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Personal Narrative Skills of Greek Children of Typical Development in the Age of 10 Years

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Abstract

The personal narrative constitutes a revival of past events and a preparation procedure of upcoming ones, developing a person's self-concept. The purpose of the current research was to study Greek children's personal narratives. Participants of the survey were 20 ten-year-old children, including 10 boys and 10 girls of typical development, where each one of them was asked to narrate 6 of their life events. The goal of data collection and analysis was to study the microstructure and macrostructure, as well as evaluate the potential results and investigate the impact of gender on them. The outcome numbers describe the children's performances in scales being used. Important findings of the research were the absence of differences between the two genders. All in all, the results reveal a tendency of that age children's personal narrative characteristics.

Subject Areas

Linguistics

Keywords

Personal Narrative, School-Age, Linguistic Competency, Sex, Past Event Discussion, Microstructure, Macrostructure, Evaluation

1. Introduction

1.1. The Narrative

Narratives are the stories of real or imaginary events (Gillam & Pearson, 2004) [1]. The minimum standard for a narrative is the oral or written apposition of two sentences/events that are placed in a time sequence (Labov, 1972) [2]. The narration of stories plays a central role in the daily life of people, since it is the medium through which they share their personal experiences (Fivush, 2011 [3];

McBride, 2014 [4]), but also experiences regarding their culture as well.

The manner according to which a narrative ought to be evaluated has been a source of conflict among researchers. The important aspects of narrative capability, which are exploratively evaluated, are the microstructure, the macrostructure and the Evaluations process (Chang, 2004) [5].

With the term coherence/microstructure we refer to the grammatical, syntactic and vocabulary means that conjoin the narrative's sentences, so that bigger speech entities are formed, since they project the relationship among events. Halliday & Hasan (1976) [6] suggested and developed the term "microstructure" and claimed that coherence exists in a text (oral or written), as long as each of its elements can be interpreted by resorting to and being dependent from another element of the text.

Some researchers focused on the study of cohesion/macrostructure of narratives, by placing emphasis on their contents. This regards the meaning relations that exist among sentences or phrases of a narrative (cause-effect, antithesis, opposition, etc.), which render a narrative as comprehensible, even if it lacks coherence (Labov & Waletzsky, 1967) [7]. Also, concerns that regards the components the components that adults usually include in their narratives as characters (Stein & Policastro, 1984) [8].

Lastly, some researchers focused on the Evaluations function that has to do with the narrator's comments on the events. The Evaluations function reveals the importance of an event for the narrator and is more frequent in personal narratives than in any other narrative genre (Chang & McCabe, 2013) [9].

The narration process is complex and demands the development and formation of a variety of cognitive, linguistic, pragmatic areas (Johnston, 2008) [10]. When someone hears or narrates a story, then they have to apply their knowledge of the world and calculate the succession of events that are contained in that story (Boudreau, 2008) [11]. The focusing of attention, the continuation of the topic, as well as the implementation of meaning in speech are mandatory (Humphries, Cardy, Worling, & Peets 2004) [12].

The development of narrative discourse seems to develop gradually, as children grow up. Applebee (1978) [13], based on the assumption that stories are composed of distinct components (story grammar), studied the ways that preschoolers organize those components in their narrations and defined six developmental stages, that constitute the steps for a complete narration. These stages cover the age span from 2 - 6 years of age, during which children go from the production of unconnected microstructures to complete narratives. By evaluating the retelling of stories by children aged 4 - 6 years old, Hipfner-Boucher, Milburn, Weitzman, Greenberg, Pelletier and Girolametto (2014) [14] and Lepola *et al.* (2012) [15] realized that older children presented better narrative structure.

The narrative competency seems to be completed during school age. Kanelou, Korvesi, Ralli, Mouzaki, Antoniou, Diamanti and Papaioanou (2016) [16] stu-

died the performance of 237 children aged 4 - 7 years old in free narration and in the retelling of stories, in the level of macro-, as well as of microstructure. It was revealed that the narrative performance of children would increase as their age increased. The study of Westervelda & Moranb (2011) [17] confirmed the viewpoint that the narrative skills of children are improved on a linguistic level with the passing of time, since they compared the free narratives of children aged 6 - 7 years old with those of older children. The older children produced more words and were more accurate grammatically. However, they did not seem to form more complex structures on a syntactic level. Justice, Bowles, Kaderavek, Ukrainetz, Eisenberg and Gillam (2006) [18] studied the narratives of 250 children aged 7 - 12 on a microstructure level. They observed that the productivity factor was increasing until the age of 10. Nevertheless, this changed in the process, since 11-year-old children presented lower performances in productivity than 10-year-old children, and 12-year-old presented lower productivity performances than 11-year-old children. This did not apply for the complexity factors. A very important side of the narrative is the apposition of events in a chronological order. Habermas, Ehlert-Lerche & de Silveira (2009) [19] evaluated 102 narratives of the lives of persons aged 8, 12, 16 and 20 years old as regards their macrostructure. They observed, that in the span between 8 - 12 years of age, the narratives began from the beginning (birth) and ended in the end (present), by maintaining the chronological order. From the age of 12 onwards, anachronisms that were due to the evaluation if past events and future consequences were noted.

Consequently, the grasping of narrative competency begins from the first infant age and is completed in childhood. Kemper (1984) [20] claims that both the comprehension, as well as the production of narratives is a process that is acquired between 2 and 10 years of age, with a greater development rhythm between 2 and 5 years of age. After ten years of age, children have acquired the complex structure of narratives (Chang, 2004) [5]. However, this is not absolute, as younger children might acquire higher narrative levels, while older children might present characteristics of lower narrative stages (Stadler & Ward, 2005) [21].

1.2. Personal Narrative

Personal narratives contain the narrator's life experiences. From the time we are born we interact with the rest of society. The narration of personal stories is the first and most important type of narration that small children acquire (McCabe, Bliss, Barra, & Bennett, 2008) [22]. They come across it while they are in a younger age, but also more frequently in various social interactions in their daily lives. It reflects and enhances the social, emotional, linguistic and cognitive skills of the child, which are necessary for its academic career.

The context within which the personal narrative is firstly developed is family. Children employ personal narratives daily through simple activities, such as

playing and drawing. Particular research emphasis has been given in the discussion of past events within the family.

The discussion of past events is an important way of social interaction. Through personal narratives, children enhance their pragmatic competence and share their experiences within social groups, according to specific cultural rules. They practice the principles of discourse and are exposed to the viewpoints of others as regards the same story; not only regarding what happened in it, but also about different versions or assumptions about an event (Fivush, Haden, & Reese 2006) [23].

The influence of the family and socio-cultural environment is considered important. When discussing past events between parents and children, it seems that children's language skills are influenced by the quality of mother-child interaction (Fivush *et al.*, 2006 [23]; Reese, & Newcombe, 2007 [24]), by parents' experiences, by income and their educational level (Baker, 2013) [25]. Also, this process has an impact on the shaping of personality (Chang & McCabe, 2013 [9]; Labov, 1972 [2]; Miller, Chen, & Olivarez, 2014 [26]; Nelson, & Fivush, 2019 [27]), the creation of bonds (Fivush *et al.*, 2006) [23] and in the emotional regulation (Bohanek, & Fivush, 2010) [28].

The extent of the personal narrative is possibly altered by many factors. As was previously stated, the size of narratives altogether seems to grow as age increases. Benson (1997) [29] observes that the expression of emotions in preschool children leads to the production of more episodes in their stories, and she supposes that the comprehension of human behavior constitutes a central element for the production of lengthy, and consequently, coherent narratives. In Fivush, Hazzard, McDermott Sales, Sarfati & Browwn (2002) [30], children aged 5 - 12 mentioned lots of information in both types of experiences during their narration of positive and negative events, but were more descriptive while narrating positive stories, while being more inclusive of thoughts and emotions during the narration of negative events. This comes in agreement with Fivush, Sales & Bohanek (2008) [31] and Peterson & Biggs (2001) [32], who point out that reference to negative events increases the expression of emotions. Contrary to that, Sales, Fivush & Peterson, (2003) [33] claim that the expression of emotion is not differentiated whether reference to positive or to negative events is made.

The influence of sex in different types of narratives remains a questionable factor. Initially, parents seem to differentiate the emotions on which they place emphasis when sharing common experiences, depending on the children's sex (Bird, & Reese, 2006 [34]; Fivush, Brotman, Buckner, & Goodman, 2000 [35]). Girls seem to be using more evaluations in their narratives during puberty in Bohanek & Fivush (2010) [28], while scoring better performances in microstructures in the ages 4 - 7 in Kanellou *et al.* (2016) [16]. Peterson & Biggs (2001) [32] located small differences between sexes. Girls aged 3 years old were more likely to use evaluations in emotional situations, while boys aged 5 years old ex-

pressed more evaluations in anger. However, Fivush, Bohanek, Zaman, & Grapin, (2012) [36] investigated the differences between sexes in the narratives of positive and negative experiences halfway through puberty and located no significant differences. Additionally, the differentiation between the two sexes was not located in narrative skills measurements in children 4 - 6 years old in Lepola *et al.* (2012) [15] and Hipfner-Boucher, *et al.* (2014) [14].

The personal narrative is a process that begins early in the life of a human being and continues throughout the whole duration of their life. Most children of typical development can produce complete and complex personal narratives of events in first grades, and can write about them in the forthcoming years. Teenagers present new capabilities, which enhance their thought structure and their perception of time continuity, as they use cultural information with greater ease. This has as an outcome the creation or the reorganizing of their narrative "identity". (Fivush, Habermas, Waters, & Zaman, 2011 [37]; Habermas & De Silveira, 2008 [38]; Habermas *et al.*, 2009 [19]).

1.3. Aims and Research Questions

A review of the bibliography highlights the importance of narration. Narrative as a universal process conveys individual and cultural characteristics. The complexity and diversity of the narrative require excellent use of pragmatic, linguistic and cognitive skills. For this reason, it is a basic means of transition from oral to written speech. Thus, narrative is considered the main indicator of development and a successful academic course. Personal narratives are the most important type of narrative for evaluation (McCabe *et al.*, 2008) [22]. Personal narration, the most common means of narration, is a significant element of the individual's self-determination and mainly through the enhancement of the above abilities. It can also be used to compare spontaneous speech with other speech samples captured through an image or series of images or by rewriting a story that participants have seen, read, or heard.

This field of research is quite innovative and new so it is still under study (Bietti, Tilston & Bangerter, 2018 [39]; Chang, & McCabe, 2013 [9][9]; Gillam, Gillam, Fargo, Olszewski & Segura, 2017 [40]; Nelson, & Fivush, 2019 [27]). Justice *et al.* (2006) [18] make word for researches that aim at analyzing the narrative skills of participants with a wide range in ages, in relation to a different whole of linguistic variables. They report that this variety does not facilitate clinical usability. For this reason, they point out the need for a collection and processing of local narrative data, aiming at the creation of norms for the evaluation of narratives. The importance of narration in combination with the lack of data in the Greek language is the reason for the creation of this work. The specific areas of examination of this work were selected because so far, it seems that the most important measurement factors of narratives are microstructure, macrostructure and the Evaluations (Chang, 2004) [5]. The aim of the present study is to better comprehend how 10-year-old children narrate their personal stories. For this

purpose, the narrative performances of school age children were examined in the level of productivity of microstructure, macrostructure and the Evaluations function. Additionally, the influence of sex on those factors was examined as well.

The research questions that were posed are the following:

- How is the productivity of microstructure (Justice *et al.*, 2006) [18], the appearance of MISL units (Gillam *et al.*, 2017) [40] and Evaluations (Peterson, & McCabe, 1983) [41] formed in the six stories?
- Is the performance of productivity, the microstructure, MISL and Evaluations related in the six stories?
- Is there a difference in the children's performance depending on their sex?

Based on the results of previous researches, it is expected that the range of 10-year-old children's narratives to be sufficient (Justice *et al.*, 2006 [18]; Kanellou *et al.*, 2016 [16]; Westervelda & Moranb, 2011 [17]), that there will be a sufficient exposition of episodes in them (Justice *et al.*, 2006 [18]; Habernas*et al.*, 2009 [19]; Kemper, 1984 Westervelda & Moranb, 2011 [17]) and that there will exist use of evaluative words or phrases (Chang, & McCabe, 2013 [9]; Habermas& de Silveira, 2008 [38]; Kanellou *et al.*, 2016 [16]). As regards the sex of children, it is possible that differences in performance will occur, with girls performing better (Bohanek & Fivush, 2010 [28]; Kanellou *et al.*, 2016 [16]; Peterson, & Biggs, 2001 [32]).

2. Method

2.1. Participants

For the conduction of the present purpose, twenty (20) children participated in the research, ten (10) of which were boys and ten (10) of them being girls. All of the children were of typical development, aged ten (10) years old (M.A.: 10; 04). The place of origin of the participants was from urban and non-urban places in Northern Greece. The search for participants took place in the familiar-, family-, work- and broader social environment of the researchers.

The fulfillment of a number of admission criteria was a mandatory prerequisite for the participation of the children in the research. For this purpose, the parent/guardian of each participant was called upon to fill in a questionnaire, so that cases that did not fulfill the aforementioned criteria could be excluded. To begin with, all the participants should have Greek as their native language and be 10 years of age. Additionally, they should not have been diagnosed or have utilized services that fall under the responsibilities of a speech therapist. Additionally, it was of particular importance that no child suffered from any form of hearing impairment. Consequently, none of the children had any history of neurological, hearing or language disorders. Lastly, the school performance of all children was typical and they did not face any learning difficulties. Specifically, children's learning performance in Language and Math was on average or above average according to parental estimates.

In order for the characteristics of the participants to be specified as much as possible, their demographic characteristics were reviewed through the questionnaire (Table 1). As regards the educational level of the participants' parents, the greatest percentage of them were graduates of higher education institutes (universities), with the percentage of those who had graduated from secondary education institutes being coequal to that. A smaller percentage had some form of professional training, while there were some individual cases that were elementary school graduates. Finally, regarding the financial status of the children's families, it seemed that the income of most families was in a low or mediocre level.

2.2. Procedure

After locating the appropriate population, a briefing of the parents/guardians followed, regarding the type of the research. Afterwards, the filling in of the questionnaire was requested, which was done by one of the two parents/guardians, as well as the signing of the consent form for participating in the research by both the parent and the participant.

Table 1. Participants.

Variable	%
Gender	
Female	50
Male	50
Education of father	
Primary school	5
High school	40
Professional qualification	20
Bachelor degree	35
Education of mother	
Primary school	5
High school	35
Professional qualification	20
Bachelor degree	40
Relative income	
Low	35
Middle	55
High	10

Next, an interview with the child took place, which was recorded with a dictation device (Sony ICD-PX370). The duration of the interview did not exceed a half-hour timeframe and took place in a quiet location in the child's environment. In the beginning, there was a free conversation so that the child could get familiar with the researcher and the procedure. Next, some instructions for the procedure that would follow were given. It was explained that the child should orally answer six questions, by narrating six distinct from each other stories of events that had occurred in their life. The questions were given in both written and oral form, separately and in a successive manner. Breaks were made whenever that was necessary. The questions were the following:

1) Tell me a story of a time that you felt happy.

2) Tell me a story of a time when you felt troubled or confused. Perhaps of a time that many things happened simultaneously and you did not know what to do.

3) Tell me about a time that you felt really annoyed or angry about something.

4) Tell me a story about a time when you felt proud of yourself.

5) Tell me about a time that you had a problem and you had to solve it. Tell me what happened and what you did to solve it.

6) Tell me a story about a time when something very important happened to you.

After the hearing and/or the reading of the question, some time was given to the child in order to think the story it would like to narrate. If the child had a hard time in replying for more than 10 seconds, a set of promptings was given. An example of these promptings for the first question would be: "Some other children told me about a festival they had gone to". In the case that the range of the answer was no longer than two sentences, a second set of promptings was applied with moderation. Such a prompting was "Could you tell me some more things about it?". Throughout the interview it was seen fit for interest to be expressed and for the child to be cheered on through the facial expressions of the researcher and through neutral promptings, such as "Perfect!", "Interesting", etc. The briefing leaflet, the consent form, the questionnaire, as well as the protocol that were used in the research were created by the Child Language Committee of the International Association of Logopedics and Phoniatrics for research purposes and with the aim to compare the autobiographical narrations of ten-year-old children from 10 different countries or cultures. The Global TALES protocol (Westerveld, Nelson, Fernandes, Ferman, Gillon, McKean, Petinou, Tumanova, Vogindroukas, Westby 2018) [42] was used for research purposes. Detailed information about the protocol used can be found on the website: https://osf.io/ztqg6/.

2.3. Transcription-Measurements

The measurements that were conducted regarded the microstructure, the macrostrucure and the Evaluations of each narrative. The tools that were used were the INMIS Productivity Factor (Justice *et al.*, 2006) [18], the Monitoring Indicators of Scholarly Language (MISL) (Gillam *et al.*, 2017) [40] and the adaptation

of Peterson & McCabe's (1983) [41] Evaluations. Additionally, the SPSS 17.0 software was used for the derivation of the statistical results.

All the interviews were transcribed into the computer through Microsoft Word 2016. Each narrative was separated into T-Units/Communication Units (main clauses along with any dependent from them context). The term will be henceforth referred to with the abbreviation "CU". Afterwards, the Maze Behaviours were placed within parentheses and excluded from the measurements. What Loban (1976) [43] characterized as Maze Behaviours were reconsiderations, fillings, pauses and repetitions of parts or of whole words that have no communicative content/meaning. Also, according to Nelson (1993) [44], they show increased language processing.

More specifically, for the microstructure in each response the number of 1) the CU 2) the words and 3) the different words were taken into consideration. Justice *et al.* created a microstructure measuring tool, called Index of Narrative Microstructure (INMIS). They provided 250 children aged 5 - 12 with the Test of Narrative Language (TNL), collected their narratives and coded them into T-Units (main clauses together with the subordinate to them clauses). The analysis of factors that was conducted in the research revealed that the microstructure depends on two interrelated factors, namely the productivity factor that includes the number of: T-units, words and different words in a narrative; also the complexity factor that regards the syntactic organization. More specifically, it has to do with the average length of T-Units and their syntactic complexity. In the particular research, the productivity factor was made use of. The Systematic Analysis of Language Transcripts (SALT) that was used in multiple researches (Gillam *et al.*, 2017 [40]; Hoffman, 2009 [45]; Justice *et al.*, 2006 [18]; Westerveld, & Gillon, 2010 [46]) is a software that allows for the transcription and the measurement of such samples. The particular software does not support the Greek language. Hence, its use was not possible in the present research. However, in order for a correspondence between the researches to exist, its regulations were used, by being adapted to the Greek language. As regards the number of CU and the total word count of each narrative, no difficulties were faced, while confusion during the measurement of the different word count, due to the morphology of the Greek language. SALT can count different word roots (Nelson & Meter, 2007) [47]. Consequently, if the same word appeared in a narrative as a different part of speech, it would be counted as different words, because they have the same root, for example, "pe.zo (παίζω—to play)—pe". xni.ði (παιχνίδι—game). This, however, was not possible when it came to irregular verbs, because they do not always present the same root. So, if the same irregular verb occurred within a narrative in a tense where it presents an irregularity, then it tallied as two different words e.g. "le.o (λέω—to say) as opposed to "i.pa (είπα—I said). Also, the articles of different grammatical genders ο (o), η(i) and το (to) were counted as different words, while the articles of the same gender were counted as one word regardless of the case they were found in e.g. η (i)—της (tis)—τις (tis).

For the study of the macrostructure the Monitoring Instrument for Measuring Narrative (MISL) was used. Gillam *et al.* (2017) [40] created a tool called Monitoring Indicators of Scholarly Language (MISL) in order to specify the macrostructure elements that are necessary in a narrative. They revised the Index of Narrative Complexity (INC) tool by Petersen *et al.* (2008) [48]. They concluded that these elements are:

1) Character: the reference to one or more characters.

2) Setting: the information regarding the time and place of the narrative.

3) Initiating event/s: one or more events that motivate the development of the story.

4) Internal response: reference to emotions or thoughts of the narrative's hero regarding the initial event.

5) Plan: reference to some plan for the initial event's resolution.

6) Action attempt: the actions of the hero aiming at the initial event's resolution.

7) Consequence: the result of the hero's actions in order to resolve the initial event.

8) Conclusion-Closure: the internal resolution of the consequences.

This aims at evaluating the "episodes" of a narrative, by evaluating on a scale of 0 (for insufficient content) to 3 (for a complete and more complex episode). So, the existence and the quality of each episode in the children's narratives were measured.

For the screening of the Evaluations, an adaptation of the Peterson & McCabe (1983) [41] model was used. They created a comment-locating and -evaluating model. They located 19 evaluation categories in words and/or in T-Units. The evaluation categories were: Onomatopoeia (bam), Stressors (sooooo), Exclamations (frightened), Repetitions (really really), Compulsion words (must), Similes, metaphors, idioms, Intensifier, Modifiers, Exaggeration, Negatives/Modified negative, Intentions or desires (purposes, hopes), Hypotheses or inferences (guesses, predictions), Causal explanations, Gudgments, Descriptions of internal emotional states, Tangential information: information relevant to the narrative, Dialogue, Attention Getters, Words per se. This scale was used for the monitoring of the existence of Evaluations in each narrative of the sample. The number and the type of the words or the CU, that have some evaluative character based on the model's criteria were calculated.

Initially, all the transcriptions and measurements for 2 out of 20 children had been discussed within the team. Proceeding, an allocation of the samples between the researchers was made, as well as their transcription and evaluation for all measurements. After the completion of these processes, an exchange of samples between the researchers followed. Purpose for that was the reviewing of the transcripts and the measurements for the examination of the assessment's matching percentage, aiming at enhancing the trustworthiness of the results. The agreement percentage was high, at 87% and possible disagreements were resolved through discussion.

3. Results

3.1. The Quantified Performances of Children on a Productivity Level, MISL and Evaluations in the 6 Narratives

To examine if there is a differentiation in productivity between the 6 narratives, the Communication Units (CU), the number of words (NW) and the number of different words (NDW) in the whole of the samples for the 6 narratives was calculated. In the following Table 2, a detailed overview of the mean average and the standard deviations for each variable is given.

Next, the overall score of the MISL in the six narratives was calculated (Table 3). We observe that the highest and the lowest mean average is 10.95 for the Problem-MISL and 5.15 for the Happy-MISL respectively.

In the following Table 4, the mean average and the standard deviation of the Evaluations for the 6 narratives are presented (each variable was calculated as the overall sum of 19 elements). It is observed, that the highest and the lowest mean average that occurred for the overall sum is located in the Problem-Evaluations (14.80) and in the Proud-Evaluations (9.30) respectively.

Table 2. CU, NW, NDW.

	N	Minimum	Maximum	M	SD
Happy-CU	20	4.00	22.00	9.4500	4.07140
Happy-NW	20	17.00	152.00	63.0000	32.37771
Happy-NDW	20	17.00	65.00	38.7000	13.71169
Worried-CU	20	3.00	25.00	11.2000	5.46376
Worried -NW	20	20.00	152.00	76.9500	36.54194
Worried-NDW	20	17.00	65.00	42.4000	15.55432
Annoyed-CU	20	3.00	34.00	10.3000	6.94414
Annoyed-NW	20	22.00	234.00	68.3000	44.94219
Annoyed-NDW	20	13.00	109.00	41.2500	20.67003
Proud-CU	20	4.00	18.00	8.5500	4.47772
Proud-NW	20	20.00	130.00	59.5500	35.01199
Proud-NDW	20	16.00	88.00	36.5000	18.65335
Problem-CU	20	4.00	30.00	12.6000	6.61259
Problem-NW	20	31.00	202.00	89.6500	47.43447
Problem-NDW	20	19.00	92.00	45.1500	19.34255
Important-CU	20	3.00	24.00	11.7500	4.77796
Important-NW	20	26.00	133.00	70.9000	33.45838
Important-NDW	20	25.00	67.00	44.0000	13.65746

Table 3. MISL.

	N	Minimum	Maximum	M	SD
Happy-MISL	20	2.00	14.00	**5.1500**	3.37600
Worried-MISL	20	5.00	15.00	9.5500	2.58488
Annoyed-MISL	20	5.00	15.00	9.3000	2.49420
Proud-MISL	20	2.00	13.00	7.4000	4.04449
Problem-MISL	20	6.00	17.00	**10.9500**	2.70429
Important-MISL	20	3.00	14.00	7.7500	3.46220
Valid N (listwise)	20				

Table 4. Evaluations.

	N	Minimum	Maximum	M	SD
Happy-Evaluations	20	1.00	34.00	9.9500	8.60523
Worried-Evaluations	20	4.00	30.00	12.3500	6.61159
Annoyed-Evaluations	20	1.00	49.00	13.1000	9.89896
Proud-Evaluations	20	1.00	23.00	9.3000	6.39161
Problem-Evaluations	20	5.00	52.00	14.8000	12.03329
Important-Evaluations	20	3.00	25.00	10.1000	5.69302
Valid N (listwise)	20				

For the examination of mean averages in the CU, NW, NDW, MISL and Evaluations categories, regarding the six narrative-variables, the Friedman non-parametric test was used. That is because the samples do not follow an ordinary distribution. This test was used because the six narrative-variables are dependent on the CU, NW, NDW and Evaluations cases, as we will see in the correlations tables. Also, the Kruskal-Wallis test was used in the case of MISL, because the variables here are independent. From the Friedman criterion the following results came up: for the **CU** (number of phrases/Communication Units) all the variables have the same performance, apart from the "Proud" variable, which has a p-value = 0.056. For the **NW** (Number of Words) all variables have the same performance with a p-value = 0.051. It occurred from the Friedman criterion, that all variables have the same distance for the **NDW** (Number of Different Words), apart from the "Proud" variable, which has a p-value = 0.056. In the **MISL**, where the variables are unrelated to each other, the Kruskal-Wallis criterion was used. The results showed that the "Worried", "Annoyed" and "Problem" variables have the same performance with a p-value = 0.108, while the "Happy", "Proud" and "Important" variables also have the same performance with each other with a p-value = 0.161. According to the

Friedman criterion, all variables have the same performance in the **Evaluations**, apart from the "Proud" variable which has a p-value = 0.189.

3.2. Correlations among the Performances in the Productivity Variables, MISL and Evaluations in the 6 Narratives

In this section, we examined the Pearson correlation coefficient for the 6 measurements in the CU, NW, NDW, MISL, and Evaluation variables. Following, the result tables are given. The indication "*" is given next to each significant correlation.

The correlations for the CU variables are given in Table 5. We observe that the Happy-CU variable is not correlated with any other variable.

In Table 6, the correlations for the NW variable are given. We observe that the "Important-NW" is only correlated to the "Proud-NW" variable:

In Table 7, the correlations for the MISL variables are given. We observe that the MISL variables are not correlated to each other, hence they are linearly independent.

In Table 8, the correlations for the Evaluations variables are given. We observe that all variables have a significant positive correlation to each other, apart from the Important Evaluations variable, which is positively correlated with only the "Happy-Evaluations" and the "Worried-Evaluations" variable.

Table 5. Pearson correlations CU.

	Happy-CU	Worried-CU	Annoyed-CU	Proud-CU	Problem-CU	Important-CU
Happy-CU	1	0.384	0.239	0.347	0.220	0.047
Worried-CU	0.384	1	0.736*	0.331	0.518*	−0.014
Annoyed-CU	0.239	0.736*	1	0.589*	0.661*	0.171
Proud-CU	0.347	0.331	0.589*	1	0.498*	0.452*
Problem-CU	0.220	0.518*	0.661*	0.498*	1	0.320
Important-CU	0.047	−0.014	0.171	0.452*	0.320	1

*The correlation is significant $p < 0.05$.

Table 6. Pearson correlations NW.

	Happy-NW	Worried-NW	Annoyed-NW	Proud-NW	Problem-NW	Important-NW
Happy-NW	1	0.743*	0.353	0.506*	0.310	0.284
Worried-NW	0.743*	1	0.720*	0.480*	0.465*	0.280
Annoyed-NW	0.353	0.720*	1	0.539*	0.726*	0.247
Proud-NW	0.506*	0.480*	0.539*	1	0.376	0.449*
Problem-NW	0.310	0.465*	0.726*	0.376	1	0.357
Important-NW	0.284	0.280	0.247	0.449*	0.357	1

*The correlation is significant $p < 0.05$.

Table 7. Pearson correlations MISL.

	Happy-MISL	Worried-MISL	Annoyed-MISL	Proud-MISL	Problem-MISL	Important-MISL
Happy-MISL	1	0.358	0.032	−0.124	−0.034	0.319
Worried-MISL	0.358	1	0.218	0.074	0.238	0.293
Annoyed-MISL	0.032	0.218	1	0.363	0.314	0.229
Proud-MISL	−0.124	0.074	0.363	1	−0.412	0.365
Problem-MISL	−0.034	0.238	0.314	−0.412	1	−0.327
Important-MISL	0.319	0.293	0.229	0.365	-0.327	1

*The correlation is significant. $p < 0.05$.

Table 8. Pearson correlations evaluations.

	Happy-Evaluations	Worried-Evaluations	Annoyed-Evaluations	Proud-Evaluations	Problem-Evaluations	Important-Evaluations
Happy-Evaluations	1	0.751*	0.473*	0.606*	0.523*	0.691*
Worried-Evaluations	0.751*	1	0.793*	0.709*	0.760*	0.507*
Annoyed-Evaluations	0.473*	0.793*	1	0.583*	0.807*	0.365
Proud-Evaluations	0.606*	0.709*	0.583*	1	0.580*	0.437
Problem-Evaluations	0.523*	0.760*	0.807*	0.580*	1	0.303
Important-Evaluations	0.691*	0.507*	0.365	0.437	0.303	1

*The correlation is significant. $p < 0.05$.

3.3. The Effect of Sex in the Performance of Children in the Productivity, MISL and Evaluations Variables in the 6 Narratives

In order to make a final decision the following tests were used in SPSS: T-test, Mann-Withney and Kruskal-Wallis. The significance factor that was used in the aforementioned tests is $p = 0.05$.

Initially, the number of 1) the Communication Units (CU), 2) the words (NW), 3) the different words (NDW), 4) the MISL and 5) the Evaluations for the 6 narratives was examined, as regards the Sex factor. This test was conducted in order to ascertain whether Boys or Girls show differences in the aforementioned indicators. For this purpose, the parametric T-test for independent samples was used. The results showed that there was no significant difference regarding sex for all these variables. Namely, boys and girls had roughly the same score in each studied variable. Additionally, because the 2 samples (10 Girls and 10 Boys) are small in size and some of the aforementioned variables do not follow a normal distribution (the Kolmogorov-Smirnov statistical test was used for the examination of normality), a parametric Mann-Withney test was performed apart from the T-test. The results that occurred from the new check are the same as those of the T-test.

4. Discussion

The present study aimed at comprehending the way Greek children aged 10 and of typical development narrate their personal stories. More specifically, the description of the microstructure's productivity according to INMIS (Justice *et al.*, 2006) [18], the study of the existence of "episodes" of the MISL model (Gillam *et al.*, 2017) [40], and the Evaluations (Peterson & McCabe, 1983) [41] were set as goals in the sample of the research. Additionally, the correlation among the productivity, the MISL and the Evaluations among the 6 narratives were examined. Lastly, the possible influence of the children's sex in their performances was examined.

The results of the measurements, which answer the first question of the present study, could be used by specialists for the creation of "rules" regarding narrative competence. For this to be possible, it is deemed necessary for findings from future, similar researches to be used, which might contain a greater number of samples and larger age spectrum. The utter goal is the use of these "rules" for the comparison of same-aged children's performances, and—in conjunction with other tools—the location of language difficulties, as well as the setting of curing goals for speech therapists.

On the level of microstructure productivity, it is shown, that the performances of children are increased through the course of time, up until the age of 10 (Justice *et al.*, 2006 [18]; Kanellou *et al.*, 2016 [16]; Westervelda & Moranb, 2011 [17]). Studies in typical development children point out, that even within the same sample, the performances in terms of microstructure productivity do not follow an ordinary distribution (Justice *et al.*, 2006 [18]; Westervelda, & Moranb, 2011 [17]). This is in accordance with the findings of the present study as well. However, it seems that the microstructure can be a point of differentiation among typical- and non-typical development children, since researches that compared the two population groups (Newman & McGregor, 2006 [49]; Pearce, McCormack &James, 2003 [50]; Reilly, Losh, Bellugi & Wulfeck, 2004 [51]) have located differences in the INMIS scales. Hoffman (2009) [45] does not point out differences between 2 similar groups, but claim that the complexity might affect the productivity of a narrative. The data reveals the possibility, that the extent of the story—without adding up all the other parameters—might not constitute a significant evaluation point of personal narratives in the Greek language as well.

In the age of 10, a structurally complete narrative is expected (Justice *et al.*, 2006 [18]; Kemper, 1984 [20]; Westervelda & Moranb, 2011 [17]), while being more complex and containing more Evaluations compared to infant age (Bamberg & Damrad-Frye, 1991 [52]; Habermas & de Silveira, 2008 [38]; Kanellou *et al.*, 2016 [16]). The small number of samples rendered the analysis of MISL's and of the EVELUATIONS' individual scales untrustworthy. For this reason, the overall rating of each child in each question was calculated for these two parameters.

It was shown that the children presented the same performance in all question

as regards the NW variable, and the same applies for the CU, NDW, and Evaluations variables, with an exception of the "Proud" question. As regards MISL, the questions that regard negative events (Troubled-Confused, Annoyed-Angry, and Problem) showed a similar performance, while questions that regard positive events (Happy, Proud, Important) similarly presented a common performance. Additionally, the variables CU, NW, NDW and Evaluations seem to have a significant correlation in almost all occasions, while there is no correlation among questions for the MISL variable. This is possibly due to the fact that the nature of the questions did not fulfill the rating prerequisites of MISL. MISL was created to evaluate a story, the narration of which required reference to particular elements. However, reference to those elements is not deemed necessary for each story, which the questions of the present study target. For this reason, the "Problem" question was considered as the most ideal question for a rating through MISL, and for which the greatest mean in MISL and EVALUATIONS occurred.

A second assumption for these results relates to Benson's (1997) [29] claim, that more episodes are produced in a story, when they more emotions and thoughts are expressed, since human behavior has been better understood. More specifically, the researches of Fivush *et al.*, (2008) [31], Peterson & Biggs (2001) [32] and of Fivush *et al.*, (2002) [30] pointed out that when we make reference to negative events, we also express more thoughts and emotions. Contrary to those claims are the findings of Sales *et al.* (2003) [33], who mentioned that the expression of thoughts and emotion does not differ whether we refer to positive or to negative events. In the present study, commentary and expression of emotion in both questions with positive and negative emotions were conducted. However, the Problem question, which has a negative essence and was the most ideal for the evaluation, collected the greatest number of such references.

The sex did not seem to constitute a differentiation factor among the children in the sample. Boys and girls had similar narrative performances in all the variables of the research. This comes in accordance with Hipfner-Boucheretal *et al.* (2014) [14], Lepola *et al.* (2012) [15], Fivush *et al.* (2012) [30], but not with Kanellou *et al.* (2016) [16], Bohanek & Fivush, (2010) [28], Peterson & Biggs (2001) [32], which examined a sample of different age.

The different kinds of narratives, the skills necessary to produce them, as well as the individual and sociocultural factors that affect them, render the creation of a model for its evaluation difficult. The present study reveals a tendency of children's personal narratives. It provides us with measurements of the INMIS productivity indicator, and the MISL and EVALUATIONS protocols. Additionally, a possible tendency of children to express themselves more in questions that regard negative events of their lives is revealed. As part of a worldwide research, this will help us to better comprehend the way through which children of that age narrate stories from their lives. The results of the research may interest people involved with children such as educators, speech therapists and psychol-

ogists. An important aspect would be to assess the individual areas of narrative evaluation. The results of the study provide useful information on the performance of children of typical development in microstructure, macrostructure and Evaluation in personal narrative. This information may be helpful as possible discrepancies may be an indication of a disorder. This would be more reliable with further research in this area. This is why the present research is the basis for future researchers who would like to engage in personal storytelling.

5. Limitations and Suggestions

The limitations of the present study are the small number of samples and the absence of monitoring through structured tests for the linguistic and cognitive competency of the children that took part in it. Additionally, the inability to use SALT software, due to it not supporting the Greek language reduces the objectivity of the measurements. The further study of the particular sector is deemed advisable, so that experts might be able to utilize these results, and plan or materialize a more multi-faceted evaluation, as well as locate possible differences between typical- and non-typical populations. It is necessary for future researches to examine a larger sample of typical development children, of both the same and of a different age than in the present study. Also, it is advisable to research the complexity factor in personal narratives. Lastly, the comparison with a non-typical development population is advised, aiming at locating the points where the two populations differ.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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