

Specific learning disorders (SLD)

Subjects: Behavioral Sciences

Contributor: Daniela Traficante

Specific learning disorders (SLD) (DSM-5; American Psychiatric Association, Washington, DC, USA, 2013) are neurodevelopmental disorders characterized by difficulties in specific academic areas such as reading, writing, mathematics, and spelling. SLD are diagnosed in individuals with normal intelligence, no neurological and sensory deficits and with adequate educational and socio-cultural opportunities.

Keywords: specific learning disorder ; learning difficulties ; well-being ; school engagement ; school climate

1. Introduction

In recent decades, there has been a growing interest in students' well-being at policy level, and this attention led research to focus on the study of the psychological aspects related to learning processes. In this light, several studies aimed at discovering whether and how education systems might support student's well-being ^{[1][2]}. The Program for International Student Assessment (PISA) defines well-being as the quality of students' life within various dimensions of well-being, including life as a whole, self-related, school-related, and out of school well-being ^[3]. Interest in high school students and particularly 15-year-olds is significant to the PISA and it is meaningful to address how this population feels about their experience of well-being at school. Seligman (2011) outlines a new dynamic concept of well-being, according to which the complex nature of human flourishing is composed of several concepts and experiences correlated with each other: positive emotion, engagement, relationships, meaning, and accomplishment (PERMA). In positive psychology applied to educational contexts, several studies focused, in particular, on engagement in school activities, which has been described as a multidimensional construct ^{[4][5]}. It involves affective or emotional components, as it refers to the young people's interest and joy regarding school with the presence of positive emotions ^[6]. Moreover, it involves behavioural components, which refer to attention, effort, and persistence in accordance with school expectations ^[6]. Finally, it involves cognitive aspects, referring to the strategies applied to learning activity and to self-regulated learning ^{[4][7]}.

A focus on flourishing in schools is particularly important because childhood and adolescence are pivotal stages of development, which carry implications for functioning over the life-course. Adolescence is often viewed as a critical stage in the emergence and trajectory of mental illness ^[8], and rates of mental health problems, especially depression and anxiety, are consistently reported as problematically high in this developmental phase ^[9].

In summary, the relationship between school climate, student engagement, and well-being is well defined in the literature ^[10]. Moreover, there is evidence that these dimensions appear to be related to each other and to literacy skills ^{[11][12]}, and a positive correlation between high-school students' well-being and their academic achievement was observed ^{[12][13]}. A recent study ^[14] showed that students' well-being (in particular, the perception of support from the others and the possibility to ask help when needed) is fundamental to promote the experience of social inclusive schools' environments, especially for students with specific learning disorders. In Italian schools, 3.1% of students have been diagnosed with SLD, such as dyslexia, dyscalculia, and handwriting and spelling disorders, as shown by the last report edited by the Italian Ministry of Education ^[15]. The data for secondary school show 5.3% of students with SLD compared to the total number of students attending these schools ^[15].

Several empirical studies have suggested that SLD is frequently associated with social-emotional and behavioral problems and can cause intense emotional suffering ^{[16][17]}, such as an increased risk of developing externalizing and internalizing problems, loneliness, and poor self-esteem ^{[18][19][20]}, with effects on well-being.

The study by Walker and Nabuzoka (2007) compared the academic achievement and social functioning of children with and without SLD and found that academic achievement is related to social functioning. Other studies ^{[21][22]} have shown that early reading and writing difficulties are a risk factor for the development of both internalizing problems in the early years of schooling and for externalizing problems in the following years, in particular in adolescence ^[23]. Generally, it is assumed that learning difficulties have profound effects on a child's emotional life. Students who have difficulties in

developing literacy often experience feelings of deep distrust in their own abilities, low motivation, and low self-esteem. Additionally, they are afraid to participate in activities, because they anticipate their own failure. Accordingly, reading and writing skills have an impact on social status recognition within the classroom group ^{[24][25][26]}, with significant effects not only on learning, but also on well-being and school engagement.

2. well-being experience with SLD student

A recent study ^[27], comparing students with SLD and typically developing children, found closer relationships between the learning and emotional problems at school and internalising/externalising symptoms in the SLD primary school students; moreover, this highlights the importance of a supportive school and family environment to improve the school well-being and general psychological health of these children. In this vein, a study conducted with adolescents with dyslexia highlighted that they experience low academic and social self-efficacy, low mood, and a loss of hope and motivation when they are faced with higher scholastic tasks ^[28]. These results suggest that these problematic dimensions, strictly connected with the student's well-being, have a cumulative effect on development, thus demonstrating that they persist when they grow. All these dimensions appear more relevant in the adolescence period of life, in which the recognition of the risk factors for the well-being of students is crucial. In fact, when learning difficulties meet the typical problems of adolescents, further complications could arise.

In Italy, in 2010, a law was promulgated (L. 170/2010) to protect the educational rights of students with SLD, according to the inclusive perspective promoted by the *International Classification of Functioning, Disability and Health-Children and Youth*, (ICF-CY, ^[29]). In this framework, the social and physical environment plays a major role in promoting the best functioning of a person. When people live/work/study in an environment fit for their abilities and attitudes, they can increase self-efficacy and self-esteem and, in general, well-being. Italian students with a diagnosis of SLD can use compensatory strategies and devices (word processors, calculators, digital dictionaries, conceptual maps) and are given more time to complete tests. All of these support mechanisms allow them to adequately cope with the demands of school and, in this way, students are able to obtain appropriate levels of learning, through the recognition and the opportunity to address these difficulties that mainly happen when they are under pressure ^[30]. In addition, De Boer et al. (2011) found that teachers do not feel confident in their ability to teach students with learning disorders. Therefore, these students encounter teachers who do not feel effective in supporting the abilities of students with learning disorders and may feel that any type of teaching practice can be effective. Thus, in this vein, they often do not use alternative instructional practices related to, for example, creativity or dynamism, strong points in the cognitive functioning of children with SLD ^[31]. For these students, the choice of attending secondary school is correlated with the severity of the disorder (difficulty in reading, spelling, and mathematics), IQ, and access to extracurricular activities and appropriate study guidance ^{[32][33]}. Most of these students attend vocational schools because high schools (in humanities or scientific topics) are too challenging for them.

Beyond the students with a certified SLD, there are many students who show learning difficulties, but have never undertaken a diagnosis procedure; indeed, the incidence of SLD is widely underestimated ^[34]. In particular, learning disorders are poorly recognized in secondary-school students, because they have already compensated for—or are trying to compensate for—their difficulties at this stage of schooling ^[35]. For that reason, these students with difficulty in learning but without any diagnosis cannot gain advantage from the Italian law targeting students with SLD nor from the social recognition of their difficulties, especially by teachers. They constantly realize that their own school performance does not conform to that of their peers and usually live under pressure throughout the school-learning experience ^[30]. This condition is associated with negative feelings, such as low self-esteem and anger, disengagement from learning activities and school drop-out in their later school career. Indeed, learning difficulties often result in dropouts during high school and a related loss of fulfillment of one's social and work opportunities ^[36]. This is more significant when considering those students who are not recognized within the school environment as having a special need, but are merely stigmatized as not being at all interested in education.

The peculiarity of the experience of secondary school students with learning difficulties (LD) without a diagnosis, in comparison to students with SLD diagnosis, and normotypical students turns out when well-being, school engagement, and school climate perception are assessed through self-administered questionnaires. For students with learning difficulties (LD) all these dimensions are fully correlated with each other: school climate perception, student engagement, and well-being are interrelated for them. In students with certified specific learning disorders (SLD) the positive well-being experience is directly associated only with the positive emotions that students experience with respect to school activities (affective engagement) and with students' effort in learning (behavioral engagement). On the contrary, in typically developing adolescents, no association was found between well-being, student engagement and school climate, demonstrating the independence of these dimensions in adolescents, in the absence of learning difficulties or disorders.

It is worth noting that for the SLD group, in the Italian context, well-being experience, engagement in school activities, and representations of school climate are as positive as those of their schoolmates. On the contrary, when struggling students do not meet an educational context that supports them, such as the LD group in this study, negative effects on well-being, engagement, and school-climate representation might be observed.

3. Conclusion

Reading and writing skills influence the social status of students, exerting effects not only on learning, but also on well-being. Experiencing numerous failures at school can leave students frustrated, generating negative expectations about their performance and a negative impact on their subsequent efforts. Low achievement at school affects the self-image of students with learning difficulties, when such difficulties do not meet an inclusive education due to the lack of diagnostic evidence of SLD, and when struggling students are expected to compare themselves (in terms of personal, familiar, and scholastic expectations) with their peers without learning difficulties. These beliefs can intensify the feelings of defeat and frustration already detected in several studies conducted with students with specific learning disorders in different socio-cultural contexts [37][38].

References

1. Pollard, E.; Lee, P.D. Child Well-Being: A Systematic Review of the Literature. *Soc. Indic. Res.* 2003, 61, 59–78.
2. Seligman, M.E. *Flourish*; Free Press: New York, NY, USA, 2011.
3. Organisation for Economic Co-operation and Development (OECD). *OECD Skills Outlook 2019: Thriving in a Digital World*; OECD: Paris, France, 2019.
4. Fredericks, J.A.; Blumenfeld, P.C.; Paris, A.H. School engagement: Potential of the concept, state of the evidence. *Rev. Educ. Res.* 2004, 74, 59–109.
5. Lam, S.; Jimerson, S.; Wong, B.P.H.; Kikas, E.; Shin, H.; Veiga, F.H.; Hatzichristou, C.; Polychroni, F.; Cefai, C.; Negovan, V.; et al. Understanding and measuring student engagement in school: The results of an international study from 12 countries. *Sch. Psychol.* 2014, 29(2), 213–232.
6. Skinner, E.A.; Kindermann, T.A.; Furrer, C.J. A motivational perspective on engagement and disaffection: Conceptualization and assessment of children's behavioral and emotional participation in academic activities in the classroom. *Educ. Psychol. Meas.* 2019, 69, 493–525.
7. Wang, M.T.; Willett, J.B.; Eccles, J.S. The assessment of school engagement: Examining dimensionality and measurement invariance across gender and race/ethnicity. *J. Sch. Psychol.* 2011, 49, 465–480.
8. Paus, T.; Keshavan, M.; Giedd, J.N. Why do many psychiatric disorders emerge during adolescence? *Nat. Rev. Neurosci.* 2008, 9, 947–957.
9. Sawyer, S.M.; Drew, S.; Yeo, M.S.; Britto, M.T. Adolescents with a chronic condition: Challenges living, challenges treating. *Lancet* 2007, 369, 1481–1489.
10. Lombardi, E.; Traficante, D.; Bettoni, R.; Offredi, I.; Giorgetti, M.; Vernice, M. The Impact of School Climate on Well-Being Experience and School Engagement: A Study With High-School Students. *Front. Psychol.* 2019, 10, 2482.
11. Konold, T.; Cornell, D.; Jia, Y.; Malone, M. School climate, student engagement, and academic achievement: A latent variable, multilevel multi-informant examination. *AERA Open* 2018, 4, 1–17.
12. Lei, H.; Cui, Y.; Zhou, W. Relationships between student engagement and academic achievement: A meta-analysis. *Soc. Behav. Personal. Int. J.* 2018, 46, 517–528.
13. Vernice, M.; Matta, M.; Tironi, M.; Caccia, M.; Lombardi, E.; Guasti, M.T.; Sarti, D.; Lang, M. An online tool to assess sentence comprehension in teenagers at risk for school exclusion: Evidence from L2 Italian students. *Front. Psychol.* 2019, 10, 2417.
14. Sarti, D.; Bettoni, R.; Offredi, I.; Tironi, M.; Lombardi, E.; Traficante, D.; Lorusso, M.L. Tell Me a Story: Socio-Emotional Functioning, Well-Being and Problematic Smartphone Use in Adolescents With Specific Learning Disabilities. *Front. Psychol.* 2019.
15. Italian Ministry of Education, University and Research—Ministero della Pubblica Istruzione, MIUR. I principali dati relativi agli alunni con DSA, Anno scolastico 2018/2019. 2020. Available online: (accessed on 24 June 2021).

16. Mugnaini, D.; Lassi, S.; La Malfa, G.; Albertini, G. Internalizing correlates of dyslexia. *World J. Pediatr.* 2009, 5, 255–264.
17. Francis, D.A.; Caruana, N.; Hudson, J.L.; McArthur, G.M. The association between poor reading and internalising problems: A systematic review and meta-analysis. *Clin. Psychol. Rev.* 2018, 67, 45–60.
18. Aro, T.; Eklund, K.; Eloranta, A.K.; Närhi, V.; Korhonen, E.; Ahonen, T. Associations between childhood learning disabilities and adult-age mental health problems, lack of education, and unemployment. *J. Learn. Disabil.* 2019, 52, 71–83.
19. Bryan, T. Science-based advances in the social domain of learning disabilities. *Learn. Disabil. Q.* 2005, 28, 119–121.
20. Wilson, A.M.; Deriarmstrong, C.; Furrie, A.; Walcot, E. The mental health of Canadians with self-reported learning disabilities. *J. Learn. Disabil.* 2009, 42, 24–40.
21. Halonen, A.; Aunola, K.; Ahonen, T.; Nurmi, J.E. The role of learning to read in the development of problem behaviour: A cross-lagged longitudinal study. *Br. J. Educ. Psychol.* 2006, 76 (Pt 3), 517–534.
22. Klassen, R.M.; Tze, V.M.; Hannok, W. Internalizing problems of adults with learning disabilities: A meta-analysis. *J. Learn. Disabil.* 2013, 46, 317–327.
23. McConaughy, S.H. Social competence and behavioral problems of learning disabled boys aged 12–16. *J. Learn. Disabil.* 1986, 19, 101–106.
24. Cornoldi, C.; De Beni, R. *Imparare A Studiare. STRATEGIE, Stili Cognitivi, Metacognizione e Atteggiamenti Nello Studio*; Erickson: Trento, Italy, 2001.
25. Traficante, D.; Andolfi, V.R.; Wolf, M. Literacy abilities and well-being in children: Findings from the application of EUREKA, the Italian adaptation of the RAVE-O Program. *Re-Open J. Form. Rete* 2017, 17, 12–38.
26. Walker, A.; Nabuzoka, D. Academic achievement and social functioning of children with and without learning difficulties. *Educ. Psychol.* 2007, 27, 635–665.
27. Benassi, E.; Camia, M.; Giovagnoli, S.; Scorza, M. Impaired school well-being in children with specific learning disorder and its relationship to psychopathological symptoms. *Eur. J. Spec. Needs Educ.* 2020.
28. Ghisi, M.; Bottesi, G.; Re, A.M.; Cerea, S.; Mammarella, I.C. Socioemotional Features and Resilience in Italian University Students with and without Dyslexia. *Front. Psychol.* 2016.
29. World Health Organization. *International Classification of Functioning, Disability, and Health: Children & Youth Version: ICF-CY*; World Health Organization: Geneva, Switzerland, 2007.
30. Fenzi, V.; Cornoldi, C. Le difficoltà ortografiche di adolescenti con dislessia. *Dislessia* 2015, 12, 75–86.
31. Eide, B.; Eide, F. *The Dyslexic Advantage: Unlocking the Hidden Potential of the Dyslexic Brain*; Penguin Group: London, UK, 2012.
32. Miller, R.J.; Snider, B.; Rzonca, C. Variables related to the decision of young adults with learning disabilities to participate in postsecondary education. *J. Learn. Disabil.* 1990, 23, 349–354.
33. Young, A.R.; Beitchman, J.H.; Johnson, C.; Douglas, L.; Atkinson, L.; Escobar, M.; Wilson, B. Young adult academic outcomes in a longitudinal sample of early identified language impaired and control children. *J. Child Psychol. Psychiatry.* 2002, 43, 635–645.
34. Barbiero, C.; Montico, M.; Lonciari, I.; Monasta, L.; Penge, R.; Vio, C.; Tressoldi, P.E.; Carrozzi, M.; De Petris, A.; De Cagno, A.G.; et al. The lost children: The underdiagnosis of dyslexia in Italy. A cross-sectional national study. *PLoS ONE* 2019, 14, e0210448.
35. Lampugnani, G.; Stella, G.; Caiazza, G. Un'esperienza di screening per l'individuazione di soggetti a rischio DSA e intervento di formazione dei docenti nella prima classe della scuola secondaria superiore. *Dislessia* 2006, 3, 37–48.
36. Doren, B.; Murray, C.; Gau, J.M. Salient predictors of school dropout among secondary students with learning disabilities. *Learn. Disabil. Res. Pract.* 2014, 29, 150–159.
37. Filippello, P.; Harrington, N.; Costa, S.; Buzzai, C.; Sorrenti, L. Perceived Psychological Control and School Learned Helplessness: The role of frustration intolerance as a mediator factor. *Sch. Psychol. Int.* 2018, 39, 360–377.
38. Sorrenti, L.; Filippello, P.; Orecchio, S.; Buzzai, C. Learned helplessness and learning goals: Role played in school refusal. A study on Italian students. *Mediterr. J. Clin. Psychol.* 2016, 4.

