

Research Articles

Age Differences in Aggression in Bulgarian Primary School Age Children

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Abstract

In order to study the age differences of the status of aggression from the beginning to the end of the primary school age, 244 typically developing Bulgarian children were examined with the adapted for Bulgarian population questionnaire for measurement of aggression and depression in primary school age children. The total sample was divided into 2 age groups: first graders' group (6-8 years, Mean age = 6.99, SD = 0.189; N = 82; 42 girls) and fourth graders' group (9-11 years; Mean age = 10.23, SD = 0.450; N = 162; 79 girls). It was suggested that age-related differences in aggression status were present in the age range considered. It was also assumed that there were some gender differences in the participants' aggressive status. The results did not reveal any statistically significant differences between the two age groups in the mean aggression scores, suggesting no essential aggression change in this age period. As regards to the effect of the participant's gender, some statistically significant differences between the age subgroups in the mean aggression scores were found, with the boys demonstrated higher aggression than girls, suggesting that the subjects' sex was a factor with significant effect on the level of aggression in this age period.

Keywords: aggression, group differences, primary school age

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Establishing the aggression status in children in primary school age could improve our knowledge of the dynamics of its ontogenetic development. There has been little research conducted on the effects of age regarding the aggression in Bulgarian primary school age children (Boncheva, 2012; Boncheva, 2015; Stamatov, 2008). Boncheva (2012), Boncheva (2015) and Stamatov (2006), Stamatov (2008) suggest that aggression is present in children's lives during this period but is not so pronounced (it does not emerge as a persistent personality characteristic) as in the next age period – upper school age¹. However, both authors noted that among some pupils in the fourth grade it could still be assumed that the persistently aggressive behavior was affirmed in the early childhood. The previous studies on this issue were mostly related to examined samples among Bulgarian adolescents (Kalchev, 2012; Papazova & Antonova, 2012).

Primary school age (between 6-12 years) (Minchev, Bashovski, Banova, & Mincheva, 1996) is formulated as a period of middle childhood in English-American terminology (Mincheva, 2000) and it is relatively rarely studied in Bulgarian psychology² (Minchev, Bashovski, Banova, & Mincheva, 1996; Mincheva, 2000; Stamatov, 2000). The middle childhood period is between 6 and 12 years of age (National Research Council (US) Panel to

Review the Status of Basic Research on School-Age Children, 1984) and is expressed in a specific way – the early childhood is over and the scars of the adolescents have not been expressed. During this period some fundamental skills, such as literacy and scientific concepts are emerging and are becoming leading skills in the children's development. To a large extent the role of the school is considered determinant of the formation of the child's personality, as during the elementary school period the student also develops and improves skills and competences (communication skills, coping strategies) that determine his/her further development (Boyadzhieva & Miteva, 2008). The mental changes that occur in children during the considered age range are both cognitive and affective (Boyadzhieva & Miteva, 2008), but are not considered as intensive processes as in adolescence (Simmonds, Hallquist, Asato, & Luna, 2014).

Primary school age is a period in which profound changes in lifestyle occur for students that demand higher requirements than pre-school's period. There is a significant change in cognitive abilities and the course of their development in the conditions of formal training. On the other hand, new vital tasks for performance are emerging in front of children. Personally, they are related to the social challenge of regulating their relationships and communication with peers and adults (Boncheva, 2012; Ganeva, 2016; Koprinkova-Ilieva, 2019), as well as to the task of learning how to regulate themselves in new contexts such as the classroom and the playground (Grenell, Praeger, Schaefer, Kross, Duckworth, & Carlson, 2018). In the social aspect (considered in the context of the school), they are associated with the intense course of the internalization of social norms and behavioral rules provoking expectations, both by adults (parents, teachers) and peers. These profound changes could induce children to an aggressive state/behavior.

Aggressiveness in school is seen as an expression of disaffection to new role of a pupil and is risky for the communication of children with parents, teachers and peers (Boyadzhieva & Miteva, 2008). Aggressive behavior in children is associated with the process of communication and in particular, the absorption of socially unacceptable patterns of communication is considered a premise for aggression (Boyadzhieva & Miteva, 2008).

The main purpose of this study was to establish the age differences of aggression from the beginning to the end of the primary school age period, and to investigate the effect of the subject's sex on the level of aggression. It was assumed that children in the end of the primary school age would be more aggressive than children at the beginning of the same age period, as well as that boys would be more aggressive than girls.

Method

Participants

A total of 244 (121 girls and 123 boys) typically developing Bulgarian children participated in a cross-sectional study in the winter of the second semester of academic year 2017/2018. Involved participants were children studying in the first grade (6-8 years; $M_{\text{age}} = 6.99$, $SD = 0.189$; $N = 85$; 42 girls) and fourth graders' (9-11 years; $M_{\text{age}} = 10.23$, $SD = 0.450$; $N = 162$; 79 girls) into two different schools in Blagoevgrad (Bulgaria). It was necessary to obtain informed consent from their parents, after which the children were invited to participate in the study. The inclusion of each participant in the target groups was preceded by meetings with principals and teachers of schools with organizational purpose.

Measure

An adapted for Bulgarian population questionnaire for measurement of aggression and depression in primary school age children (Dragolova, 2006) was used to assess children's aggressive status. For this purpose, children completed a self-reported scale for measuring aggressive state/trait³. The scale consists of 11 items that are rated on a dichotomous scale – “yes” (1) and “no” (0). The processing of the questionnaire data includes the summarized “yes” responses of “Aggression” scale. The Cronbach's Alpha reliability coefficient of the sample studied in 2017/2018 for the total scale was .572 and it was .647 for the “Aggression” scale.

Procedure

A sheet was provided to the participants and then it was explained to them that the task consisted in answering “yes” or “no” to each statement by choosing the most relevant statement for them. In the course of the task, the investigator read the instruction aloud, then every statement (in the case of first-graders), respectively the fourth-grade children worked independently. The work was continued within the class hours (between 30 and 45 minutes), after which the investigator collected the answer sheets, monitoring the relevant columns (gender, age) to be filled by experienced persons.

Data analysis

The effect of age and sex on the status of aggression in children of primary school age was examined by assessing the statistical significance of differences between compared groups. The following statistical procedures were performed for the purpose of the research: Independent Samples *t*-test was applied to indicate intergroup comparison of the mean aggression scores, and Chi-square analysis was performed, presenting the intra-group distribution of participants in terms of their level of aggression. The practical significance of the obtained results was additionally reported by calculating the effect size – the value of the coefficient Cramér's *V*.

Results

Comparison of data on the status of aggression (see Table 1) did not reveal any statistically significant differences between the two age group samples, $t(242) = -0.983$, $p = .326$. The results thus obtained indicate a lack of age-related differences in aggression from the beginning to the end of the primary school age. A tendency was observed albeit insignificant, towards increasing aggression from the beginning, $M_{\text{firstgrade}} = 2.24$, $SD_{\text{firstgrade}} = 1.86$, to the end of the same age period, $M_{\text{fourthgrade}} = 2.52$, $SD_{\text{fourthgrade}} = 2.16$.

Table 1

Mean Values of the Examined Age Groups via the Aggression and Depression Questionnaire

| Scale | First grade | | | Forth grade | | | <i>t</i> (242) | <i>p</i> |
|------------|-------------|----------|-----------|-------------|----------|-----------|----------------|----------|
| | <i>N</i> | <i>M</i> | <i>SD</i> | <i>N</i> | <i>M</i> | <i>SD</i> | | |
| Aggression | 82 | 2.24 | 1.86 | 162 | 2.52 | 2.16 | -0.983 | .326 |

The results from the applied Chi-square analysis (see Figure 1) did not reveal any statistically significant differences between the two age groups regarding the distribution of the participants in the groups, according to the

level of aggression, $\chi^2(2, N = 244) = 2.220, p = .330$; Cramér's $V = .095$). The overwhelming majority of the two age groups had a low level of aggression. Although the percentage of children with high aggression was low in both groups, it is remarkable that it was four times higher in the fourth grade group (4.9%) than in the first grade group (1.2%).

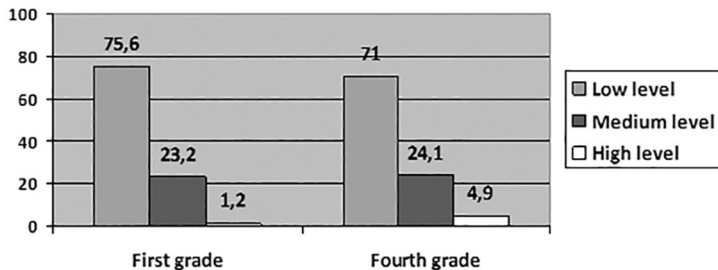


Figure 1. Percentage distribution of participants in the study groups, according to the demonstrated level of aggression

As for the results obtained by comparing both sex subgroups with respect to aggression (see Table 2), some statistically significant between-group differences in mean group scores were found, $t(242) = 3.136, p = .002$, with boys demonstrated higher mean scores than girls, $M = 2.83, SD = 2.01$, and $M = 2.02, SD = 2.04$, respectively.

Table 2

Mean Values of the Examined Gender Group via the Aggression and Depression Questionnaire

| Scale | Boys | | | Girls | | | $t(242)$ | p |
|------------|------|------|------|-------|------|------|----------|------|
| | N | M | SD | N | M | SD | | |
| Aggression | 123 | 2.83 | 2.01 | 121 | 2.02 | 2.04 | 3.136 | .002 |

Results from the applied Chi-square analysis (see Figure 2) showed that boys and girls differed significantly in the percentage of participants with different level of aggression, $\chi^2(2, N = 244) = 8.625, p = .013$; Cramér's $V = .188$.

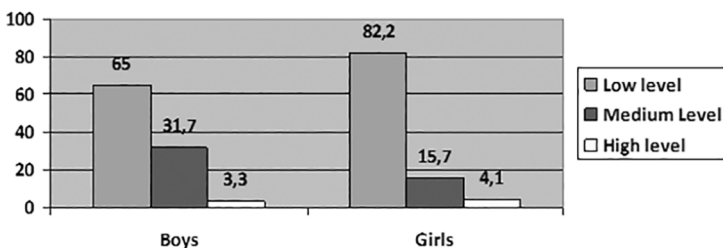


Figure 2. Percentage distribution of participants in the study groups, according to the demonstrated level of aggression

As shown in [Figure 2](#), a significantly higher percentage of girls than boys exhibited low level of aggression, and in contrast, a significantly higher percentage of boys than girls showed a medium level of aggression. Some small sex-related between-group differences were found with respect to the high level of aggression, where the group of the girls demonstrated a higher percentage than the group of the boys.

Discussion

The results of the complex analysis revealed no statistically significant change in the status of aggression during the primary school age period. Although insignificant, the differences between the two age groups on a group level have marked out a tendency of slight increase in aggression towards the end of the age range period in comparison with the beginning. The same tendency was also found at an individual level in terms of the expression of aggression: there was an increase in the percentage of children who demonstrated a medium and high level of aggression from the beginning to end of primary school age period.

The results of the present study agree with some previous studies' findings that high aggression is not typical for children in this age range ([Brame, Nagin, & Tremblay, 2001](#); [Broidy et al., 2003](#); [Kokko, Tremblay, Lacourse, Nagin, & Vitaro, 2006](#); [Lahey et al., 2000](#)), which is consistent with the assumption that aggression is present in children's lives during primary school age, but it is not as dynamic as in the next age range - upper school age ([Boncheva, 2012](#); [Boncheva, 2015](#); [Stamatov, 2008](#)). The few similar studies among Bulgarian children in this age period have made the research findings valuable, mostly because most of them were related to the study of aggression in Bulgarian ([Krastev, 2011](#); [Tomcheva, 2015](#)) and other ([Archer, 2009](#); [Wyckoff, 2016](#)) adolescents and adults.

As far as gender differences are concerned, the complex comparative analysis of the results at both individual and group level revealed that gender influenced the level of aggression, with higher scores in boys than in girls, suggesting that the boys were more aggressive. This finding is in agreement with findings of previous relevant studies among Bulgarian samples ([Stamatov, 2008](#)) and other samples ([Lahey et al., 2000](#); [Spieker et al., 2012](#); see also [Björkqvist, 2018](#) that reported lack of differences between girls and boys)⁴. Gender differences in the levels of aggression derived in the current study could be due to the different social roles distinctive for girls and boys that lead to different socialization patterns of behavior.

Conclusions

Despite the nature of the present study (cross-sectional), the specifics of aggression in children in primary school age were expressed in the emergence of the absence of significant age group differences of the phenomenon under investigation during the examined age range. Moreover, the present study's finding that typical for the children was the dominance of individual results in the low level of aggression may have some important implications for future research. Despite the challenges provoked by the new social context at the beginning of middle childhood (in first graders), suggesting a difficulty in interpersonal relationships due to insufficient neuro-mental maturity and identification with the new social role "Pupil", it turns out that the high level of aggression is not typical for Bulgarian children. Therefore, the aggression among the sample of children studied cannot be regarded neither as a long-term personal trait nor as a long-term condition. It may rather be seen as an element of experience in the process of social adaptation. On the other hand, although the children are at the threshold of puberty age that may suggest some difficulty in interpersonal relationships, but the results do not indicate

increased aggressiveness in them. Therefore, it could be concluded that, according to the results obtained, age was not a factor determining the group differences of aggression during the period of primary school age.

As concern the gender effect on aggression scores, it was found that the male group scored significantly higher compared to the female group, suggesting that boys were more aggressive than girls.

Limitations

The present study holds certain limitations. Firstly, it is considered important to take into account that the sample of children investigated was not sufficient to be nationally representative⁵ and to categorically affirm that there is no aging dynamics in terms of aggression among Bulgarian children in primary school age. Secondly, another constraint that could be considered is the nature of the cross-sectional design of the study. The results of this study set the parameters of future research to address important questions concerning the dynamics of aggression at age range considered.

Notes

- 1) The periods of upper-school age and adolescence are the same age range.
- 2) Any use in this paper of “primary school age” corresponds to “middle childhood” in English-American terminology.
- 3) The author of the methodology interprets aggression and depression as a state, but the formulation of the items allows the results to be analyzed as a personal trait. The age-specifics of the persons surveyed and the dynamics in their development objectively imply that the results could be analyzed both as a mental state and as a personal trait. In this field on controversy in this study, the author will talk about the degree of expression of the phenomenon in children, assuming that in their behavior these dimensions are potentially measurable as a persistent trait and short-lived experiences.
- 4) The obtained results are distinguished from previous research so far where they refer to a particular type of aggressive characteristic of both sexes, while this study does not distinguish between types of aggression characterizing girls and boys.
- 5) Only two schools in the territory of Blagoevgrad were included in the survey

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Competing Interests

The author has declared that no competing interests exist.

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