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LANGUAGE STRATEGIES TO DECREASE AGGRESSIVE BEHAVIOUR OF AT-RISK CHILDREN DEPRIVED OF PARENTAL CARE

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Abstract. Current study research language impact on aggressive behaviour of at-risk children deprived of parental care. Bulgarian children without parents (n=40) comprehend intervention influenced by four interaction strategies: normal voice and positive language; high tone and positive language; normal tone and negative language, and high tone and negative language. Surveillance has been conducted for data collection accomplished by independent observer in a standardized checklist using the Buss-Durky classification of aggression. Results of current study demonstrate that the use of negative language would increase aggressive expressions of children to a greater extent when the tone is normal while raising the tone would enhance destructive behavior even more among aggressive children and children with emotional disorders.

Keywords: at-risk children; aggression; children deprived of parental care; language; paralinguistic signs; lexical content

1. Introduction

"At risk children" definition applies to children having experienced abuse or trauma, disability or illness, or having exhibited behavior problems (Moore, 2006; Rak, 1996; Zlatkova-Doncheva, 2018) and have disadvantaged life perspective due to a permanent lack of parental care, community, and often have negative impact in regard to their personal development, functioning and adaptation in the society (Georgiev, 2019; Dimitrova, 2016; Zdravkova, 2015; Kuzmanova-Kartalova, 2013; Kuteva-Tsvetkova, 2000).

Children deprived of parental care are identified as one of the most vulnerable at-risk group and often signified with emotional and behavioral problems caused by parental missing. They are identified with a high level of destructive aggressive behavior, emotional disorders, lack of pro-social behavior and communication problems influenced by lack of a role-based parenting model (Zlatkova-Doncheva, 2018). Peculiarities of these children assume specific approach to support to overcome shortages and reducing aggressive behavior to help their personal development.

Aggressive manifestations in their behavior could be explained within attachment theory of John Bowlby digesting the assumption that parent-child separation is recognized to unravel some features of children deprived of parental care including high aggression and destructive behavior (Stamatov, 2015).

Aggression concept is generally emphasized as an aggressive behavior action and both terms are interchangeably used associated with destructive behavior with a consequent harm to self or to others (Ferris & Grisso, 1996; Liu, 2006). Aggression directed against others when is not a response to treat stimulus could be often identified as a mental or emotional disorder, and self-harming actions are perceived as an auto aggression often leading to suicide (Briant & Smith, 2001; Liu, 2006; Raine, 1993; Stoff, Breiling & Maser, 1997).

Forms of aggression are defined as active and passive according to direct action; proactive and reactive according to participation level and whether the reaction is a response of a threat (reactive) or is a supporting behavior to other's aggressive reactions (proactive); direct or indirect according to the open (evident) or hidden destructive intentions and actions; physical and verbal according to expression – harming act to body (hitting, banging, kicking) or harming act to personality (insulting, swearing, bullying) (Petermann & Petermann, 2017).

Numerous studies are focused on the role of physical aggression, verbal aggression, anger, and hostility as elements of aggression concept (Buss, 1961; Buss & Durkee, 1957; Buss & Perry, 1992) where physical aggression express physical violence; verbal aggression manifestates negative effect expressed in the content of the speech; indirect aggression is explained as direct aggression performed by accumulated resentment, which is manifested by indirect attack and a furious reaction without a definite direction; irritability is a willingness to express a negative response and with the least external provocation; hostility is a sense of rage towards a real or imagined world (Mihran, 2005).

Various studies research the role of language to children behavior enhancing the role of linguistic signs as lexical content and paralinguistic cues as strength and timbre of speech, rhythm, tone, intonation and accentuation that are accepted as prosodic qualities of speech and have high influence to behavior of the child are sensitive to paralinguistic elements of the language from early childhood (Clarkson and Clifton, 1985; Luria, 1961). However, different authors consider the use of paralinguistic styles with higher impact on reactions of the child (Kitamura & Burnham, 2003; Kitamura & Lam, 2009). Others identify greater significance of linguistic signs assuming that the meaning of words has higher regulatory role to influencing the behavior of the child (Friend, 2009; Friend, 2000; Friend & Bryant, 2000; Friend & Becker, 1987; Hancock et al. 2000; Morton & Trehub 2001).

The influence of tone and intonation of speech (Marinov, 2018) as a paralanguistic sign is developed by K. Moore, L. Harris and M. Patriquin, who emphasize the higher impact of lexical signs as a better recognized communication channel for

children to prosocial elements having auxiliary role (Doncheva, 2019; Moore, Harris, Patriquin, 2008). The influence of paralinguistic cues and linguistic signs should also be assumed according to some additional issues as emotional, social, behavioral and personal situation of the child. It is not apparent to display same role of language used to children with different situations including disorders, accentuation, personal trait as well as social background. Messages interpretations of children are different for children with emotional disorders and they often express inadequacy in the perception of different communication channels. Lexical content impact is likely to be limited to a certain combination of content response and children with emotional-behavioral disorders identify messages in more positive emotional meaning than normal children (Friend & Becker, 1987).

Providing more effective language strategies including paralinguistic and linguistic signs to influence aggressive behavior of at-risk children deprived of parental care is one of the aims of current study. The general hypothesis of the study outlines that the use of specific language strategies would affect aggressive behaviour of children at-risk deprived of parental care.

2. Methodology

Current survey research the language impact on the aggressive behavior of atrisk children deprived of parental care. Two language elements have been experienced – linguistic signs (positive and negative words) and paralinguistic signs (tone as a power of the voice). *General hypothesis* assigns strongest significance of lexical signs with negative semantic meaning and high tone on the increase of the aggressive behavior expressions of children.

Children at-risk deprived of parental care and living across Bulgarian residential centers (*N*=40) embed intervention accomplished by four volunteers using four interaction strategies: normal voice and positive language; high tone and positive language; normal tone and negative language, and high tone and negative language. Surveillance has been conducted for data collection accomplished by independent observer in a standardized checklist using the Buss-Durky classification of aggression. Surveillance was subjecting observed reactions of children measuring following five agression indicators (Mihran, 2005: 116) within a nominal scale: *physical aggression* (fighting); *verbal aggression* (uses rude language and offends other children); *aggressive irritability* (gets irritated and looses quickly temper); *hostility* (sabotages other children); *indirect aggression* (unfounded gets angry to others).

Dependent variables were assigned by measuring certain behavior reactions indicating aggressive expressions. The measurement item analysis registers high internal consistency in general, positive correlation and high reliability $(r_{sb}r_{sb}=0.685, \text{ alpha of Crohn} = \alpha = \alpha = 0.734)$. The items difficulties are within acceptable limits and the scale has a high reliability value with an average inter-correlation of 0.368.

Participants from 4 residential care homes from the town of Veliko Tarnovo are divided into three age groups: aged 7-10 (primary school, n=11), aged 11-13 (lower secondary school age group, n=12) and aged 14-17 (secondary school age group (n=17). 70% were female and 30% were male.

Use of the tone (power of the voice) is preliminary measured and all linguistic cues (positive and negative words) are used with a normal tone (sound of 200 Hz) and with a high tone -450 Hz.

Results proceedings from experienced four strategies compare means between all the participants of residential centers and assign a new intervention group (N=11) with highest degree of aggressive behavior. Repeated measures in a normal environment have been accomplished for the new intervention group to check registered aggressive behavior significance and whether results are affected by the experimental impact strategies rather than are caused by personality trait or accent in the character of the child. Same 5 aggression indicators are verified in an assessment scale replenished by specialists who look after children: *Physical aggression; Verbal aggression; Indirect aggression; Aggressive irritability; Hostility.* All indicators were measured by same observed behavior reactions showing expression of aggression variables that have been experienced within the surveillance (see table 1). The assessment rating scale contains same five behavioral expressions of aggression from 1 to 4, where 1 is "no, never", 2 – "seldom", 3 – "yes, sometimes", 4 – "yes, often".

Limitations: Reduction of the limitations have been completed through detailed assessment by all the specialists who work with them on daily basis and every child from second intervention group have been assessed by 6 specialists in order to achieve objective results.

3. Results

Mean values register increasing of aggressive behavior of children within the use of negative language in both the normal and high tone of the voice leading to an assumption of strongest impact of linguistic signs to paralinguistic (tone) cues (Table 1).

Negative language with a normal tone of voice registers highest results of *irritability* variable within largest scope of intervention group (80). The use of high tone of voice in negative language also demonstrates high scores. *Indirect aggression* occurs again with the use of a negative language of high and normal voice, and 77.5% of intervention group responds to this indicator in normal tone and 65.5% to high tone.

Half share of participants demonstrates *verbal aggression* expressions in the use of negative language with high tone, and they show similar results for *hostility* when negative language with normal tone is used (M = 0.47, SD = .50). Even though, *indirect aggression* reactions as well as *aggressive irritability* are aroused by the use of negative language in both high and normal tone. These variables

Table 1. Mean values of 4 strategies

	Positive language Normal tone		Positive language High tone		Negativelanguage Normal tone		Negative language	
							High tone	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Physical								
agression	0.00	0.00	0.00	0.00	0.07	0.26	0.07	0.26
Verbal agression	0.07	0.26	0.05	0.22	0.35	0.48	0.50	0.50
Aggressive								
irritability	0.07	0.26	0.07	0.26	0.80	0.40	0.75	0.43
Hostility	0.15	0.36	0.07	0.26	0.47	0.50	0.40	0.49
Indirect								
agression	0.07	0.26	0.02	0.16	0.77	0.42	0.62	0.49

are not directly referred to the font of negative experience, and are transformed indirectly to another person by displaying irritation and frustration with the other intervention participants. Direct form of negative response to the source is demonstrated by *verbal aggression* ensuing in the use of negative language with high tone (M = 0.50, SD = .50) among participants.

Four strategies influence to aggression variables are investigated within correlation analysis demonstrating best results between *verbal aggression* in the use of positive language and high tone and *physical aggression* when negative language and high tone is used (r= .80; p < .001) leading to the assumption that high tone most provokes direct aggression forms mostly. High correlation values register the *aggressive irritability* variable and *hostility* in the positive language with high tone combination (r= .63; p < .001), and in positive language with normal tone (r= .68; p < .001). The use of positive language with normal tone demonstrates good correlation between *indirect aggression* and *aggressive irritability* (r=0. 64; p < .001) and among *indirect aggression* and *hostility* (r= .68; p < .001).

Data analysis enhances assumption that indirect aggressive behavior as well as passive aggression (hostility and aggressive irritability) would occur under nor-

mal conditions without existence of negative stimulus (strategies intervention), and they are rather manifestations of internal relations dynamics between the participating children or are specifics in the child and do not arise as a result of the intervention impact. The use of external linguistic stimulus with negative semantic meaning registers significant correlation between direct and non direct aggression manifestations (*verbal aggression* and *hostility*) and occurs mainly in negative language use in both normal (r= .56; p < .001) and high tone (r= .61; p < .001), although the direct aggression expressions – *physical aggression* means in both high and normal tone (M = 0.07, SD = .26) and *verbal aggression* variable means in both normal (M = 0.35, SD = .26) and high tone (M = 0.50, SD = .50) are lower than *indirect aggression* values (M = 0.62, SD = .49 for high tone and M = 0.77, SD = .42 for normal tone). It can be presumed that the use of negative language would raise aggressive behavior among children by expressing indirect aggressive forms initially, and extended intervention would provoke verbal aggression as a direct form.

Impact tendencies of the 4 intervention strategies used are examined in more details within combinations of language (positive and negative) and paralingangic signs (high and normal tone) results. Outliers of all five aggression variables were assigned by Student t-distribution for hypothesis test to assess the significance of the results and all four strategies – positive and negative language with high and normal tone register significant values (p < 0.05).

Negative language with normal tone demonstrate higher impact (M = 2.47; SD = 1.32), t(40) = 11.85; p < 0.01 to raising aggressive behavior reactions of children which rejects the hypothesis of the study predicting more influence of negative language with high tone. Negative language with high tone also reported high values (M = 2.35; SD = 1.56), t(40) = 9.51; p < 0.01 in comparison with positive language with normal tone (M = 0.37; SD = 0.92), t(40) = 2.56; p < 0.01 and positive language with high tone (M = 0.27; SD = 0.71), t(40) = 2.43; p < 0.01. Above all, the result analysis strongly confirms the assumption that negative stimulus in language provokes aggressive behavior and the power of the voice has an additional impact.

ANOVA analysis of four strategies variance did not report significant effect in *age* and *residential centre* variable but demonstrates stronger impact in *gender* variable and boys report greater aggressive expressions in the positive language and normal tone use F(4,35) = 6.8819; p = 0.02), as well as in high tone (F(1,38) = 25,254; p = 0.00) and negative language with high tone (F(1,38) = 4.7154; p = 0.03).

ANOVA analysis of residential center variable does not register significance (F(12,87,601) = 1.6465; p=0.09) but mean values reported highest aggression values among children from one residential care center (M=1.70, SD=1.33), followed by the other two residential centers for children raised outside their family (M=1.54, SD=1.44) and M=1.31, SD=1.11 and Crisis center for children victims of violence (M=0.87, SD=1.05). A new intervention group was grounded according to presented data using highest aggression results to define it so that the

research was repeated measuring their aggression in usual environment (residential centre) to define whether they are influenced by 4 intervention strategies rather than as a result of their personality. Specialists who look after children in their daily life reported very high levels of aggression, and over half shares of them indicate that children express aggressive behavior and determined highest levels of aggressive irritability (M = 3.08, SD = 0.72), followed by verbal aggression (M = 2.95, SD = 0.82) and indirect aggression (M = 2.83, SD = 0.72). Hostility also demonstrates high values (M = 2.65, SD = 0.93), and physical aggression (M = 2.10, SD = 0.84) is comparatively higher to the results of the first intervention group who experienced four strategies.

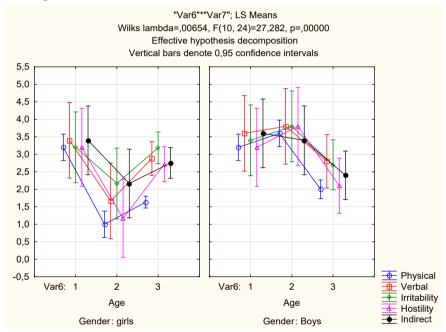


Figure 1. Gender x Age interaction

Age variable (F(10,24) = 15,500; p=0,00000) as well as Gender (F(5,16) = 7.1045; p = 0.00) reported significant effect in aggression indicators demonstrated in ANOVA analysis, and Gender X Age interaction is also significant for all aggression variables (F(10,24) = 27.282; p = 0.00) which indicates that children in the 7-10 years age group are most aggressive (Figure 1).

Correlation analysis reports very high relation between all five aggression variables with values above r > .7, p < .001. verbal aggression has best correlation with vostility (r = .94; p < .001); vggressive irritability (r = .92; p < .001) and indirect

aggression (r = .92; p < .001). Similar pattern emerged for *Indirect aggression* and hostility (r = .92; p < .001), which may confirm the assumption that indirect expressions and passive aggression occur in usual conditions or are character features of the intervention group and are not influenced by negative stimulus or 4 strategies intervention. Physical aggression also registers very good correlation with indirect aggression (r = .81; p < .001) and with hostility (r = .80; p < .001) confirming that negative language would increase the aggressive behavior among children by initially displaying indirect forms of aggressive behavior, and they would express more direct forms as physical and verbal aggression within extended intervention.

ANOVA analysis of variance registered significance of aggression (F(8,32) = 2.7877; p = .01), more aggressive children in generally reported higher aggressive reactions in all four intervention strategies, and exhibit higher mean values in the negative language of high tone (M = 4.20, SD = 1.03). Overall results of children from first intervention group reported higher results from negative language with normal tone (M = 2.47, SD = 1.32) than negative language with high tone (M = 2.35, SD = 1.56). Comparative analysis assigns that negative language with higher tone for more aggressive children would not reduce destructive behavior but would provoke them even more.

An in-depth analysis of the four strategies impact on five aggression indicators requires further data decomposition, as each of the 4 language-tone combinations gets a 4 scale numerical value that does not express quantity but indicates qualitative feature in order to distinguish strategies among them: positive language and normal tone -1; positive language and high tone -2; negative language and normal tone -3; negative language and high tone -4.

Mean values of the five indicators confirms that the negative language with both normal and high tone increases aggressive behavior, as the dynamics between the mean values and the frequency distribution between the high and normal tone registers stronger impact of normal tone. Results are seen in Table 3 where is evident that *physical aggression* and *indirect aggression* increase to a greater extent from negative language and high tone while *verbal aggression*, *aggressive irritability* and *hostility* rise from the negative language with a normal tone.

Comparative results analysis in both interventions for only the re-examined group confirm the direct dependence assumption between raising *physical aggression* and increasing the tone of the voice. A good correlation has been reported between *physical aggression* variable in the use of positive language with high tone (r = .57, p < .001) and negative language with high tone (r = .49, p < .001). Hostility (r = .49, p < .001) and indirect aggression (r = .64, p < .001) variables also reported a very good correlation with the negative language with high tone and applies the assumption that tone increasing would rise both direct and indirect aggressive behavior. Correlation analysis between results of all aggression variables summary for re-examined children (N=11) from second survey with results of

Table 2. Mean values, frequency and t-distribution of 4 strategies for aggression indicators

Test of means against reference constant (value)									
	Mean	Std.Dv.	N	Std.Err.	t-value	df	p		
Positive language									
normal tone	0.37	0.92	40	0.14	2.56379	39	0.014322		
Positive language high									
tone	0.27	0.71	40	0.11	2.43025	39	0.019791		
Negative language									
normal tone	2.47	1.32	40	0.20	11.85667	39	0.000000		
Negative language high									
tone	2.35	1.56	40	0.24	9.51787	39	0.000000		

aggressive reactions in the four strategies from first survey outlines that only negative language with high tone has significant impact on their overall aggressiveness (r = .51; p < .001). A following regularity has been outlined: children with more aggressive behavior as a personal trait would increase their aggressive reactions mainly in the use of negative language with high tone which confirms the main hypothesis of the survey.

4. Discussion

Current research experienced a possible behavior strategy using language with its linguistic and paralinguistic signs. Ambivalent tendency has been outlined and negative lexical signs with high tone would raise aggressive behavior expressions mainly to children who have more aggressive reactions as a personal trait which partially confirms the underlying hypothesis of the study. Data analysis assigns that negative language would increase aggressive behavior without raising the voice.

The results also assume that indirect aggressive behaviors and passive aggression occur in normal conditions without the presence of a negative stimulus and could be a personality feature of the intervention group and have not been influenced by the four experienced strategies.

However, it could be outlined that negative linguistic signs would increase the aggressive behavior among children, by expressing indirect aggressive forms ini-

tially, and extended intervention would provoke verbal aggression as a direct form which is confirmed by second intervention group repeated study.

Current study firmly acknowledges the direct dependence assumption between negative stimulus and aggressive behavior, but the power of voice has an additional impact which is justified according to child personality and individual characteristics. Negative language would increase aggressive expressions of children to a greater extent when the tone is normal while raising the tone would enhance destructive behavior even more among aggressive children and children with emotional disorders. Despite the differences between reactions among more aggressive children and their less aggressive peers when experienced different tones, the research outlines higher significance to linguistic than paralinguistic signs and digests the tendency that aggressive behavior is greatly influenced by the language we use, rather than the power of tone and the voice.

5. Conclusion

Scientifically grounded findings of current study could also outline a model that supports and develops the positive impact of language and speech on the behavior of children and in reducing aggressive reactions among youth. Parents, teachers and childcare professionals could use similar models, supporting the process of adopting pro-social behavior and find an appropriate communication strategy to reduce destructive aggressive behavior in order to improve the socialization process and the development of children.

The study confirms existing concepts about higher impact of lexical content and linguistic signs among children's behavior but also broadens the language impact to children deprived of parental care that could be developed in further studies in order to investigate language influence on at-risk children and those with behavior and emotional disorders.

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