

Personality profiles of dyslexic children: a study with the Big Five Questionnaire

Antonella Gagliano¹, Rosamaria Siracusano, Maria Boncoddo, Tiziana Calarese, Giovanna Ilardo, Domenica Fidi, Rosa Grosso, Marco Lamberti, Massimo Ciuffo, Simona Rosina, Clemente Cedro & Eva Germanò

Abstract

This study explores the personality profiles of 65 dyslexic readers (36 male and 29 female, aged between 8 and 14), and 70 normal readers using the Big Five Questionnaire (BFQ), version for children. The BFQ assesses the constellation of the traits defined by the Five Factors Theory of Personality: Agreeableness (A), Emotional Instability (I), Open mindedness (M), Energy/Extroversion (E), Conscientiousness (C). Compared to the control children, subjects with dyslexia in our sample had lower scores in M, C and A dimensions. Overall, they showed personality traits characterized by less originality and creativity, poor control over emotional reactions, changeable moods and negative affections. The dyslexic readers who have benefited from an additional specialist tuition for a longer time, showed higher scores in I, A and C dimensions ($p < 0.05$). It seems that an additional specialist tuition could help children with dyslexia to develop personality dimensions such as conscientiousness, agreeableness, and a stronger emotional stability. Furthermore, the I dimension correlates ($p < 0.05$) with the age of diagnosis: the later the diagnosis is established, the more evident the emotional instability trait becomes.

The present study suggests that dyslexia and academic failure, in the long run, could affect negatively emotional experiences and personality traits.

Keywords: Dyslexia; Children; Big Five Questionnaire; Personality Traits.

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¹ All Authors are with the Division of Child and Adolescent Psychiatry, Department of Pediatrics, University of Messina, Messina, Italy. Correspondence to: agagliano@unime.it

1. Introduction

Dyslexia and other specific neurodevelopmental disorders in childhood such as persistent difficulties in learning to efficiently read, write (dysgraphia) or perform mathematical calculations (dyscalculia) despite normal intelligence, conventional schooling, intact hearing and vision, adequate motivation and socio-cultural opportunity, are based on central nervous system dysfunction and are chronic lifelong conditions (Shaywitz, 1998; Demonet, Taylor, & Chaix, 2004). It has long been assumed that children with dyslexia and other learning disabilities may be highly vulnerable to emotional consequences and comorbid psychopathology, such as anxiety and depression (Willcutt & Pennington, 2000; Carroll & Iles, 2006; Goldston, Walsh, Mayfield, Reboussin, Sargent, Erkanli *et al.*, 2007). In fact, dyslexic children can experience high levels of stress during their school careers because of their educational and social difficulties, and more specifically in their interactions with teachers when they worry over academic examinations and test performance (Alexander-Passe, 2008).

The relationship between dyslexia and anxiety seems to be strictly associated with shared environmental factors rather than with shared genetic risks (Whitehouse, Spector, & Cherkas, 2009). Difficulties in organizing lifelong emotional experiences related to living with diagnosed dyslexia and self-esteem problems may emerge by early childhood. People with dyslexia can contend with aspects of their learning difficulty that interfere with a typical development adding a sense of emotional insecurity (McNulty, 2003).

An association between reading difficulties and subsequent problem behaviours has been also described as a consequence of reading failure (Kempe, Gustafson, & Samuelsson, 2011). Furthermore, the comorbidity of dyslexia with attention deficit disorder/hyperactivity disorder (ADHD) is frequent (Willcutt, Betjemann, McGrath, Chhabildas, Olson, DeFries *et al.*, 2010; Germanò, Gagliano, & Curatolo, 2010), and mostly impacts the outcome of dyslexia (Mugnaini, Lassi, La Malfa, & Alberini, 2009; Nelson & Gregg 2012).

Various studies report the association between clinical conditions like dyslexia and ADHD group samples of the young with Personality Disorders, (mostly cluster B – dramatic cluster – borderline, histrionic, narcissistic and antisocial) (Bleiberg, 1984; Bleiberg, 1994). Conversely, some authors provided clear evidence to support the idea that neurodevelopmental disorders in children and teenagers can be associated with DSM-IV-Axis II disorders and, in particular, with the Borderline Personality Disorder (BPD) (Gardner, Lucas, & Cowdry, 1987; Coolidge, Segal, Stewart, & Ellett, 2000; Schulze, Domes, Krüger, Berger, Fleischer, Prehn *et al.*, 2011).

According to Kernberg (1996), a variety of psychopathological profiles could be related to an underlying borderline organization. Furthermore, neuropsychological disabilities can play an important role in the genesis of some personality disorders (Kernberg, 1990; Tremblay, Richer, Lachance, & Côté, 2010).

However, in literature there is a debate about whether dyslexia is an isolated reading deficit or rather a broader deficit affecting cognitive, metacognitive and socio-emotional domains, which may affect the personality. Evidence on the relationship between dyslexia and emotional disturbances from a few previous studies is mixed. Some studies did not reveal any significant differences in the emotional status, in self-concepts and in personality, between subjects with dyslexia and control subjects (Plaisant, 1989; Lamm & Epstein, 1992; Zeleke, 2004; Swanson & Hsieh, 2009). Other studies have reported that students with learning disabilities frequently experience low self-esteem, with negative consequences on their emotional stability (Mason & Mason, 2005).

Overall, dyslexia is presumed to have an effect on the development of personality. Peculiar personality traits in samples of subjects with neurological disabilities, such as ADHD (Nigg, John, Blaskey, Huang-pollock, Willcutt, Hinshaw *et al.*, 2002; Ferrer, Andi n, Matal , Valero, Navarro, Ramos-Quiroga *et al.*, 2010), and dyslexia (Flynn, Matthews, & Hollins, 2002; Nelson & Gregg, 2012) have actually been described. Furthermore, some evidence sustains the association between dyslexia and conduct disorder and antisocial behaviour (Sundheim & Voelder, 2004; Trzesniewski, Moffitt, Caspi, Taylor, & Maughan, 2006) or antisocial personality disorder (Maughan, Pickles, Hagell, Rutter, & Yule, 1996; Rasmussen, Almvik, & Levander, 2001), suggesting that reading problems are a weak predictor of antisocial behaviour but could become a long-term predictor (Simonoff, Elander, Holmshaw, Pickles, Murray, & Rutter, 2004). Particularly for personality disorders, the integrated etiological model represents the most accredited paradigm to study their genesis. As regards the antisocial personality disorder, for example, the tendency for deviant behaviour is believed to derive from individual characteristics resulting from genetic, behavioural and cognitive variables that interact with environmental influences (Lahey, Waldman, & Mcbernett, 1999). The integrated model is presumably valid for any other psychopathological condition in developmental age.

2. Aim

The aim of the present work is to assess the personality traits of young subjects with developmental dyslexia through the description of the dimensions from the Big Five Questionnaire (BFQ) regarding personality.

The BFQ was designed to assess the constellation of the traits defined by the Five Factors Theory of Personality (Digman, 1990; Goldberg, 1990; McCrae & Costa, 1997; John & Srivastava, 1999). According to Bermúdez (1995), the “Big Five” model was established as the appropriate and integrating structure to describe personality in “natural” language in the context of personality questionnaires. This penta-factorial model represents a shared framework for the structure of personality. It interprets and catalogues the individual differences of personality. Moreover, the structure of this questionnaire provides a definition of the vocabulary used for the assessment, which can favour agreement between different examiners and can reduce the variation of their assessments. At the same time, the discrepancy between the evaluation provided by the children and that provided by the parents; that is, between the self-image as described by the individual and the image depicted by other people, decreases.

The present study describes the personality profiles of a group of dyslexic children and explores the connection between the personality traits and some demographic and environmental variables (age, school attendance years, age of diagnosis, additional specialist tuition). The study aims to discuss if dyslexia could have an impact on the development of specific personality traits.

3. Methods

3.1 Sample

We included in the study 65 subjects (36 male and 29 female), aged between 8 and 14 (*mean age* = 11.2, *SD* = 2.3). All children had been referred to the Department of Child and Adolescent Psychiatry of University of Messina for an assessment of their poor school performance (academic underachievement or failure). All of them had received a diagnosis of dyslexia (reading disorder) according to the criteria of DSM IV (Academic Skills Disorder; APA 1995), and had undergone a neuropsychological assessment including standardized reading and writing tests. The time of the diagnosis had been variable, occurring when the children were aged between 6 and 14 (*mean age* 8.8, *SD* 2.0). Each child was assessed on the complete form of the Wechsler Intelligence Scale for Children (WISC-III) (Orsini & Picone, 2006); the mean IQ was in the average range (Total IQ 97.8; *SD* 13.3). Subjects with IQ below 85 were not included, as well as those who showed major neurological signs and sensitive and/or sensory deficits. We also excluded all those subjects who, in association with the learning disorder, presented a psychopathological disorder, or had suffered from it in the last two years.

We finally considered for how long (number of years) the dyslexic readers had received an additional specialist tuition (specific training).

The group of subjects with Dyslexia was compared to a control sample, with equivalent age, sex, IQ level, and education level. This group was made up of 70 children (30 male and 40 female), aged from 8 to 14 (*mean age* = 11.0, *SD* = 2.1), recruited among school children attending schools in Messina, and examined at school. None of them had ever presented learning difficulties or psychopathological disorders. All the subjects in the control group had undergone a psycho-diagnostic assessment including the same tests carried out with the dyslexic subjects.

3.2 Instruments

We administered the children's version (BFQ- C) of the Big Five Questionnaire (BFQ) by Caprara, Barbaranelli, Borgogni and Perugini (1993). The children's version (BFQ-C, Barbaranelli, Caprara, & Rabasca, 1998) constitutes a bridge between developmental and life-long personality research. This questionnaire has 65 items and two forms: BFQ-children refers to the child him/herself completing the form, and BFQ-parents refers to a parent or caregiver completing the form. It is based on the Five Factor Model: Energy/Extroversion (E), Agreeableness (A), Conscientiousness (C), Emotional Instability (I), Open mindedness (M). Table 1 summarizes them describing the psycho-behavioural connotations.

In addition to BFQ-C, the psychopathologic scale, Self-Administration Psychiatric Scale for Children and Adolescents (SAFA), was administered. This instrument, produced and validated in Italy (Cianchetti & Sannio Fancello, 2001), is an unitary instrument that allows a preliminary but sufficiently broad assessment of psychiatric conditions by means of different scales that are organized according to homogeneous criteria. This battery includes different scales and explores a wide series of symptoms and psychiatric conditions in a short period of time (30-50 minutes). Each scale consists of two different versions calibrated according to the age (for children aged 8–10 and for pre-adolescents and adolescents aged 11–18 years). On the basis of the scores obtained, it is possible to delineate a general psychopathological profile or specific profiles using each scale (Franzoni, Monti, Pellicciari, Muratore, Verrotti, Garone *et al.*, 2009). In fact, it includes scales for Anxiety (A), Depression (D), Obsessive-compulsive disorders (O), Eating psychogenic disorders, Somatic symptoms and hypochondria (P). Each item has three possible choices (true, false, and partly true), and can be valued from 0 to 2 according to specific correction schedules. The score of each scale can be converted into T scores using reference tables for age and sex ($T = 50 + 10Z$).

T scores define different ranges: < 30: the subject is not aware of his/her characteristics in the domain investigated; 30–39: the subject does not respond to the questions that explore the domain investigated; 40–59: statistical normality; 60–69: symptoms are basically pathologic; > 69: symptoms are clearly pathologic.

The items meet two criteria: they are sufficiently indicative of the disorder, and easily understandable and adequate to the age of the subjects.

The SAFA scale is commonly used in Italy to assess psychopathological symptoms in subjects from 8 to 18 years, and the structure and the content of the items are very strictly related to the culture of the country (Franzoni *et al.*, 2009).

3.3 Procedure

Every child in both groups, and their parents, were individually administered the children version (BFQ- C) of the Big Five Questionnaire. The BFQ-C was filled in by the dyslexic readers and their parents, separately and individually, in an individual practice office of the hospital. The normal readers and their parents filled in the BFQ questionnaire in the school building, in a silent and comfortable room used for the assessment.

SAFA was self-administered and filled in individually by the child or teenager during the observation.

4. Data analysis

Data were analyzed using the SPSS package (version 17.0; SPSS Inc.). Differences between the two groups were evaluated using the analysis of covariance (ANCOVA) and effect size scores. Correlation calculations (Pearson coefficient) between BFQ-C scores, SAFA anxiety scores and demographic characteristics have also been carried out on the sample of dyslexic readers. Also, a multiple regression was applied between specific variables related.

SAFA mean scores of children with dyslexia were all below the cut-off value (69 points) for pathological conditions (see table 2). Even if the SAFA mean score for anxiety symptoms of children with dyslexia (49.8 points) was also below the pathological cut-off value, the comparison between dyslexic readers and controls highlighted a mild but significant difference between the two groups in the A Scale (Anxiety) of SAFA.

The comparison between participants and controls with BFQ-C showed significant differences in the two groups concerning some personality dimensions (see table 3).

In particular, dyslexic readers achieved different scores compared with controls in the M and C Scales (*Open Mindedness and Conscientiousness*), both in self assessment (BFQ-children) and in parent assessment items (BFQ-parents). A significant difference emerges also in the *Emotional Instability* dimension: but in this case dyslexic readers achieved different scores compared with controls only in the BFQ-parents. Vice versa, dyslexic readers obtained different scores compared with controls in the *Agreeableness* dimension only in the BFQ-children scale.

On the whole, subjects with dyslexia express lower *Open Mindedness, Conscientiousness* and *Agreeableness* as well as a higher level of *Emotional Instability*, compared with controls.

The correlations (Pearson coefficient) between the variables, so far examined within the group of subjects with dyslexia, allow us to point out some significant points (see table 4). The A scale of the SAFA correlates ($p < 0.05$ or $p < 0.01$) with some of the personality dimensions (*Energy, Agreeableness, Open mindedness* and *Emotional Instability*) noted by the BFQ self-assessment scale (BFQ children). This means that the scores related to these traits of personality are lower in the dyslexic reader with higher anxiety level.

The E and I dimensions of the BFQ-children scale, and the A dimension of the BFQ-parents scale correlate ($p < 0.05$) with age, in such a way that the older dyslexic readers seem to have improved capacities of *Energy/Extroversion* and *Agreeableness*. They also show a greater *Emotional Instability*. Even the years of school attendance correlate with the I-children and A-parents dimensions ($p < 0.05$); this means that while the *Agreeableness* (sense of cooperation, selflessness, sense of sharing, etc.) progressively grows during the school years, the *Emotional Instability* gradually decreases. Another relevant point is that children that benefited from additional specialist tuition (specific training) for a longer time (number of years), showed higher scores in the I and C dimensions of the BFQ children ($p < 0.05$) and in the A dimension of the BFQ-parents ($p < 0.05$). Therefore, it appears that the fact that they received a specific training helped these children in the process of developing personality dimensions such as *Conscientiousness* and *Agreeableness*, and this contributed in decreasing their *emotional instability*.

The I dimension of the BFQ-children correlates ($p < 0.05$) with the age of diagnosis: the later the diagnosis is established, the higher the *Emotional Instability* assessed by the BFQ-children will result. This means that a delay in the diagnosis appears to be associated with an increased emotional instability in the sample of subjects we studied.

Using a multiple regression model, we tested the independent associations between age of subjects, school attendance years, age of diagnosis, specific training

as predictor variables, and “emotional instability” as criterion variables (see Table 5). For each multiple regression model, we entered age, school attendance years and age of diagnosis scores in block 1 and co-varied age, school attendance years, age of diagnosis and specific training in block 2. Age of diagnosis in block 2 ($\beta = -.34$ $p < .05$) predicted the personality trait “emotional instability” only when associated to a specific training ($\beta = -.30$ $p < .05$).

5. Discussion

The dyslexic readers, compared with the control children, show lower scores in the *Open Mindedness*, *Conscientiousness* and *Agreeableness* dimensions as well as high scores in the Emotional Instability dimension. On the whole, the subjects with dyslexia, compared with controls, seemed more emotionally unstable, less agreeable, less conscientious, less open-minded, and less capable to invest their own cognitive resources and abilities. As the study did not include subjects with psychiatric comorbidity, the description of the personality traits, compared to the overall psycho-affective features, could be more reliable. Therefore, this sample of subjects can, in our opinion, prove to be a good model for discussion if the presence of dyslexia shows demonstrative effects on the affective dimension of an individual, as much so as in shaping personality traits.

A preliminary part of evidence, shown by the differences of BFQ scores between the two groups, is that dyslexic readers tend to have different personality traits compared to typical readers. It seems clear, looking at the differences that appear in the M and C dimensions of the BFQ-children, that children with dyslexia perceive themselves as individuals who are not very open to experience, have a narrow range of cultural interests, and are not particularly original or creative. They describe themselves as unscrupulous, inaccurate and incapable of persevering in a task through to the end. It is significant that their parents describe them in the same terms, as is revealed by the presence of a significant difference with the control group also on the BFQ-parents scale. The full agreement between children and parents in describing this dimension allows us to consider this dimension as particularly impacted by dyslexia.

It is undoubtedly difficult to understand the reason for the presence of such personality characteristics. A first interpretation could be that the perception children have of their open-mindedness and of their skill to act with accuracy and precision, could be influenced by their family background. In other words, their parents, dissatisfied by their children’s insufficient school achievements, tend to form a wholly negative opinion about their children’s ability to use their

cognitive resources efficiently and precisely. It is well known that the parents of children with specific learning disabilities experience stress in coping with their child's condition (Karande, Mehta, & Kulkarni, 2007; Karande, Kumbhare, Kulkarni, & Shah, 2009).

At the same time, it is probable that the children themselves, faced every day with the need to adapt to study assignments often inadequate for their skills, are bound to perceive themselves as not competent, and regularly experience a sense of ineffectiveness extending to all the activities involving a cognitive effort. What's more, this self-perception about their ability and effectiveness is often greatly reinforced by the teachers' and other educators' attitudes. Many dyslexic readers have an unpleasant experience at school, and feel uncared for and unsupported by their teachers. It is possible to assume that dyslexia, both for its social consequence and as cause for academic failure, can strongly weaken the sense of the *cognitive self*. The M and C dimensions of BFQ-C could be connected to the concept of the *cognitive self* and strictly linked to the weakening process occurring when personality is developing and is consequently highly influenced by experience and, above all, by the internal perceptions of experience. Other evidence, revealed by the BFQ I scale (Emotional Instability) administered to the parents, is that the dyslexic group presents a lower ability factor to manage their emotional state, to check and adjust their affective reactions and hence to control their mood stability. It is no wonder that a *cognitive self* shaped by such conditions favours the stabilization of dysfunctional personality traits. But we also have to consider other plausible explanations. The first is that specific personality traits exacerbate reading difficulties. If a student is emotionally unstable, not very conscientious or open minded, and is not particularly able in at using his/her cognitive resources on academic activities, he/she is more likely to fall further behind in reading. It is also possible to assume that cognitive factors, such as "Effortful Control", are strongly related to the academic performance (Allan & Lonigan, 2011) and that dyslexic readers' coping strategies can affect a child's self-esteem and psychopathology as well as the remedial process (Alexander-Passe, 2006). Finally, it is possible that the specific personality traits of our sample do not demonstrate fundamental long term changes of personality, but rather artefacts due to different day-to-day experiences. In fact, the difficulties that children with dyslexia have when learning to read, can affect not only the child's ability to write and spell, but can also have the secondary effect of precluding the satisfaction linked with the activity and the optimal energy allocation for academic tasks. This can then lead to a decrease in motivation and to an active avoidance of the activity, whenever it is possible.

One last difference between dyslexics and control group, in relation to BFQ-children, regards the A dimension, describing the ability of taking care and, at the same time, of trusting other people. It is probable that dyslexic children, because of their repeatedly frustrating experiences, have somehow lost the possibility to trust others to receive help and support. Another consequence could be the similar reduction of the sense of self-effectiveness and consequently the possibility to rely on themselves. In general, the differences between dyslexics and normal readers observed in the personality profiles allow us to describe dyslexic children as insecure and emotionally unstable subjects, who invest less in their own cognitive resources and in their own abilities.

Nevertheless, a recent study showed no differences in personality traits between participants with and without dyslexia (Tops, Verguts, Callens, & Brysbaert, 2013).

This conclusion is different from our results, but it could be due to the age differences in the groups selected for the sample (adults versus children), and to the different instruments utilized for assessing the personality traits. Furthermore, we can argue that our students were younger and living in a very different cultural environment. Actually, in Italy, the awareness of the needs of dyslexic students is lower than in northern Europe. Thus we can assume that our students' academic careers have not been facilitated as well as Tops's and coll. students' careers, which have been reasonably successful in their university curriculum.

The analysis of correlations between the BFQ dimensions and the demographic and environmental variables (age, school attendance years, age of diagnosis, specific training) on the sample of dyslexic readers suggests some relevant issues. The main point is that younger children appear more anxious and emotionally unstable. We can assume that learning difficulties, however they are handled, affect the emotional level of the children more in their first years of schooling. During these years, learning is often a crucial issue both for the child and his parents, as this is the moment when inclinations and skills are tested for the first time. The natural tendency to cope with dyslexia and the widening of social activities, could reduce the sense of ineffectiveness of child's cognitive resources in the long run, and lead to an improvement in the emotional stability dimension (I) of personality and a reduction of anxiety symptoms.

A further suggestion comes from the existence of a correlation between the A dimension of BFQ-parents and age: as a matter of fact, it seems that the parents notice a progressive opening to others and a greater willingness to trust others as their children grow up, suggesting that the personality trait of extroversion increases in older dyslexic children.

This could mean that they progressively acknowledge their difficulties or become more actively involved in overcoming them. A similar connection exists between the years of schooling, the Emotional Instability dimension of BFQ, and the Anxiety scale of SAFA. We could postulate that the increased awareness of coping strategies to face difficulties normally grows progressively during school years, leading to a more effective control over anxiety.

With respect to the management of academic difficulties, the dyslexic readers that have benefited from an additional specialist tuition for a longer period of time showed higher scores in I and C dimensions of the BFQ children and in A dimension of the BFQ-parents. It seems that the children who received an additional specialist tuition, turn out to be less inhibited and more accurate, scrupulous and persevering. It is possible that a reliable specialist tuition in the afternoon can facilitate the improvement of the skills and enhances the development of compensation mechanisms. This hypothesis can be inferred also from the multiple regression analysis that highlights the importance of the specific training as a predictor, and suggests that the age of diagnosis can predict the personality trait, defined as “emotional instability”, only when associated with a specific training. In other words, it is more likely that a child who receives an early diagnosis will receive specific supports and develop positive emotional traits. It seems, therefore, that in the sample under study, the additional specialist tuition makes the children more capable of self-regulation in the management of learning activities. Some personality traits, such as scrupulousness and the determination to tackle academic tasks, can only favour a more attentive approach to the task and can offer aid in accomplishing completion of school work. This remark is strongly in contrast with expectations, since common sense suggests that to provide supplementary learning makes children more dependant on the adults and less persevering. It must be taken into account that children with learning difficulties in combination with low conscientiousness and agreeableness are more likely to be referred to specialist services than conscientious, agreeable children with only learning difficulties. Nevertheless, support in recuperating study approach strategies, provided by the adult educator, seems to favour the achievement of autonomy in school work, most likely strengthening personality traits like self-regulation, accuracy, persistence and scrupulousness. It is also true that some personality types could respond better to after school tuition than others, achieving a more organized approach to the academic work.

However, the dyslexic children in our sample who received an additional specialist tuition, seemed also more open (A dimension of BFQ-parents) with a higher level of investment than others in terms of willingness and trust. A further indication comes from the correlation between the I dimension of BFQ children

and the age of diagnosis, meaning that the later the diagnosis is made the more evident the emotional instability trait becomes. Looking into what has been previously mentioned in the general discussion about the potential micro-traumatic effect of continuous frustration at school and about the structuring of personality, we deem particularly interesting the emergence of this interdependence between a longer period when the disorder has not yet been diagnosed and this personality trait. Indeed, the *Emotional Instability* dimension describes children who are emotionally weak, anxious and less self-confident. These traits are commonly observed in dyslexic subjects who, due to the fact that they were not recognized as dyslexic, have been exposed for a longer time to wrong judgement, judgemental attitudes, discomfort and frustrations. Studying the correlation between the personality traits and the psychopathological symptoms, a strong correlation between the M dimension of personality (*Open Mindedness*), and the presence of symptoms of anxiety seems evident in the studied sample. A low sense of self-esteem, an inadequate sense of effectiveness and demoralisation concerning the possibility of achieving satisfactory results with their mental skills, could be closely connected to the occurrence of feelings of anxiety. Something similar can be said about symptoms of anxiety, since these, too, are correlated in our sample to the E, A and I dimensions of BFQ-children, to confirm the idea that the possibility of reducing frustrating and fearful situations can probably have a protective effect on the development of personality. In other words, if we help to put dyslexic children in a cheerful mood, we can guarantee higher emotional stability, as this is a strongly adaptive personality trait, since it implies a greater ability to control aggressive and negative drives, and to reduce negative affects in the approach to experience.

6. Conclusions

Even if we can't conclude in a definitive manner that dyslexia has a causal role in the development of dysfunctional personality traits, we can still observe that subjects with dyslexia in our sample group show scarce openness to others, while at the same time their cultural interests, originality, creativity, and control over emotional reactions remain rather limited; their mood seems changeable and their affections are negative. This could be interpreted as a possible consequence of learning difficulties and academic failure that- in the long run- could affect, negatively, both social relations and emotional experiences, and create fixed schemes of psychic functioning. It is arguable that the association between dyslexia and peculiar personality traits is partly due to a chronic lifelong

condition characterized by traumatic and frustrating experiences. It usually happens that dyslexic children experience a sense of impotence, fear of punishment, sadness, lack of self-worth, and a sense of guilt virtually every day. They could also be exposed to a series of events that affect the feeling of emotional/affective closeness to the people they can relate to, a situation endured by dyslexic children especially when their family does not support them or even inflicts punishment. It is also possible that they may suffer from a micro-traumatic condition, when a series of situations that are not traumatic per se, repeatedly occur, and produce a temporary and subjective painful experience, as it is the case when dyslexic children are frequently reproached for their inadequacies. We could assume that hidden behind the façade is what we define as *school distress* or *family discomfort*, repeated social and relational micro-traumas capable of affecting the psycho-affective equilibrium and the development of the personality.

Further research is needed to clarify if those suffering from learning difficulties of a dyslexic nature can develop peculiar personality traits or disorders.

Our findings stress, once again, the importance of establishing a diagnosis as early as possible not only to facilitate the learning process, but also to safeguard the psycho-affective development of dyslexic children as a whole. A long-lasting rigid repetition of negative events could make everyday experience and perceptions of oneself and the others less flexible, and lead the individuals to develop peculiar traits of personality. In addition, this work underlines the importance of protective environmental factors, such as early diagnosis and good academic support, to reduce the potential negative impact of the dyslexia on the psycho-affective development of the individual. Therefore, organizing a supportive and understanding environment in touch with dyslexic children can be useful in guiding their psycho-affective development towards a harmonic structuring of their personality.

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