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# LANGUAGE IMPACT TOWARDS SOCIAL BEHAVIOR OF AT-RISK CHILDREN

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## Abstract

*Current study examines the use of language towards behavior of at-risk children. At-risk youth living separated from their family are deemed as most vulnerable children with highest risk having high level of anxiety, emotional disorders, aggression and problematic behavior. Children deprived of parental care living across Bulgarian residential homes (N=40) divided into 3 age groups (aged 7-10; aged 11-14; and aged 15-17) participated in 12 experimental activities and has been subjected surveillance of changes in their behavior according to certain use of language and voice (tone). Children adhere to or violate the rules in activities was the main criteria that have been defined for observation. The use of language indicators were divided into certain words with encouraging and reprobation meaning combined with louder or normal voice. ANOVA measures of surveillance assessed the impact of language and speech on behavior of children and indicated significant results for different age groups. The main hypothesis of the survey traces the impact of encouraging words with positive meaning and normal voice for better effect on socially acceptable behavior. Scientifically justified findings of this study indicates existence of a pattern supported the positive impact of language and speech that specialists and teachers can use helping the child absorbing pro-social behavior and gives directions of an effective language-based model of consulting and educating children. The results in current research can help social workers, social educators,*

*teachers and psychologists to find suitable strategy in communication and proper use of language for better results on socialization and adaptation of the child with behavior problems.*

**Keywords**

Children at Risk, Children Deprived of Parental Care, Social Behavior, Language, Paralinguistic Signs, Lexical Content

## 1. Introduction

Language is the primary natural form of the thought process and its expression of human being. Language includes speech and verbal elements as well as paralinguistic and nonverbal units in its communication function. Extrailnguistic factors which accompany speech communication are the sphere of paralinguistics and play an auxiliary role in the use of language. The functioning of paralinguistic means in communication is determined by the ability for decoding the means as markers of information perception in its utterance (Колшанский, 2010:82 – 92).

Children are sensitive to paralinguistic aspects of the language from early childhood and are able to discriminate sounds based on their frequency and harmonic structure (Clarkson and Clifton, 1985). Various studies indicate that the prosodic qualities of speech, such as strength and timbre of speech, rhythm, intonation and accentuation, influence the youth behavior (Cooper and Aslin, 1990). However, the use of various paralinguistic styles that transmitted different intentions from the adult, including demonstrating consolation, affection, or approval influence the interpretations of the child more strongly than the lexical signs even in the first year of the child's development (Kitamura and Burnham, 2003; Kitamura and Lam, 2009). Current tendence is preserved in pre-school and primary school age even though the lexical content gradually increases its influence. (Friend, 2009; Morton and Trehub, 2001). The ability to observe and regulate paralinguistic cues is seen as a reflection of communicative competence (O'Neill DK, 2007). In addition, research of interpersonal relationships suggests that paralinguistic behavior is identified as a major factor in how individuals form judgments and impressions about others. Exploring the potential cognitive and behavioral factors related to particular speech styles is important aspect of children's communicative development as well as the interactions of individuals. Increasing scientific interest provokes the clarification of cognitive mechanisms and behavioral features, which in the broad sense are the basis of communicative competence.

## 2. The Influence of Lexical Content and Paralinguistic Signs on Children's Behavior

Some studies develop the thesis that several aspects of communicative behavior are supported by the key *executive functioning* - EF. EF refers to higher-order processes that help monitor and control thoughts and actions and facilitate goal-oriented behavior (Burgess, 1997)

Although there are different conceptualizations of EF, the main features of EF include inhibitory control which is the ability to suppress dominant responses; memory – active maintenance of important information and cognitive flexibility – the ability to present an object or event simultaneously and flexible task change (Miyake et al., 2000; Huizinga et al., 2006). Studies emphasis that individual differences in *EF* relate to understanding and producing speech in both children and adults (Nilsen and Graham, 2012; Gillis and Nilsen, 2014; Nilsen et al., 2015, Nilsen et al., 2016) (Brown-Schmidt S, 2009; Wardlow, 2013). In particular, shortages in the understanding of paralinguistic cues, such as prosody, are associated with EF disorders in various cases, for example depression or traumatic brain injury (Uekermann et al., 2008; Struchen et al., 2008). However, the role of *EF* in the production of various paralinguistic features is not yet clearly outlined and is a possible opportunity for future research in this regard.

Number of studies addresses the positonal role of paralinguistic and linguistic cues in behavioral aspects of child development. Some of them give greater functional significance to lexical content than vocal expression of language (paralinguistic) for affective messages influenced the behavior of the child in the interpretation of different situations, and affective judgments of children are more influenced by what is said to them than by how is said to them (Friend, 2009). M. Frend highlights the hypothesis that in early childhood the meaning of words plays a more important regulatory role in order to child's behavior influence. She suggests that the lexical bias seen in child interpretations reflects the influence of the words and the direct consequences for the regulation of behavior. In an experiment 4-year-old children experienced situations with lexical content of a communication that differs to accompanying vocal expression (paralinguistic cues), and the results register more influence of words than vocal paralinguistic sign for children's interpretation of these situations. M. Friend proposes that when the children hear "Oh well, you have them all" in an angry voice they will most likely give a positive effect to the speaker (Friend, 2000, Friend & Bryant, 2000; Morton & Trehub 2001). Similar effects are also found in children aged 2 to 3 years,

even when the literal or lexical content of the statements is in conflict with both the facial and vocal paralinguistic signs (Friend, 2009). Friend's research runs counter to the prevailing theoretical statements that give leading role of paralinguistic elements of language in regulating children's behavior as compared to the role of lexical content. Various studies for the use of language in affective decisions of adults emphasis the stronger influence of paralinguistic elements than lexical content (Morton & Trehub, 2001; Reilly & Muzekari, 1986; Solomon and Ally, 1972 г.; Fernald, 1993). M. Friend proposes that children's interpretations of influence in early childhood are more dependent on what is said than on how is said, and this contradicts to thesis that give advantage of paralinguistic signs in determining the affective meaning in childhood and adulthood. The concept of M. Friend is important as long as it gives relative advantage of speech on behavioral reactions in infancy and explains the connection between behavior and language in the context of the individual's age development. The study of Friend determines the advantage of the speech, and is contextually linked to targeting in behavioral aspect. From a functionalist point of view the most immediate and direct meaning of language and paralinguistic signs can be observed in their influence on behavior (Campos & Barrett, 1984). Classical research of Luria emphasis that use of language comes only to gradually influence behavior during early childhood. At 3 to 4 years old, oral instructions make it easier but do not interfere with behavior (Luria, 1961). In fact, Saltz, Campbell and Skotko find out that stepping up the instruction to inhibit the behavior of children under the age of 5 leads to a paradoxical intensification of behavior. These observations force Luria to conclude that language does not regulate behavior until at least 5 years of age (Strommen, 1973). However, Frend suggests that this conclusion needs to be reconsidered by referring to other contemporary studies on the impact of speech on youth such as Moore, Harris and Patrick, who found out that 4-year-old children rely on lexical content as a sign of confidence of the speaker. Children believe that speakers are more secure when they use the particular word than when speech is embedded in a growing intonation loop. In contrast, 5-year-old children use what they say and the way they speak as a sign of the speaker's confidence, which explains the age-based process of gradual integration of lexical and paralinguistic signs (Friend, 2009).

Children's interpretations of the confidence and real intent of the speaker reveal a similar picture of how the meaning of lexical and paralinguistic cues changes on the behavior of youth. In a similar study of how the children understand the intentions of the speaker, Miloski and Ford find that 6- and 9-year-old children are more inclined to understand sarcasm when they hear sarcastic paralinguistic signs than when they only hear complementary or

ambiguous sarcasm words (Miloski, Ford, 1997). However, the perception of sarcasm is below the level for both age groups and results register that sarcasm is perceived among 30% of 6-year-old children and within 50% of 9-year-old children. Hancock, Dunham and Purdy compare children's interpretations of two kinds of irony: ironic criticism and ironic compliments. Less than 50% of five to six-year-old children correctly understand the ironic speech, compared to the rest of the sample, which literally interprets the spoken text. (Hancock, Dunham and Purdy, 2000). Kapeli, Nakagawa and Madden suggest that 8 – 9 year old children accurately determine the intent of the speaker, even when the paralinguistic cues are in conflict with the lexical and contextual information. Furthermore, the study shows that it is precisely paralinguistic cues that determine children's interpretation of the spoken message not lexical or contextual signs. In early childhood, interpretations perceived by children are mainly based on the explicit lexical content of messages. The ability to use paralingue improves between 5 and 9 years olds (Friend, 2000).

Early childhood lexical research relies heavily on the verbal report of children. Most studies measuring verbal statements reveal a significantly stronger effect of lexical content than of an affective paralingue effect on childhood judgment, so it seems that what is said has a stronger influence than how is said. However, it should be counted that verbal reports reflect the results of the cognitive evaluation process and not the immediate and direct effects of language and paraligninguistic signs on the child's behavior (Friend, 2000, 2009, Friend & Becker, 1987, Friend & Bryant, 2000, Morton & Trehub 2001). Luria and Salz assess the regulatory effect of the language contrasting with the instructions to initiate actions with denial of these instructions: "Squeeze the ball" against "Do not squeeze the ball". Before the age of 5, the behavior of the child is governed by the initiation instructions, but not by the denied actions. However, when such an experiment uses a positive treat of *wait* ("Wait until I do it") rather than the negative threat *do not do it* ("Do not start the train"), has better influence when is regulated by verbal instructions (Luria, 1961; Saltz et al., 1983; Golden, Montare, & Bridger, 1977). Similar studies contradict Luria's hypothesis and gives more significant regulatory role of language and lexical content influencing on early childhood behavior.

The relative contribution of language and paralinguistic cues to the regulation of early childhood behavior is not systematically investigated. Nevertheless, the results of an earlier study show the impact of sound (linguistic and vocal paralangue) and visual (gestational and facial paralingue) on behavioral regulation in children from 13 to 42 months of age (Volkmar, Hoder, & Siegel, 1980). Affective intention (approval or disapproval) transmitted

through auditory signals has a considerably greater effect on the child's approach to the speaker than the intention transmitted by visual signals. Their relative contribution to behavioral regulation is unclear, as the language and the vocal paralinguistic sign are confused in this study. In addition, in Volkmarr's study, facial and vocal paralingue are defined as independent signals which contradict some biological and natural features, since the configuration of the face contributes to the shape of the voice cavity, the acoustics of the voice, and the perception of the vocal effect (Friend, 2009). In order to assess the relative influence of lexical and paralinguistic signs, it is necessary to observe the regulation of children's behavior when the person and vocal sign express the same affective intention but contradict to the lexical content. Early childhood regulation is also investigated by M. Fried, who investigates that 15-month-old babies regulate their behavior according to the influence of facial and vocal paralingue of the speaker, and a social reflection procedure on behaviors in early childhood includes assessing the impact of consistent and contradictory affective messages. Similar procedures have been widely used in studies of behavior regulation by facial and vocal paralinguistic signs within children aged 12 to 42 months (Friend, 2009; Volkmar et al., 1980). Extending the age limit to 4-year-olds made by Friend gives results on the direct effects of linguistic and paralinguistic cues on child behavior by examining changes in child sensitivity to the role of acoustic variations in the speech when transmitting influence or the speaker. In Friend's study seven, and ten-year-old children hear statements in three formats: low-frequency filtered, repetitive and normal speaking. The presence of lexical and paralinguistic information differs in these three formats in a way that requires children to base their judgments for the speaker message on different character configurations in each format. Results show that 10 and 7-year-old children are considerably more sensitive to the role of paralinguistic and prosodic aspect of speech than the 4-year-olds, and there is a tendency to pay more attention to paralingue in cases where lexical and paralinguistic signs are not compatible in normal speech (Friend, 2009). Friend's study focuses mainly to the extent of language over paralinguistic cues in situations of inconsistent messages and results outweighs the lexical content to paralingue, and 71% of the children surveyed tend to be more regulated by language and messages than by the paralinguistic signs when these sources are in conflict.

Regulation of child behavior after consecutive affective messages complements the research on the regulatory role of language in behavior, with the stimulating affective intent of the speaker (approval) having a more significant effect on children's responses. This conclusion coincides with other studies showing that behavior is regulated by affective messages, such as a study in which 12-month-old children prefer to play with objects to which

expression is directed an approving, rather disapproving meaning. (Mumme & Fernald, 2003). The results reveal that oral instructions can be effective both to facilitate and inhibit the initiation of early childhood behavior. Other studies have found that early childhood confidence and behavior are more influenced by words than paralinguistic cues (Friend, 2000, Friend & Becker, 1987, Friend & Bryant, 2000, Hancock et al. 2000, Milosky & Ford, 1997, Moore et al., 1993, Morton & Trehub, 2001, Solomon & Ali, 1972). Early childhood is supposed to be the transition period from simple to complex cognitive processes, and develops children's ability to make conclusions about the speaker's intention. This transition can also regulate children's behavior as communication competence develops and the child gradually begins to replicate several aspects of communication at the same time as face, voice, and words. The transition to flexible induction of non strictly literal affective intention, has implications for children's behavior as well as their cognitive assessments. Explaining the timing of these transitions in the use of children's linguistic and paralinguistic cues and the mechanisms underlying them is a new direction for exploring communication and social-emotional development.

Understanding of emotions in speech within children is also explored in a series of research by B. Morton and S. Trekhub, which measure the emotional background (happiness, sadness) of the speaker from the signs transmitted by the linguistic and paralinguistic stimulus. Children rely on the lexical content when the stimuli are in conflict (for example when happy situation is described with sad paralinguistic cues), opposed to adults who rely on the paralingue in decoding messages. The results are relevant with children's limited understanding of the affective paraligninguistic sign's communicative functions and their limited understanding of the role of vocal emotions in communication. (Morton and Trekhub, 2001).

The influence of tone and intonation (More about intonation in Bulgarian language in Маринов, 2018: 370) of speech as a paralanguistic sign is explored by K. Moore, L. Harris and M. Patriquin, who follow the development of the child's understanding of the speaker's confidence in the use of verbs with different intonations and tones. The results underline that 4-years old children find it difficult to use intonation information while 5-year olds accept relevant lexical and prosodic information correctly. The research develops the thesis that prosodic and lexical signs are used by the children to interprete the relative confidence of the speaker, but lexical content play a dominant role, while the prosocial elements play only auxiliary role (Moore, Harris, Patriquin, 2008).

The tone influence of the voice and verbal content is investigated by M. Friend and J. Becker, who track the interpretation of inadequate and undisclosed messages among normal children in norm and children with emotional disorders. They found out that the interpretation of the messages is mainly based on verbal rather than paralinguistic content (Friend, Becker, 1987). Their study tracks children's interpretations of the messages within all the verbal content and the tone of the voice channels. They conclude that the effect of verbal content is more pronounced in children with emotional-behavioral disorders, and this effect has been significant only for lexical content with happy tones of messages, which coincides with other similar hypotheses suggesting that children with emotional disorders receive greater inadequacy in the perception of different communication channels. The hypothesis is conceptually consistent with Bateson's theory of 1956 defining that people who are exposed to dual communication channels develop mechanisms to interpret only one of them (lexical or paralinguistic). Effect of verbal content is likely to be retained or limited to a certain combination of content response and voice tones is needed to be determined in further research. One of the most surprising conclusions of Friend's and Becker's study is that children with emotional-behavioral disorders interpret messages as a more positive emotional angle than normal children. This conclusion conflicts with the results of McCluskey and Albas study, which find that children with emotional disorders feel generally unwanted in response to messages they receive from different communication channels. Providing more acceptable assumptions about how voice tone is interpreted is recommended to be developed in further research and one of the tasks of current study. The M. Frend and J. Becker study illustrates only some appropriate strategies for measuring vocal affective content, assessing the effect of verbal content on impaired child interpretations. There are many areas of children's language and communication that require further research.

## 3. Research Issues

Children raised outside their families are deemed as one of the most vulnerable at-risk groups suffering from shortage of parental role model and support. Various research identify them as children deprived of parental care; children placed in an institution; children left without custody of their parents; children deprived of parental care under different circumstances. Summarized definition determins them as children who have applied protection support by institutions and are raised outside family environment - in a specialized institution or residence service, due to a permanent lack of parental care for the following reasons: parents are deceased, missing, deprived have parental rights or have limited rights,

do not permanently care for their children or are permanently unable to raise them; have created a danger to their physical, mental, moral, intellectual and social development, or have experienced forms of violence and abuse against their children (Златкова-Дончева, 2016).

Specifics of children deprived of parental care emanates from the peculiarities of their social status as well as from shortages manifested in their overall mental and physical development, arising from the social situation in which they are located. As a main individual peculiarity of at-risk children raised outsode their family is a high degree of frustration and aggression, emotional disorders, low social competence, lack of absorbed pro-social behavioral models determined by lack of family environment (Първанова, 2003).

## 4. Methodology of Research for at-Risk Children Raised Outside their Family

Current study is aimed to investigate the influence of lexical and paralingangistic signs on the behavior of at-risk children raised outside their family. Tone (power of the voice) is the specific paralungistic cue experienced in the research. **General hypothesis** observed possible strongest significance of lexical signs with positively semantic meaning and normal tone for children's behavior.

At –risk youth raised outside family and living across Bulgarian residential homes (N = 40) participated in 12 different monotonous activities within 4 sessions of 3 activities and their main task is to follow the rules of each activity. It is assumed that the child does not observe (violates) the rules in case of non-following rules that includes denial of play, incompleteness of the assignment, skipping of task items, or failure to perform the task,. 6 consecutive words, divided into pairs of opposite significance (3x3), combined with high and normal tone, were used during the activities of children. The total number of experimental "word + tone" situations is 12.

Participants were divided into age groups: aged 7-10 (n=13, primary school age), aged 11-13 (n=13, lower secondary school age group) and aged 14-17 (n=14, secondary school age group). Participants are from residential care homes from the town of Veliko Tarnovo, Bulgaria.

The intervention at-risk group youth were encouraged to participate in 12 activities: repeating words, coloring, squats, painting, collecting junk, stacking, and running. The choice of activities has a situational context and there is no specific target condition, and their role is to place the experimental group in a situation where they need to make an effort to follow the rules. During the intervention group activities activity are used different combination between

word and tone. Results are recorded in a surveillance during the sessions and the main indicator of the lexical or paralignistic sign's impact, is whether the child complies or does not comply with the rules of the specific activity.

The power of the voice (tone) is measured in advance (Fig. 1 and Fig. 2), and each word is said with a normal tone (sound of 200 Hz) and with a high tone - 450 Hz.

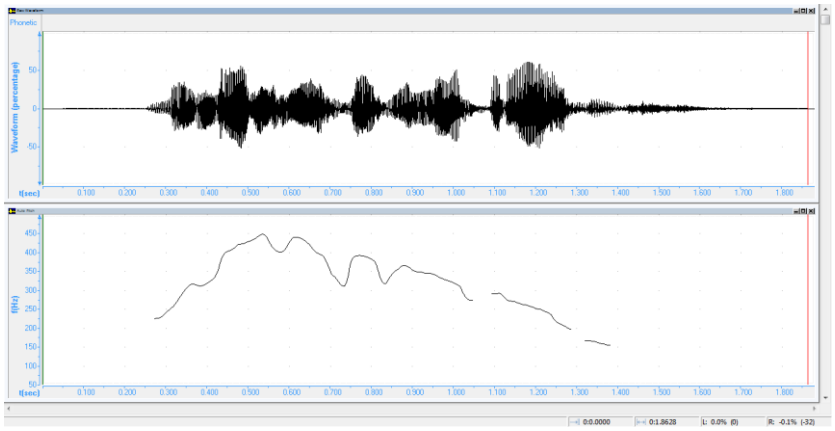


**Figure 1:** *High Tone*

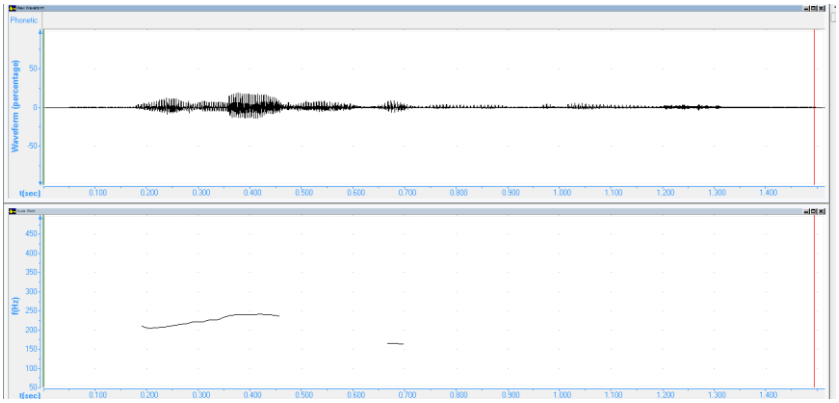


**Figure 2:** *Normal Tone*

Specific lexical content is expressed with the use of words and phrases with bipolar meaning: *you can do it, you can't do it, you have to do it, you don't have to do it, I like how do you do it, I don't like how do you do it*; and each of this phrase is used with accompanying 2 different tones – normal tone and high tone (Table 1). For the purposes of current survey, a nominal scale was formed reflecting compliance (1) or non-compliance (0) with established rules. Although this study focuses on the influence of lexical and paralinguistic signs, the meaning and choice of used phrases is not accidental as it relates to the education, discipline and management of children's behavior and the possible educational attitude towards boundaries, rules and development of self-control. Lexical content of phrases, *you can do it*

and *you can't do it* displays a motivational direction of the educational interaction (encouragement and demotivation) and are not used in their normative semantic sense regarding behavior (permission and unauthorization). Phrases *you have to do it* and *you don't have to do it* are reflecting necessity or shortage of necessity, and *I like - I do not like* has assessment aspect valued through the model of "I- message".

**Table 1:** *Lexical and Paralinguistic Signs used in the study*

| **Word** | **Normal tone** | | **High tone** | |
|---|---|---|---|---|
| You can do it | 0 | 1 | 0 | 1 |
| You can't do it | 0 | 1 | 0 | 1 |
| You have to do it | 0 | 1 | 0 | 1 |
| You don't have to do it | 0 | 1 | 0 | 1 |
| I like how do you do it | 0 | 1 | 0 | 1 |
| I don't like how do you do it | 0 | 1 | 0 | 1 |

## 5. Results

Outliers were assigned by Student T-test to assess the significance of the results by comparing means of variables for hypothesis test and 11 out of 12 combinations between lexical and paralinguistic contents register significant values ($p<0,05$). Table 2 presents mean scores and standard deviations for intervention group.

**Table 2:** *Means, Standard Deviation and t-value of all 12 Combinations of Lexical/Paralinguistic Content*

| **Variable** | **Mean** | **Frequency - of Mode** | **Std.Dev.** | **t-value** | **p** |
|---|---|---|---|---|---|
| You can do it high tone | 0.800000 | 32 | 0.405096 | 12.49000 | 0.000000 |
| You can do it normal tone | 0.875000 | 35 | 0.334932 | 16.52271 | 0.000000 |
| You can't do it high tone | 0.600000 | 24 | 0.496139 | 7.64853 | 0.000000 |
| You can't do it normal tone | 0.625000 | 25 | 0.490290 | 8.06226 | 0.000000 |
| You have to do it high tone | 0.800000 | 32 | 0.405096 | 12.49000 | 0.000000 |
| You have to do it normal tone | 0.775000 | 31 | 0.422902 | 11.59023 | 0.000000 |
| You don't have to do it high tone | 0.725000 | 29 | 0.452203 | 10.13993 | 0.000000 |

| | | | | | |
|---|---|---|---|---|---|
| You don't have to do it normal tone | 0.325000 | 27 | 0.474342 | 4.33333 | 0.000100 |
| I like how do you do it high tone | 0.350000 | 26 | 0.483046 | 4.58258 | 0.000046 |
| I like how do you do it normal tone | 0.225000 | 31 | 0.422902 | 3.36490 | 0.001729 |
| I don't like how do you do it high tone | 0.600000 | 24 | 0.496139 | 7.64853 | 0.000000 |
| I don't like how do you do it normal tone | 0.050000 | 38 | 0.220721 | 1.43270 | 0.159911 |

Mean values show that the most pronounced impact on children's behavior is the combination of lexical and paralinguistic signs *you can do it* with a normal tone of voice (0.87), which partially confirms the hypothesis of the study. With very little difference it is followed by *you can't do it* in a high tone (0.80) and you have to do it with a high tone (0.80).

Relatively high means value indicates the phrase *you have to do it* in a normal tone (0.77) and *you don't have to do it* with high tone (0.72). Average level of influence is demonstrated by *you can't do it* with high tone (0.60), and you *can't do it* with normal tone (0.62) as well as *I don't like how do you do it* with high tone (0.60). The use of assessment related phrases - *I like - I do not like* in both the combination of normal and high tone, have less impact on children's behavior and show significantly lower scores than the other combinations (Table 2). The weaker influence of the "I-the message" in comparison with the encouragement and the more imperative positioning of the instructions as well as boundaries on child's behavior contradicts to widespread thesis for higher efficiency and significance of the "I-message". The power of "I message" to both youth and adults is developed by T. Gordon in the 70s of the 20th century. Low means values of *I like it* phrase with both high and normal tone as well as relatively higher results of using high tone as paralinguistic cue does not fully confirm the general hypothesis of the study.

Dynamics and influence of linguistic and paralinguistic signs is investigated within correlation analysis between different combinations of phrase and tone and registers the best correlation between *I like it* in a high tone and *you can't do it* in a high tone (r = 0, 8118; p = 0.0000), which confirms rather one of the theses giving the leading role of the paralinguistic than the lexical content. In this case, *I like it* and *you can't do it* have very different meaning and approach in the context of the impact on behavior - the positive assessment related phrase in the "I-message" do not correspond to demotivating and provocative direction of the phrase *you can't do it.* This fact is also confirmed by the relatively low correlation between the same

two lexical signs (*I like how do you do it* and *you can't do it*) when are used with normal voice power and the tone does not show significant influence (r = 0,3739, p = 0,1700) . The leading role of the paralinguistic sign "tone/power of voie" is also found in the use of phrases *you can do it* and *you can't do it* that register good correlation in high tone (r = 0,5319; p = 0,0000), but no correlation in nomal tone (r = 0.2623, p = 0.1020).

High correlation value register the combinations *I like it* and *you can do it* with a normal tone (r = 0, 7015; p = 0, 0000), as well as *I like it you can do it* with a high tone (r = 0.5313; p = 0.0000) which may lead to the assumption that in this case have leading role lexical signs with similar semantic meaning with encouraging and positive evaluation direction. This fact is also confirmed by the good correlation between *you can't do it* and *you don't have to do it* with a normal tone (r = 0,6487; p = 0,0000), which are with negative motivational orientation meaning, although the use of the same two phrases in a high tone register less correlation (r = 0.4519, p = 0.0030). In the context of the derived regularities, the lexical signs have a leading influence mainly in words that have a motivational focus with a positive semantic meaning, which also supports the hypothesis of the study.

No correlation is registered between the use of a word/phrase with a different tone, comparing the power of the voice with the same lexical content indicating that the paralinguistic sign as a whole does not register statistical significance for the present study, and rather confirms the thesis of M. Friend about the leading role of lexixal signs to paralinguistic cues.

ANOVA analysis of variance did not report significant effect in *gender* variable (p>0,05) and only the use of the combination *you can do it* with high tone (F = 6,2172; p = 0,1711) and *you can do it* with normal tone (F = 6,2172; p = 0,1711) register stronger impact of words and phrases with motivating and positive semantic meaning over behavior of boys.

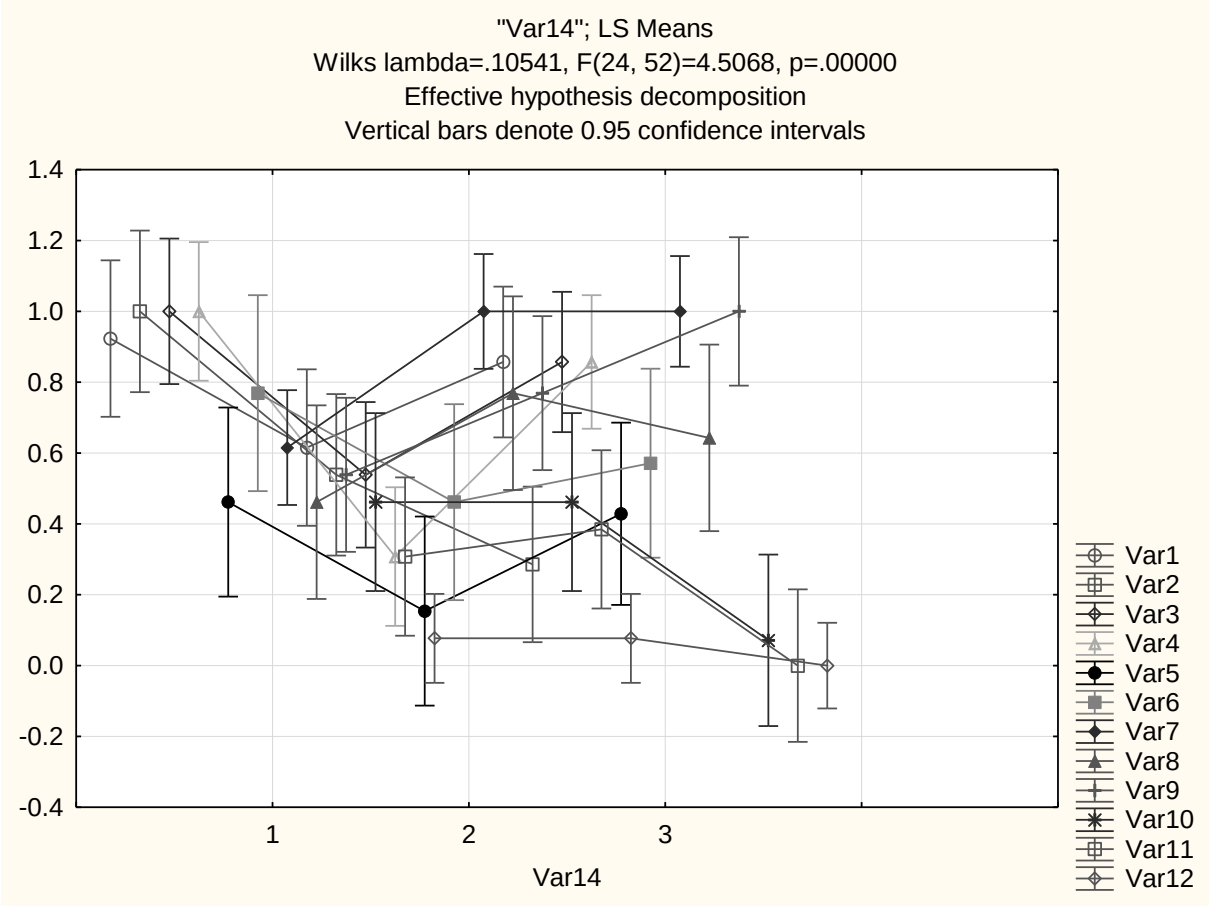
Results outline two regularities: on the one hand it reaffirms the thesis of the leading meaning of the lexical signs, since the power of the voice through the use of the same word does not account for any significant differences in values. On the other hand, it emphasis the higher importance of lexical content to the paralinguistic cues influencing behavior of boys - *you can do it* has a strong and positively semantic meaning and highest means values and shows the strongest influence over the entire experimental group. Similar research could be pursued regarding the influence of lexical and paralinguistic signs on the behavior of both genders in the context of social and behavioral sciences.

*Age* variable reported significant effect in indicators of linguistic and paralinguistic signs on children's behavior demonstrated in ANOVA analysis (F = 4.5068; p = 0.0000)

shown on Figure 3. The use of *you have to* with high tone has recorded the strongest impact on the youngest children aged 7-10 years (F = 10,673; p = 0,0002), and less influence for teenagers (14-17 years) which is expected due to their age-specific characteristics as it should reflect, above all, necessity and even conditionality. The use of the positive "I-message" in combination with a high tone also demonstrates significant differences in the *age* factor and the 7-10 year olds, as well as the 14-17 year olds record the highest scores (*I like it* with high tone: F = 5.4431; p = 0.0084).

Similar pattern emerged for *you can't do it* with high tone measure reporting significant influence to youngest and oldest participants (F = 9.7757; p = 0.0004), as well as for *you can do it* in a normal tone (F = 4.4097; p = 0.0198), where the opposite trend is observed: 7-10 years old are not significantly affected, but children aged 11-13 and 14 - 17 years reported equally high results.

Youngest children in primary school age (7-10 years old) as well as children in lower secondary school age (11 – 13 years old) are strongly influenced in their behavior when are both used phrases *you can't do it* with normal tone (F = 4,3246; p = 0,0212) and *you don't have to do it* with high tone opposite to teenagers in the upper age group (14-17) who demonstrated extremely low values when experience both phrases with demotivating semantic meaning.




Var 1 – ***you can*** **high**
Var 2 – ***you can*** **normal**
Var 3 – ***you have to*** **high**
Var 4 – ***you have to*** **normal**
Var 5 – ***I like it*** **high**
Var 6 – ***I like it*** **normal**
Var 7 – ***you can't*** **high**
Var 8 – ***you can't*** **normal**
Var 9 –***you don't have to*** **high**
Var 10 – ***you don't have to*** **normal**
Var 11 – ***I don't like it*** **high**
Var 12 – ***I don't like it*** **normal**

***Var 14 – Age***
1 – 7-10-years old
2 – 11-13 – years old
3 – 14 – 17 – years old

**Figure 3:** *ANOVA* ***Age*** *Analysis*

*Age* and *gender* variables has also reported a significant effect of intervention according to ANOVA analysis of variances in an interaction between them (F = 0,0071; p = 0,3794) when are used combinations of *you can do it* with normal and high tone (F = 4,0302, p = 0,0271), *I like it* with normal tone (F = 5,1315, p = 0,0098), and *I don't like it* with normal tone (F = 2,7391, p = 0,0358). These results may, to some extent, serve as a basis on which can be built the hypothesis of the significant influence of positive language on the behavior of children.

## 6. Discussion

Results of this study demonstrate contradictory tendencies and partially confirm the underlying hypothesis that lexical signs with positive semantic meaning and normal tone have higher influence on children's behavior, as the use of words has a significant effect, unlike paralinguistic signs, which did not record the expected impact. In this sense, M.Frend's thesis is confirmed as in number of experiments she suggests that linguistic signs with certain semantic meaning are leading element of the adult's influence on the behavior of children. In this study, the specifics of the target group, namely children at risk, which are also characterized by emotional-behavioral problems, should be taken into account.

Current survey experienced one of the most surprising conclusions suggesting that the high tone has a more significant effect than normal voice application in the majority of experimental combinations of lexical signs even with the use of words with demotivating meaning, as *you can't do it* and *you don't have to do it*. This tendency could be related to the M. Friend's and J. Becker's thesis for the inappropriate paralinguistic interpretations in children with emotional-behavioral disorders, including the fact that this effect is significant only for lexical content of positively semantic significance. The results of this experiment support other similar theses suggesting that children with emotional disorders demonstrate greater inconsistencies in the perception of different communication channels. In this sense, the study is another, which brings the effect of verbal content to the foreground, and casts doubt on some theoretical statements, which for decades emphasized the leading role of paraliguistic signs on the behavior of children.

The scientifically grounded findings of this study could also outline a model that supports and develops the positive impact of language and speech on children's behavior. Educators and professionals working with children could use similar models to work with at-risk children and those with emotional disorders, supporting the process of adopting pro-social behavior by applying more encouraging words and phrases with positive meaning and normal voice.

The study supports also the theoretical lexical-related theories, but could provide some guidance for an effective educational and advisory model to support the efforts of social workers, psychologists and teachers to find an appropriate strategy for communication and use of language to achieve higher efficiency both in the process of socialization and development of children with emotional disorders and at risk as well as in improving their communicative competence.

Research findings are not limited only to the positional role of language on the behavior of children in its lexical and paralinglinguistic context but also to the relation of language with cognitive mechanisms and behavioral features, which in the broad sense are the basis of communicative competence and communicative development of youth. However, a further in-depth study is needed to investigate the influence of language and its elements on children's development and the interaction between individuals.

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