words, it appears that the impulsivivity of children with learning disabilities, and the likely behavior problems associated with it, along with their school performance impacts their mothers' sense of self-efficacy with regard to parenting. But the amount of strain that these mothers experience or report is directly related to their children's school performance but not to their children' impulsivity. It can be inferred that mothers of children with learning disabilities report parenting strain when their children do not perform well at school and tolerate their child's impulsivity and any associated behavior problems as long as their child's academic performance is not low. The findings of the present study imply that clinical interventions aimed specifically at improving the acdemic performance of learning disabed children may help enhance mothers' sense of competence and self-efficacy as well as reduce the stess and strain associated with parenting. But interventions that only target the impulsivity of children with learning disabilities and associated behavior problems will not reduce the parenting stress experienced by mothers unless the academic performance of the children also improves.

Of course, these findings should be considered within the limitations of the study. First, the study sample consisted of primarily elementary school students within a limited age range and age gender differences were not explored. Future studies should test if the obtained results generalize to a larger and more diverse population with a wider age range. Additionally, the study was cross sectional and correlational, so causality cannot be clearly determined. A final limitation of the study is that mothers provided information regarding the impulsivity of children with learning disabilities. Observational methods or teacher reports on the children's impulsive behavior can complement the information provided by mothers. Future research should employ longitudinal methods to test temporal relationships between impulsivity, academic performance, and parent sense of competence and parenting

strain. The role, if any played by gender was not examined and more diverse samples will be needed to settle that question.

Despite these limitations, the results obtained do have important implications. Academic performance appears to be a key factor that may impact the mental health and self-efficacy of mothers of children with learning disabilities. In clinical situations, interventions targeting the quality of life of SLD children's caregivers should pay more attention to improving their attitudes and expectations regarding their children's academic performance.

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