

## Behavior Problems and Emotion Regulation: A Study of Adolescents with Specific Learning Disability

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Specific learning disabilities (SLD) frequently accompanied with difficulties in regulating emotions and behaviors. Emotion regulation is crucial for healthy psychological development. It is important to emphasize the significance of understanding how emotion regulation is impacted in this population. There is limited research specifically addressing the nuances of emotion regulation in this context. The study aimed to examine the relationship between behavior problems and emotion regulation in adolescents with Specific Learning Disability (SLD). 100 adolescents aged 11 to 16 years who were diagnosed with SLD according to ICD-10 criteria was part of the study. The Socio-demographic Information Sheet, Strengths and Difficulties Questionnaire - Self Report (SDQ-SR), and Emotion Regulation Questionnaire (ERQ-CA) for Children and Adolescents were administered to the adolescents. Significant positive relationship was found between expressive suppression and overall behavior problems, including both externalizing ( $RS = .34, p < .01$ ) and internalizing problems ( $RS = .51, p < .01$ ). Increased expressive suppression was linked to higher conduct problems ( $RS = .27, p < .01$ ), hyperactivity ( $RS = .31, p < .01$ ), emotional problems ( $RS = .49, p < .01$ ), and peer problems ( $RS = .28, p < .01$ ). Prosocial behavior showed a significant negative relationship only with conduct problems ( $RS = -.23, p < .05$ ), while cognitive reappraisal was not significantly related to any behavior problems. The findings highlight the importance of promoting more adaptive strategies, like cognitive reappraisal, to improve social competence and mental well-being in this population.

**Keywords:** Dyslexia, Dyscalculia, Dysgraphia, Cognitive Reappraisal

According to Cristofani et al. (2023), Specific Learning Disabilities (SLD) refer to neurodevelopmental disorders marked by challenges in reading, writing, and/or mathematical skills, despite average intelligence and adequate educational opportunities. Typically, 5–15% of students receive a diagnosis of SLD, including conditions such as Dyslexia, Dyscalculia, Dysgraphia and Dysorthography. These difficulties persist despite conventional schooling and can significantly disrupt academic progress, social interactions, and overall quality of life. Moreover, individuals with SLD often experience emotional and behavioural issues concurrently. Comorbidity is a significant aspect of SLD, wherein affected individuals frequently exhibit not only

multiple types of SLD (“homotypic comorbidity”) but also co-occurring neurodevelopmental disorders or clinical conditions (“heterotypical comorbidity”).

Cristofani et al. (2023) in their study also suggests the relationship between Specific Learning Disabilities (SLD) and emotional-behavioural disorders is multifaceted, involving both causal pathways. On one hand, SLD can contribute to emotional distress in individuals, as difficulties in academic performance, such as school failure, can lead to increased emotional burden. Conversely, emotional-behavioural problems can also exacerbate SLD symptoms, with factors such as reduced motivation, low frustration tolerance, or stress

resistance hindering effective learning. Consequently, SLD may serve as a risk factor for elevated levels of internalizing and externalizing symptoms, stemming from the disorder's impact on the mental well-being of affected individuals. Furthermore, emotional-behavioural disorders themselves may also pose a risk for the development or exacerbation of SLD.

Research on adolescence has illustrated an intriguing trend in the prevalence of externalizing and internalizing problems. It depicted an inverted U-shaped curve for externalizing problems, such as aggression and delinquency, peaking during middle adolescence and then declining. Conversely, the prevalence of internalizing problems, like depression and anxiety, showed a consistent increase throughout adolescence into adulthood. Despite extensive examination of behavioural challenges in younger children with Specific Learning Disabilities (SLD), there has been a notable gap in investigating the persistence of these difficulties into adolescence as established in a study by Al-Yagon (2012).

A rare study by McNamara et al., (2008) focusing on adolescents with learning disabilities had reported elevated levels of externalizing behaviours, including aggression, delinquency, and risk-taking, compared to typically developing adolescents.

Emotion regulation is essential for managing emotional reactions and expressions, significantly affecting internalizing and externalizing symptoms. It is linked to emotional well-being, cognitive development, social competence, peer likability, and academic achievement. Children with specific learning disabilities (SLD) often struggle with regulating negative emotions, which exacerbates challenges in their cognitive and social skills. While there is extensive research on emotion regulation

in typically developing (TD) students, studies focusing on adolescents with SLD are limited. In a study by Kopelman-Rubin, et al., (2020) had shown that enhancing emotion regulation in these adolescents could improve their sense of school belonging.

The current research aims to illuminate the intricate interplay between specific learning disabilities and behavioural challenges, shedding light on effective strategies for fostering emotion regulation in adolescents. By understanding these complexities, interventions can be tailored to address both academic and socio-emotional needs, enhancing overall well-being and academic success in this population.

## **Method**

### **Design**

In the present study, a cross-sectional research design was utilized with purposive sampling. The participants consisted of 100 adolescents, aged 11 to 16 years, all diagnosed with Specific Learning Disorder (SLD) according to the criteria outlined in the ICD-10. These adolescents were selected from the Psychiatry Outpatient Department of a tertiary government hospital. The study excluded adolescents with any psychiatric or medical comorbidity that could potentially interfere with test performance.

In the family, the highest percentage of fathers were graduates, with 34% having completed their undergraduate studies, while only 8% pursued post-graduation. Similarly, 31% of others were graduates, but a smaller portion, 10%, had education only up to the 8th grade. Regarding occupations, majority of fathers, 39%, were engaged in business, and minimal 3% were unemployed. Among the mothers, predominantly 69% of the mothers were housewives (unemployed). Only 1% of mothers were involved in occupations such as handicraft, agricultural work, clerical jobs, and senior management positions.

The selection of participants was restricted to those with IQ scores above 85. The diagnosis of SLD was confirmed using the NIMHANS Index of Specific Learning Disability, which assesses learning disorders in reading, writing, spelling, and arithmetic.

### **Tools**

*Socio-Demographic Data Sheet:* Socio-demographic data, including age, gender, education, family composition, and other relevant details, were collected from the participants using a structured questionnaire.

*Strengths and Difficulties Questionnaire-Self report [SDQ-SR]:* The Strengths and Difficulties Questionnaire (SDQ) is a behavioral screening tool consisting of 25 self-report items by Goodman et al., (1998). These items are allocated across five scales, each containing 5 items: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior. Excluding the prosocial behavior scale, the scores from the other four scales are combined to produce a total difficulties score based on 20 items. These scores help classify individuals as normal, borderline, or abnormal, aiding in the identification of potential mental health issues. The SDQ has demonstrated robust psychometric properties and clinical utility across various cultures and languages, as supported by European studies like that of Woerner et al., (2004). In India, the SDQ has been utilized to assess the prevalence of psychiatric disorders among 10–17-year-olds in community settings as shown by Malhotra et al., (2009) and has been featured in studies involving adolescents as shown in the study by Srikala, & Kishore, (2010), and K R et al., (2011).

*Emotion Regulation Questionnaire [ERQ-CA]:* The Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA; Gullone & Taffe, 2012; MacDermott et al,

2010) is a revised version of the Emotion Regulation Questionnaire by Gross & John, (2003). This tool consists of 10 items that assess two emotion regulation strategies: cognitive reappraisal (6 items) and expressive suppression (4 items). Participants rate each item on a 7-point Likert-type scale, with higher scores indicating greater use of the respective emotion regulation strategy.

### **Procedure**

After obtaining approval from the ethics committee of the University, parental consent, and assent from the adolescents were secured. Subsequently, a series of assessments were administered, including a socio-demographic information sheet, the Strengths and Difficulties Questionnaire and the Emotion Regulation Questionnaire for Children and Adolescents.

### **Statistical Analysis**

The data collected was analysed using the Statistical Package for Social Sciences (SPSS) version 23 (IBM, n.d.). Descriptive statistics were utilized to examine the socio-demographic characteristics and other psychological measures. To explore the relationship between behavior problems and emotion regulation, Spearman's rank-order correlation was employed.

### **Results**

The distribution of 100 participants diagnosed with various Specific Learning Disabilities (SLDs). Among the participants, 15 were diagnosed with specific disorder of arithmetical skills, representing a notable portion of the group. Specific spelling disorder were the most common, affecting 31 participants. A smaller number, 3 participants, were diagnosed with specific reading disorder, while only 1 participant was diagnosed with a specific learning disorder in written expression. Additionally, a

significant number, 50 participants, were diagnosed with mixed disorder of scholastic skills, indicating multiple areas of difficulty. The mean age of the participants was  $13.89 \pm 1.42$  years. Among them, 71% (n = 71) were male and 29% (n = 29) were female. A significant portion, 81% (n = 81) participants were Hindu. Majority of participants belonged to the upper middle stratum, constituting 33% (n = 33). Additionally, 81% (n = 81) of the participants came from an urban background. Regarding family structure, 55%

(n = 55) lived in nuclear families, 33% (n = 33) in joint families, and 12% (n = 12) in extended families.

### The correlations between behaviour

problems and emotion regulation along with descriptive statistics are presented in Table 2. Spearman correlational analyses reveal associations between the emotion regulation strategy of expressive suppression and all behaviour problems assessed in the study as indicated by its relationship with the total difficulty score ( $RS = .53, p < .01$ ).

Table 2: Descriptive Statistics and Spearman Correlation between Behaviour Problems and Emotion Regulation

Variables	Mean	SD	EP	CP	HP	PP	PS	ES	IS	D	RS	SS
EP	4.520	2.44	-									
CP	2.830	2.06	.214*	-								
HP	4.230	2.39	.201*	.459**	-							
PP	3.340	2.02	.138	.212*	.072	-						
PS	7.100	2.19	-.066	-.227*	-.027	-.067	-					
ES	7.060	3.80	.226*	.830**	.870**	.155	-0.15	-				
IS	7.860	3.46	.795**	.256*	.174	.688**	-.064	.234*	-			
D	14.920	5.80	.604**	.716**	.688**	.509**	-.152	.818**	.734**	-		
RS	19.340	4.60	.188	.151	.093	.025	.147	.129	.147	.152	-	
SS	11.980	4.0	.487**	.275**	.313**	.279**	-.008	.336**	.506**	.528**	.275**	-

Increased utilisation of expressive suppression was linked to more externalising problems ( $RS = .34, p < .01$ ) which included conduct problems ( $RS = .27, p < .01$ ) and hyperactivity ( $RS = .31, p < .01$ ). A similar trend was found with internalising problems ( $RS = .51, p < .01$ ) which included emotional problems ( $RS = .49, p < .01$ ) and peer problems ( $RS = .28, p < .01$ ).

### Prosocial behaviour was not associated

with either of the emotion regulation strategies or behaviour problems except with conduct problems, where a significant negative relationship emerged ( $RS = -.23, p$

$= < .05$ ). No significant relationships emerged between any of the behaviour problems and the emotion regulation strategy of cognitive reappraisal.

### Discussion

The present study aimed to examine the relationship between behaviour problems and emotion regulation in adolescents with SLD in the Indian context. It included both internalising and externalising problems assessing their relationship with emotional regulation strategies of cognitive reappraisal and expressive suppression.

The study found that both internalizing and externalizing behavioural problems in adolescents with SLD were linked with only expressive suppression, aligning with prior research suggesting that children with SLD use more expressive suppression than cognitive reappraisal as shown in a study by Kouvara et al., (2022).

Adolescents with SLD often struggle with identifying, understanding, and regulating emotions, which can adversely affect their social competence and peer relationships as illustrated in studies by Da Fonseca et al., (2009), Dahle et al., (2014), Thambirajah et al., (2010). Expressive suppression, in such contexts, might help reduce the impact of peer victimization and align with emotional display norms to avoid negative social consequences as exhibited in the studies by Brody (2000), McClain et al., 2020, Salisch (2001), and Zeman, & Shipman (1997).

Cultural factors may also play a role. Wilson et al., (2012) in their study had demonstrated that in cultures valuing interpersonal harmony, like in India, children may suppress negative emotions to adhere to social norms. Furthermore, expressive suppression may be preferred over cognitive reappraisal because reappraisal requires more cognitive resources, which are often impaired in children with SLD as shown in the studies by Capodiecì et al., (2023), and McRae et al., (2012). Additionally, studies by Garnefski, & Kraaij (2012), and Valiente et al., (2015) had demonstrated a higher proportion of younger adolescents, who generally use reappraisal less frequently than older adolescents.

In a study by McClain et al., (2020) it was shown that a higher proportion of male participants (71%), which is relevant since boys often use more expressive suppression, especially for managing peer victimization. However, there is mixed evidence on gender differences in emotional regulation strategies

as shown in the studies by Gullone, & Taffe (2012), Yeh et al., (2017).

Studies by Gardner, et al. (2017), Jacob, et al., (2014), Kokkinos, & Voulgaridou et al., (2017), Schäfer et al., (2017), and Sharp et al., (2016) had shown that expressive suppression has been linked to internalizing problems, including distress, depressive, anxiety symptoms, peer victimization, and loneliness. While emotional suppression increases the risk of emotional and behavioural problems as demonstrated in the study Flouri, & Mavroveli (2013), depressive symptoms may also be a precursor for its use during adolescence as shown in the study by Larsen et al., (2013).

Emotional suppression is linked with traits of callousness, uncaring and unemotionality, usually found with conduct problems as shown in the study by 'ipo', & Predescu, (2017). Adolescents with conduct problems struggle with identifying own emotions, understanding emotional cues, experience greater intensity of emotions, and have a greater likelihood for aggression demonstrated in the study by Katz, & Windecker-Nelson, (2004). Liu et al. (2022) in their study had shown that individuals with hyperactivity problems also utilise more expressive suppression as compared to cognitive reappraisal.

Expressive suppression has been linked to reactive anger in adolescents and predicts aggressive behaviour even after controlling anger shown by Kokkinos et al., (2019), and Tull et al., (2007). It may lead to increase in aggression by elevating negative emotions, decreasing inhibition, interfering with decision-making, reducing social networks, and increasing resistance to problem-solving in difficult situations as exhibited by Robertson et al., (2012).

Prosocial behaviour was not found to linked with emotional regulation strategies. This aligns with previous research by Xu et

al., (2023) suggesting that expressive suppression does not foster prosocial behavior, potentially due to its disruptive effect on processing social information. Conversely, cognitive reappraisal, as a more adaptive strategy, is associated with greater prosocial behavior.

In summary, the study contributes to understanding how expressive suppression, as an emotion regulation strategy, relates to behavioural problems in adolescents with SLD within the Indian context, advancing insights for this population.

### Conclusion

In conclusion, the study highlights the significant relationship between expressive suppression and both internalizing and externalizing behavior problems in adolescents with SLD in the Indian context. The preference for expressive suppression over cognitive reappraisal may be influenced by cultural norms, cognitive limitations, and age-related factors. The findings underscore the potential risks of using expressive suppression, such as increased aggression and emotional difficulties, while emphasizing the need for interventions that promote more adaptive emotion regulation strategies, like cognitive reappraisal, to support social competence and mental well-being in this population.

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