Int J School Health. 2015 January; 2(1):e60207. doi: 10.17795/intjsh-25194.

Published online 2015 January 28. **Research Article**

Types of Aggression Among Kindergarten and Preschool Children of Mohr County/Fars Province in 2013–2014

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Received 2014 December 03; **Accepted** 2014 December 17.

Abstract

Background: Aggression in childhood is the predictor of delinquency, depression, school dropout, and drug abuse in higher ages. The preschool year is an appropriate time to diagnose children's problems and plan for interventions to prevent their emotional, social, and educational problems.
Objectives: The present study determines the types of aggression among kindergarten and preschool children.
Patients and Methods: A total of 14 kindergarten and preschool centers were chosen using random cluster sampling in Mohr County 2013. The inclusion criteria were level of aggression higher than 125.77 for boys and 117.48 for girls based on the preschooler aggression inventory. In this regard, 60 kindergarten and preschool children were enrolled in this study.
Results: The results showed that 33.45%, 31.15%, 22.29%, and 13.11% of the children had verbal aggression, physical aggression, relational aggression, and impulsive anger, respectively. In addition, the verbal aggression and physical aggression scores of the boys were higher than for girls. However, no significant differences were found between the genders concerning relational aggression and impulsive anger. Moreover, the highest level of aggression was observed among 6 years old children followed by 5-, 3-, and 4-years old children.
Conclusions: Considering the high rate of verbal and physical aggression and the negative effects of aggression on educational and social behavior, early intervention is recommended for prevention and treatment.

Keywords: Aggression, Child, Adolescent, Health, Mental Health

1. Background

The prevalence of aggression is 8–20% in 3–6 years old children (1). Aggression is a kind of behavior that causes damage or harm to others (2), which may take subtypes of physical, verbal, relational, and impulsive anger (3). Various factors can contribute to incidences of aggressive behavior. Biological and genetic factors, environmental learning, and cognitive processing on one hand, and personal stimuli or motives, on the other hand, are important causes of aggression (4). Treatment of aggressive behavior at an early age is important, because aggression in early years of life sets the ground for many problems in personal and interpersonal areas of the lives of aggressive children. For instance, it can lead to a weak self-concept (5), being rejected by peers (6), poor academic performance (6), and can serve as a predictor of delinquency, depression, academic failure, and substance abuse (7) more inappropriate and aggressive reaction to social issues and choose more aggressive solutions for solving problems later in life (8, 9). Since treatment of different types of aggression requires employment of different therapeutic approaches, determination of the type of aggression committed by preschool children can assist teachers and parents to plan for appropriate interventions and refer the children with such disorders to practitioners. Timely diagnosis of these disorders is important to train parents to communicate properly with children, also teach kindergarten, as well as school officials for timely referrals of these children to advisory services.

2. Objectives

This study explores the different types of aggression among kindergarten and preschool children in Mohr, Fars province, Iran in 2013-2014.

3. Patients and Methods

The research population consisted of all 3–6 years old kindergarten children of Mohr County from 2013–2014. Mohr is located the southern part of Fars Province, 360

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km away from Shiraz, Iran. Currently, there are 35 kindergartens and daycare centers in this county and about 1,000 children attend these centers. The study samples were selected using cluster sampling. In doing so, 14 out of the 35 existing kindergartens were selected through random cluster sampling, as recommended by a demographer. Then, preschool aggression scale was distributed among the teachers to complete it for the children. Accordingly, 60 aggressive children whose aggression scores were more than 125.77 for boys and more than 117.48 for girls were enrolled into the study (10). In this study, the data were collected using two questionnaires: a demographic information questionnaire and the preschooler aggression questionnaire. The preschooler aggression questionnaire consisted of 43 questions responded through a Likert scale. This questionnaire evaluates various types of aggression including verbal aggression, physical aggression, relational aggression, and impulsive anger. The reliability and validity of preschool aggression scale was studied by Vahedi et al. (10) in a research on evaluation of aggression in preschool children of Urmia, Iran. The Cronbach's alpha was estimated to be 0.98 for the whole scale, 0.93 for verbal aggression, and 0.92 for physical aggression, 0.94 for relational aggression, and 0.88 for impulsive anger. A factor analysis of this scale using principal component analysis with Varimax rotation resulted in the four elements of verbal aggression, physical aggression, relational aggression, and impulsive anger, which was indicative of the construct validity of the scale. Therefore, this aggression measurement scale can be used as a valid and reliable instrument in educational and clinical settings. In this 43-item questionnaire, the first 14 questions are related to verbal aggression, the next 13 are about physical aggression, then there are 9 questions on relational aggression, and the last 7 items deal with impulsive anger. This questionnaire was completed by the teacher using 5 options (0 = Never, 1 = rarely, 2 = once a month, 3 = once a week, and 4 = often). The scores of verbal aggression, physical aggression, relational aggression, and impulsive anger were between 0–56, 0–52, 0–36, and 0–28, respectively. Thus, the score of the whole test could range from 0–168. The children whose aggression scores were two standard deviations above the mean (117.47 for girls and 125.77 for boys) were diagnosed as aggressive (10). In compliance with ethical considerations, the study was conducted in accordance with the human subject protection principles (declaration of Helsinki). Ethical approval was obtained from the research ethics committee of Shiraz University of Medical Sciences. The researcher referred to the Welfare Department of Mohr County to introduce himself and explain the research objectives. Then, after obtaining the permission of the relevant authorities, he made a visit to the kindergartens chosen through random cluster sampling, introduced himself, and presented their teachers and authorities with the necessary explanations about the research objectives. The next step included the teachers were asked to complete preschooler aggression questionnaires as proposed by Vahedi et al. (10) as well as the demographic information questionnaire. In the last stage, the collected data on child aggression were codified, analyzed, and calculated P value. At first, the data were entered into the SPSS statistical software (v. 16) and were then analyzed using descriptive statistics and t-test.

4. Results

The results show that the mean age of the study children was 4.5 years. However, the mean age of mothers and fathers was 32.5 and 31.38 years of age, respectively. The majority of the children were male (n = 33, 55%). All of the teachers were female between 20–35 years old and most of them had a BS degree (n = 20, 72%) and 28% had high school diploma level of education (n = 8). Tables 1 and 2 present the characteristics of participants. The study results revealed no significant relationship between child demographic characteristics and aggression score ($P > 0.05$). Tables 3 and 4 show that the highest rates of aggression were found among 6 years old children (148.66). Concerning the types of aggression, the highest rate of verbal aggression (50.49) was observed among 6-years old children. The highest rate of physical aggression (47) was also found among 6-years old children. Similarly, the highest mean score of relational aggression (33.16) was observed among the 6-years old children. Finally, the highest mean score for impulsive anger (19.61) was observed among 5-years old children. The most frequent type of aggression was verbal aggression (33.37%). Table 5 shows the mean score of aggression among boys and girls. Accordingly, the rate of aggression was higher among boys (146.03) in comparison to girls (141.67). In addition, the boys mean scores of verbal aggression (49.66%), physical aggression (48.30), and relational aggression (32.27) were higher compared to the girls. On the other hand, the girls showed more impulsive anger (20.33) in comparison to boys. However, no significant difference was observed between boys and girls regarding the total mean scores aggression ($P > 0.05$). Nonetheless, the two groups were different with regard to verbal and physical aggression with boys showing more verbal and physical aggression compared to girls ($P = 0.00$). Yet, no difference was found between the two groups in terms of relational aggression and impulsive anger.

Table 1. Demographic Characteristics of the Participants

Variables	Means ± SD
Children's age	4.51 ± 0.83
Mothers' age	32.6 ±5.44
Fathers' age	31.38 ± 4.37

Table 2. Frequency of the Participants' Demographic Characteristics

Variable	No. (%)
Mothers' education level	
High School Diploma	46 (76.7)
Associate degree	7 (11.65)
Bachelor's degree	7 (11.65)
Fathers' education level	
High School Diploma	34 (56.65)
Associate degree	13 (21.65)
Bachelor's degree	13 (21.65)
Mothers' occupation	
Homemaker	53 (88.35)
Employee	13 (11.65)
Fathers' occupation	
Employee	40 (66.65)
Self-employed	18 (30)
Unemployed	2 (3.35)
Number of Sisters	
0	17 (28.35)
1	28 (46.65)
2	15 (25)
Number of brothers	
0	18 (30)
1	25 (41.7)
2	15 (25)
3	2 (3.3)
Order of children	
First child	29 (48.3)
Second child	31 (52.7)

5. Discussion

The findings of most studies indicate that emotional and behavioral problems, including aggression are detected in the overall population of children. Yet, estimations vary depending on the diagnostic criteria and utilized methodologies. Nevertheless, it seems that the obtained figures are similar in developed countries. The rate of behavioral problems varies with the age of the children (11). The results of a study showed that the rate of aggression varied from 9-10% (12). However, the rate of aggression was reported as 15.5% in a study on the prevalence of behavioral problems among 3-6 years old children attending daycare centers sponsored by the Social Welfare Department of Hamadan in 2010 (1). However, having merely the total statistics and percentages of overall aggression takes us nowhere as it is not possible to make a detailed and constructive plan to prevent the terrible and destructive effects of aggression in adulthood. The overall percentage of aggressiveness can warn us and increase our awareness to keep our children safe from the consequences of aggressive behaviors by taking timely actions and interventions. However, the availability of separate statistics for each of the types of aggression can help us come up with a better understanding of this phenomenon and makes it easier to make the required plans of action. Nonetheless, no research has yet provided an exact classification of the types of aggression and precise rates of verbal, physical, and relational aggression and impulsive anger. According to the present study findings, the prevalence of verbal, physical, and relational aggression and impulsive anger were 37.33%, 15.31%, 29.22%, and 11.13%, respectively. What is generally known as aggression is in fact verbal and physical aggression whose rate of occurrence is higher than the rate of other types of aggression. Accordingly, educational planners and administrators must pay serious attention to aggression and do not forget this critical issue as it may negatively affect the society as a whole in future. One of the important points of the current study was that although relational aggression and impulsive anger are less known than other types of aggression, their rate of occurrence was higher than expected. This may be because such types of aggression are less known and teachers do not have enough information. Although there is a common belief that aggression should be accompanied by performance of an action, relational aggression, and impulsive anger are not associated with any explicit action and, consequently, they are not known to the public and are disregarded as such types of aggression often become apparent through the use of questionnaires. Yet, if such types of aggressions are not diagnosed in time and are not treated effectively, they may have adverse outcomes for children in the future. Therefore, it is highly required to raise the awareness of teachers and parents to remain safe against the negative consequences of aggressive behaviors (3). The results of the present study indicate that the highest rates of aggression were found at ages of 6, 5, 3, and 4 years. These findings are contrary to those obtained by Richman et al. (12), Shahim (13), and Crick (14) who all found higher

Table 3. Mean and Standard Deviation of Aggression in Different Age Groups [a]

Types	Range	3	4	5	6	Total
Verbal	**0-56**	46.71 ± 4.19	46.33 ± 4.52	48.67 ± 4.13	49.50 ± 4.27	47.61 ± 4.34
Physical	**0-52**	42.85 ± 5.89	44.85 ± 6.23	46.53 ± 5.68	47.00 ± 2.96	45.56 ± 5.73
Relational	**0-36**	32.57 ± 2.63	31.19 ± 2.87	30.92 ± 3.08	33.16 ± 1.94	31.43 ± 2.90
Impulsive	**0-28**	18.00 ± 5.38	18.00 ± 6.84	19.61 ± 5.89	19.00 ± 6.51	18.91 ± 6.12

Column header: Age group, y

[a] Data are presented as Mean ± SD.

Table 4. Frequency and Percentage of Aggression in Different Age Groups [a]

Type	Mean difference	3	4	5	6	Total
Verbal	**0-56**	7 (33.33)	21 (33.12)	26 (33.71)	6 (33.29)	60 (33.37)
Physical	**0-52**	7 (30.57)	21 (32.07)	26 (32.37)	6 (31.61)	60 (31.15)
Relational	**0-36**	7 (23.24)	21 (22.30)	26 (21.51)	6 (22.30)	60 (22.29)
Impulsive	**0-28**	7 (12.84)	21 (12.87)	26 (13.64)	6 (12.78)	60 (13.11)

Column header: Age group, y

[a] Data are presented as No. (%).

Table 5. Mean Scores of Aggression among Boys and Girls [a]

Aggression (Gender)	Boys	Girls	P Value
Verbal	49.66 ± 4.30	45.56 ± 3.10	t = 0/85, P = 0.00
Physical	48.30 ± 4.37	43.88 ± 4.33	t = 0/74, P = 0.00
Relational	32.27 ± 1.66	31.88 ± 2.77	t = 1/20, P = 0.51
Impulsive	17.75 ± 6.5	20.33 ± 5.37	t = 1/89, P = 0.10
Total aggression	146.03 ± 13.55	141.67 ± 10.94	t = 1/46, P = 0.18

[a] Data are presented as Mean ± SD.

rates of aggression at the age of 3. A possible explanation is that in Mohr daycare centers, all the 3, 4, and 5 years old children live together with preschool children (aged 6) in a single place due to lack of facilities. In addition, in some schools, children of different grades study in a single classroom due to a lack of teachers. Given that the most frequent types of aggression are verbal and physical, it seems that if all the children stay together, older children show more (verbal and physical) aggressive behaviors when compared to the younger children. In this study, verbal and physical aggressions were classified as two distinct factors. This is consistent with the studies conducted by Abolqasemi et al. (15) The results also demonstrate that most of the children showed both types of aggression and few children showed only one of these two types of aggression. In addition, relational aggression and impulsive or covert anger were reported as being independently shown from overt aggression by this group of children. This finding is in line with those reported by Crick (6), Shahim (13), and Hart et al. (16) who indicated that relational aggression was independent from overt aggression. Previous research shows that relational aggression and impulsive anger were more common among females, while physical and verbal aggressions were more frequently reported among males (17). Similarly, the results of the present study indicated that the mean scores of verbal-offensive aggression and physical-offensive aggression were higher among boys, which is also confirmed by Crick (6), However, the results revealed no significant difference between the two genders concerning relational aggression and impulsive anger. The difference between the above-mentioned studies and the present one regarding covert aggression might be due to cultural reasons. Iranian boys are more likely to be allowed to resort to overt aggression compared to Iranian girls. Nevertheless, the social exclusion of others is reinforced in Iranian boys as much as in Iranian girls. In this way, Iranian boys use mechanisms, such as back biting and gossiping that are more frequently committed by girls to exclude their peers. Another explanation is that there is a direct relationship between the perceptions of highly aggressive Iranian boys and girls concerning hurting others by resorting to relational aggression (13). Similarly, Pelle-

grini and Roseth (18) and Vahedi et al. (10) found no significant differences between males and females with regard to covert aggression. This can be explained by a meta-analytic review that was recently performed by Archer (19) to explore manifestations of different types of aggression among male and female participants. In this meta-analytic review, Archer suggested that such differences were modified by the methods used to measure the rate of aggression. In particular, the highest effect size of covert aggression was found among females in the studies that had used direct observation followed by peer rating and teacher reports. In this review, no significant gender difference was found in peer reports. The results of the present study are in agreement with those of Archer (19) and Casas (20). On the other hand, Ostrov et al. (21), using direct observation, pointed out to gender differences in showing the type of aggression. In contrast, Stauffacher and DeHart (22) found no sex-based differences when exploring aggression using direct observation techniques. Nonetheless, Nivette et al. (23) reported that gender differences in aggression were higher in the children whose parents had unequal sexual conditions. However, such effects were not considerable compared to the direct effects of the child's biologic gender. Such differences may be due to various types of behavioral samplings. The results of the present study emphasized the higher frequency of overt aggression over covert aggression among preschool children. Additionally, overt aggression was found more commonly among boys in comparison to girls. However, no significant difference was found between the two genders regarding covert aggression and higher rates of aggression were observed among six-years old children. Overall, preparation of programs aimed at reduction of aggressive behaviors in childhood, identification of the individuals prone to aggression, and prediction of the possible success of the therapeutic interventions are among the implications of this study.

Acknowledgments

This study was a part of a research project supported by Shiraz University of Medical Sciences, Shiraz, Iran (92-6808). Special thanks go to Shiraz University of Medical Sciences for their financial support. The authors also wish to acknowledge all 60 participants and their teachers for contributing their time and effort to this study. They are also grateful for Ms. A. Keivanshekouh at the Research Improvement Center of Shiraz University of Medical Sciences for improving the use of English in the manuscript.

Footnotes

Authors' Contributions: Dr. Shahrzad Yektatalab, Abdolrasool Alipour, Mitra Edraki were responsible for the study design, data collection, data analysis, and drafting the manuscript. Dr. Shahrzad Yektatalab, Abdolrasool Alipour, Mitra Edraki, and Tavakoli P made critical revisions to the paper for important intellectual content. Abdolrasool Alipour obtained funding. Dr. Shahrzad Yektatalab provided administrative and technical support.

Funding/support: Shiraz University of Medical Sciences supported this research.

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