

Literacy skills in adults with early language and other disorders

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Background

Studies with respect to the long-term development of specific language impairment show persistent difficulties in adolescence and adulthood. These difficulties are not only located in areas traditionally connected to language impairment, such as in academic and school achievement or learning, but also in a wide range of difficulties concerning social, emotional, and behavioural components.

In the area of academic achievement, many studies have shown that these children are more likely to develop learning disorders, even if they received therapeutic intervention. Their literacy abilities are vulnerable, in part owing to specific difficulties in phonological processing, semantic difficulties, and morphosyntactic disorders.

Furthermore, children with specific language disorders often show a high comorbidity with other psychiatric disorders, such as behaviour disorders and ADHD, or emotional disorders, such as anxiety. The first are a group of disorders, which are considered externalizing disorders, whereas the second are considered internalizing disorders. On the other hand, children with psychiatric disorders often have language and communication disorders, which usually remain undiagnosed, owing to their more prevalent psychiatric symptoms (Cohen et al., 1993; Toppelberg & Shapiro, 2000). The relationship between these two types of disorders is not well documented, but some studies show that more severe specific language impairment, with an impaired receptive component, has a worse prognosis with respect to the emotional and behavioral areas, as well as in social adjustment (Toppelberg & Shapiro, 2000). Furthermore, it appears that females are more likely to withdraw socially and to show emotional problems, whereas males are more likely to be overactive and to have behaviour problems.

The long-term academic development of childhood cases with a primary psychiatric diagnosis has not been studied adequately, which would allow a more comprehensive viewpoint of the interconnection, if any, of these types of disorders.

Purpose

The present study is a preliminary report of the academic achievement of two groups of subjects, who presented different types of pathology in childhood. Our purpose is to investigate and to describe the literacy abilities of young adults with a history of specific language impairment, compared to young adults with a history of psychiatric disorders. These adults had all been diagnosed and treated at the Community Mental Health Centre of Byron-Kessariani in Athens, when they were between 1;6 and 7;0 years old.

The question which we wished to address was whether these two groups of subjects have common underlying characteristics which would be apparent in this reading, writing and comprehension skills.

It was hypothesized that the SLI group would have more apparent difficulties in reading, writing skills, slow reading, lower reading comprehension scores and difficulties in mathematical reasoning. On the other hand, it is expected that the group with psychopathology would have better scores in all literacy areas.

Method

All the participants in the study were adults with a Mean Age of 29 years. In childhood all of the participants had been given an ICD-9 diagnosis. The present study is part of a project conducted by the University of Athens Psychiatric Clinic concerning the longitudinal linguistic, psychological, psychiatric, social as well as academic development of these patients as adults.

Participants:

In this study, the sample was divided into two groups:

1. Group A consists of 7 subjects (3 female, 4 male), with a diagnosis of specific language impairment, F80 according to ICD-9, in childhood.
2. Group B consists of 8 subjects (6 female, 2 male), with internalizing or externalizing psychological disorders according to the ICD-9 (1977). According to the Achenbach (1991) questionnaire internalizing disorders consist of children's depression, overanxious disorder, emotional disorders and externalizing disorders consist of attention- deficit/hyperactivity disorder, conduct disorder, oppositional disorder, disruptive behavior disorders. In this Group, there were 7 subjects with internalizing disorders and only one with externalizing disorders. Three of the subjects showed comorbidity with learning disorder. (Table 1)

Material:

Data for the study was collected from:

- The participants' files, that is, from the records kept at our Service concerning their assessment, diagnosis, intervention and outcome.
- A test which was devised to examine the subject's reading ability, reading comprehension, writing skills and a test for mathematical reasoning.

This latter data was collected during one session at our Service at a time of the subject's convenience. The examiner was a speech/ language and learning specialist.

Parameters:

Parameters tested were:

- Time taken to read a text (approx. 200 word).
- Number and type of errors made during reading.
- Number of errors when answering reading comprehension questions (N=4).
- Number and type of errors made in written expression.
- Right/ wrong in mathematical reasoning problem.

Statistical analysis:

The data was analysed using the statistical tool SPSS.

Results

No statistical differences were found between groups. This may be due to the fact that the two groups were too small. We will be reporting on tendencies and qualitative differences found.

1. Between group comparison concerning the number of reading errors

Group A showed a Mean number of errors = 8.17. In this group, 57.2% made 3-4 errors.

Group B showed a Mean number of errors = 2.86. In this group, 50% made 2-3 errors (Table 2).

2. Between group comparison concerning reading speed.

Group A read the passage in a Mean Time of 82.17 sec.

Group B read the passage in a Mean Time of 82.75 sec.

(Table 3).

3. Between group comparison concerning frequency and type of reading errors.

Group A showed most errors in word replacement (44.6%) and secondly, in word omission (8.9%).

Group B showed most errors in word replacement (35%) and secondly, in punctuation (20%). (Table 4).

4. Between group comparison concerning frequency of errors in writing.

Group A showed a Mean number of 12.2 errors.

Group B showed a Mean number of 4.2 errors. (Table 5).

5. Between group comparison concerning types of errors in writing.

Group A showed most errors in accentuation (63%), and second to that letter omission (13.7%).

Group B also showed most errors in accentuation (95.2%) and in letter omission (4.76%). It must be noted that in the Greek language every word, which is two syllables or more, takes a stress accent. For example: (η γάτα κυνηγάει το ποντίκι). In most cases, this accent is redundant and does not help in meaning. However, written language is not acceptable without accents and their correct placement in the word (Table 6).

6. Between group comparison concerning reading comprehension

In reading comprehension, the individual was given a point for each correct answer.

The total number of questions in this section was 4, with a maximum of 20 points.

Group A scored a Mean of 9.9 points.

Group B scored a mean of 15.4 points. (Table 7).

7. Between group comparison concerning mathematical reasoning.

In this task, the subject scored a point, if he gave a correct answer to the problem and zero points if he gave an incorrect answer.

In Group A, 2 participants gave a correct answer, 3 gave an incorrect answer and 2 did not attempt to answer / did not understand the question.

In Group B, 4 participants gave a correct answer, 3 gave an incorrect answer and 1 did not attempt to answer / did not understand the question. (Table 8).

Discussion

The results of this study can only be discussed through tendencies, which are seen in the data, since at present the participants in both groups are very few. It is hoped that we will have more reliable results, when our research project is complete, although there are severe limitations in all longitudinal studies, since it is difficult locating the subjects again after the great lapse of time and to convince them to take part in the project. At present, we can only discuss certain indications of differences between the two groups.

Our first observation is that the SLI group's performance in the literacy tasks was quite functional, particularly with respect to comprehension and reading skills. Only in one case did it appear to be severely disordered. On the other hand, the psychiatric disorders group showed more difficulties than originally expected. Although in all the tasks, their performance was better than that of Group A, their reading times did not differ.

With respect to types of reading errors, the SLI groups' errors, word replacement and word omission, appear to be related to difficulties in phonological processing, as well as with semantic and morphosyntactic difficulties associated with specific language impairment. On the other hand the Group with psychiatric diagnoses, were more likely to replace words which were phonologically alike or to ignore punctuation, which point to difficulties in semantic and syntactic processing abilities and also poses questions about their phonological processing as well.

With respect to writing errors, both groups made similar types of error (that is, lack of accentuation, letter omission). It is interesting to note that both groups show similar types of errors even though they are not the same in frequency. One could say that this is indicative of similar types of literacy difficulties in both groups, which are indicative in turn to similar underlying aetiologies. It is possible that if one were to use a neurodevelopmental paradigm for all of these disorders, one could encompass all of these disorders and explain the fact that they have similar types of literacy difficulties. However a much larger sample would be needed in order to reach any conclusions.

Conclusion

Our study confirms the importance of these types of longitudinal studies, since they may give very significant information about the most appropriate intervention measures, the nature of each disorder and their common characteristics, as well as the transformations that these disorders show over time.

It is clearly apparent that any childhood disorder is rarely "cured", but indeed metamorphoses into a wide variety of overlapping or co-occurring conditions throughout a person's life. For instance, it may lead to a lack of self-esteem, difficulties in social adjustment, career difficulties and poor quality of life. The presence of a community service, which will comprise of comprehensive mental health services, would be an important agent to promote mental health well-being throughout a patient's life and could possibly prevent the more serious consequences of these disorders in adulthood.

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Table 1

Subjects	Type of Diagnosis	ICD-9 CODE
Subject 1	Adjustment reaction (Internalizing disorder)	309
Subject 2	Disturbance of emotions specific to childhood and adolescence (Internalizing disorder)	313
Subject 3	Neurotic disorders (Internalizing disorder)	300
Subject 4	Disturbance of emotions specific to childhood and adolescence (Internalizing disorder)	313
Subject 5	Hyperkinetic syndrome of childhood-Attention deficit disorder (Externalizing disorder)	314
Subject 6	Disturbance of emotions specific to childhood and adolescence- Specific learning disorders (Internalizing disorder)	313
Subject 7	Neurotic disorders- Specific learning disorders (Internalizing disorder)	300
Subject 8	Disturbance of emotions specific to childhood and adolescence - Specific learning disorders (Internalizing disorder)	313

table 2

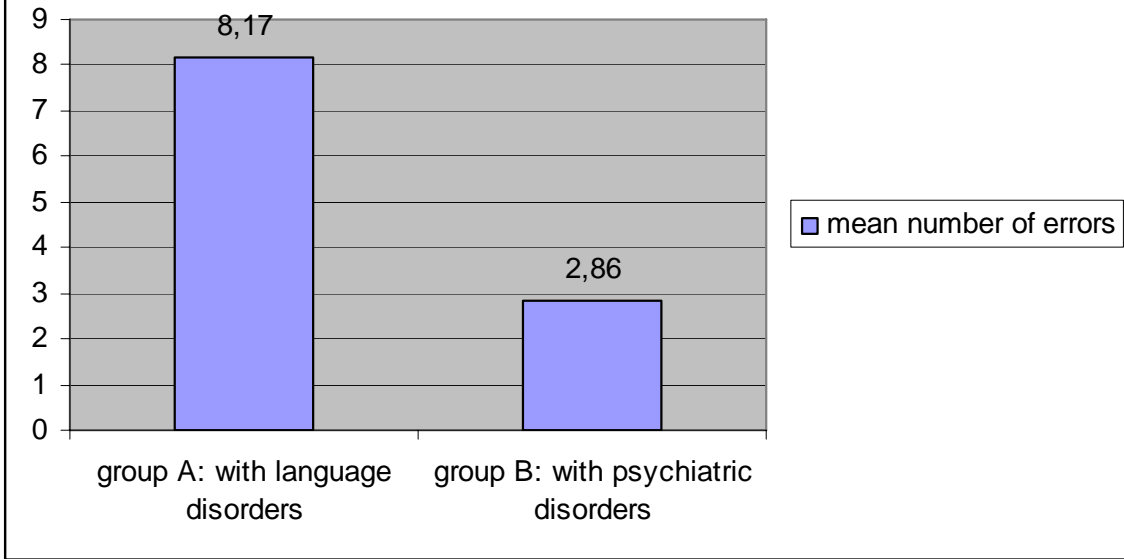


table 3

