

## The Effect of Emotional- Social Intelligence on Aggressive Behavior of Children with Hearing Impairment

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### Abstract:

**Background:** language deficits may contribute to behavior problems by interfering with the understanding and communication of requests and needs to others, and by interfering with emotional and behavioral regulation. **Aim of the study:** was to evaluate the effect of emotional-social intelligence on aggressive behavior of children with hearing impairment. **Subjects & methods: Research design:** A quasi experimental design was used in this study. **Setting & Subjects:** A total number of pupils is 246 pupils. There was a potential of 54 pupils with hearing impairment were chosen from EL-Amal institutions at Sharkia Governorate who had higher aggressive behavior, **Tools of data collection:** Three tools were used; the first tool was an interview questionnaire covered the demographic characteristics of children, and their past health history. The second tool was aggressive behavior assessment, and the third tool was emotional- socio assessment questionnaire. **Results:** Regarding overall mean aggressive behavior among children before intervention was  $63.1 \pm 24.1$  which was reduced after intervention to  $35.9 \pm 13.9$  and increased during follow up period to reach  $44.1 \pm 6.9$ . However, there was a highly statistically significant difference in the mean score of aggressive behavior. Moreover, pre-post intervention, the total mean of social intelligence was  $4.9 \pm 1.8$  changed to  $11.0 \pm 2.1$ , and the total mean of emotional intelligence was  $2.8 \pm 0.9$  changed to  $6.8 \pm 1.4$ . **Conclusion:** This study results provided evidence that the emotional- socio intelligence played a significant role on reducing aggressive behavior among the hearing impaired children. **Recommendations:** provision of Newborn hearing screening, health education of the public clarifying the adverse effects of interrelated marriage, Genetic counseling, premarital, and antenatal screening, emotional-social intelligence based curriculums and Training intervention programs about how to adapt with hearing impairment.

**Key words:** Hearing impairment, aggressive behavior, emotional- socio intelligence

### Introduction:

Today, aggressive behavior is a major public health problem that increases all over the world, causing serious individual and social damages especially to young people, who according to statistics are the most seriously injured and who most commit murders. <sup>(1)</sup> Psychosocial problems of school age children include social problems as inability to interact socially (social isolation) and psychosocial problems as low self –esteem, violence, and aggressive behavior. <sup>(2)</sup>

Sensorineural hearing impairment resulted from damage to the delicate sensory cells of the inner ear or the nerves that supply it. These hearing losses can range from mild to profound. They often affect the person's ability to hear certain frequencies more than others. Thus,

even with amplification to increase the sound level, a person with a sensorineural hearing impairment may perceive distorted sounds, sometimes making the successful use of a hearing aid impossible. <sup>(3)</sup>

Children's social skills are important for early school success and later adjustment. Research has documented that children without adequate social skills are at risk for difficulties including peer rejection, behavior problems, and poor academic achievement. Moreover, recent research showed disturbing rates of expulsion in school, which has fueled efforts to promote these skills. <sup>(4)</sup> In addition, broadly speaking, social skills describe how children navigate social and learning contexts and can be conceptualized as including social skills

and learning-related skills. The concept of emotional intelligence is very close to comprehension of social intelligence. Intrapersonal intelligence as complex of emotional and social competence and skills helps to put up with everyday troubles and to be more efficient in both personal and social life. <sup>(5)</sup>

The nurse promotes aggressive behavior prevention by assisting in the creation of a school environment of safety and trust where students are assured that caring, and trained adults are present and equipped to take action on their behalf; engaging in classroom discussions that facilitate respectful communication among students and staff; and advancing education of the school community that builds skills in communication, problem-solving, anger management, coping and conflict resolution. <sup>(6)</sup>

#### **Significance of the study:**

Hearing impairment is not merely a disability one "suffers" from deafness but it is a multi-faceted and vast physical, social, psychological, and linguistic phenomenon. The child can be deprived of the usual opportunity to learn spoken language and social skills and to develop a feeling of self-worth. Students with hearing impairment may demonstrate problems in adjustment. <sup>(7)</sup>

#### **Aim of the study:**

The aim of this study was to evaluate the effect of emotional-social intelligence on aggressive behavior of children with hearing impairment. This will be accomplished through the following specific objectives:

- Assess the prevalence of aggressive behavior among children with hearing impairment
- Plan, implement, and evaluate an educational program to minimize the effect of emotional-social intelligence on aggressive behavior of children with hearing impairment.

#### **Research hypotheses:**

- Scores of the test of aggressive behavior of children with hearing impairment will be less in the post test compared with the pre test.

- Scores of the test of emotional-social intelligence will increase in the post- test than in the pre- test.

#### **Subjects and methods:**

##### **Research design:**

A quasi experimental design was used in the present study.

##### **Study setting:**

This study was conducted at all EL-Amal schools for the deaf and hard of hearing at Sharkia Governorate.

##### **Study subjects:**

A convenience sample of all pupils with hearing impairment who had aggressive behavior at EL-Amal schools for the deaf and hard of hearing at Sharkia Governorate. There was a potential of 54 pupils. The total number of pupils is 246 pupils

##### **Data collection tool:**

Three tools were used:

- **The first tool: A questionnaire sheet:** It covered the demographic characteristics of children, and their past health history.
- **The second tool: Aggressive behavior assessment questionnaire:** It was developed by the researcher were derived from the review of literature related to aggressive behavior for children with hearing impairment guided by Salama <sup>(8)</sup> It consisted of a Likert scale Pre and post test questionnaire sheet in the form of 36 statements in Arabic language administrated by the researcher in order to assess the degree of aggressive behavior existed in students with hearing impairment. Aggressive behavior scale focused on three domains: Aggression towards self, Aggression towards others, and Aggression towards properties.
  - ✓ **Aggression towards self:** it composed of 6 statements and the score range was 6-18 which subdivided into 3 categories with a span of 4 for each [(18-6)/3].
  - ✓ **Aggression towards others:** it composed of 19 statements and the

score ranged from 19-57 which subdivided into 3 categories with a span of 12 for each.

- ✓ **Aggression towards properties:** it composed of 11 statements and the score ranged from 11-33 which subdivided into 3 categories with a span of 7 for each
- **The third tool: emotional- socio assessment questionnaire:** It was developed by the researcher guided by McKenzie <sup>(9)</sup> It was about Pre and post emotional- social intelligence questionnaire. It included 22 statements to assess the "emotional - social intelligence.

#### **Scoring system:**

- **Aggression section:** The responses of the pupils were measured on a three point likert scale rating: always, sometimes, and rarely scored as 3, 2 and 1 point respectively for each statement.
- **Emotional-social intelligence:** The responses of the pupils were measured on a two point scale rating: always and never scored as 1 and 0 point respectively for each statement. While, the reverse statements were scored as 0, and 1 for always, and never respectively. The central tendency and variability of the emotional-social intelligence of the study sample were measured by using frequency, percent, mean and SD respectively.

#### **Content validity and reliability:**

The validity of the content for the aggressive behavior, multiple intelligence, and the health education intervention were examined by 13 experts from faculties of nursing at Zagazig University and Cairo University, faculty of medicine, faculty of education, faculty of specific education, faculty of physical education at Zagazig University, and experts from EL-Amal schools for the deaf and hard of hearing in Zagazig. The internal consistency of Emotional-social scale was assessed

by using Cronbach's alpha. The study tool showed high reliability (Cronbach's alpha: 993)

#### **Field work:**

The field work started at the beginning of February 2012 and was completed by the end of April 2013.

- **Assessment phase:** This included collection of baseline data through the developed questionnaire forms.
- **Planning phase (program design):** The investigators developed an educational program based on pertinent literature, and in the light of the findings of the assessment phase. The chosen sample was divided into five groups, total program took 16 sessions, two didactic session's included the researcher trained the deaf and hard of hearing children on the right social introduction ways to achieve communication, and the researcher gave a lecture with the title of non response to the pressures and problems caused by the disability, during this lecture a video about Hellen Killer and Nickolas was displayed showing how they reached to the highest levels, each session lasted about 30 to 40 minutes. While 14 sessions was practical, the researcher gave a practical session entitled "getting the deaf out of his/her isolation and developing his skills in expressing his positive feelings" through these activities: The child's integration in the most appropriate practical training e.g. breakfast, school, lunch, dinner and how is the contact between the mother and deaf inside home correctly. Another practical session was given under the title of "the child's integration outside home" through the following activities: The deaf children's correct connection with the greengrocer, fruit seller, pharmacist and the newspaper seller. Additionally, in the same context a practical session under the title of "the direction of soft criticism in

order not to hurt my friends or colleagues" such as: (if your friend's shoes are torn- his hair is not combed with a proper manner-wearing bad clothes) and so on, each session lasted about 40 to 60 minutes.

- **Evaluation Period:** The evaluation was done through the post-test. The same aggressive behavior and emotional-social intelligence questionnaires used as pre-tests were used in their entirety during the evaluation period. There were two post-test evaluations. The first occurred immediately after completing the educational program. Three months later, a second post-test of aggressive behavior was used to test the stability of changes in any score.

#### **Administrative and ethical considerations:**

An official request to conduct the study was directed from faculty of Nursing, Zagazig University to the first undersecretary of the Ministry of Education and to the manager of directorate of education at Sharkia Governorate and to the headmaster of the school for deaf students. A simple explanation about the aims of the study was illustrated to them. Oral consent notifying deaf pupil's agreement to share in this study signed by his/her direct care-givers was obtained. The researcher emphasized in the consent that the participation was voluntary, and any participant can withdraw at any time without any need to justify his/her decision, any raised question will be answered, and the collected data will be treated confidentially and will be used only in the current study.

#### **Statistical design:**

After data were collected it was revised, coded, and fed to statistical software SPSS version 16. The given graphs were constructed using Microsoft excel software. All statistical analyses were done using two tailed tests and alpha error of 0.05. P value.

#### **Results:**

**Table (1):** Reveals that around three fifths of the study sample (61.1%) has congenital causes of hearing impairment compared to slightly less than half of the studied sample (48.1%) has acquired causes of hearing impairment. Concerning before birth factors; 7.4% have Drugs & hyperthermia during pregnancy and 3.7% of RH incompatibility whereas, the important causes after birth factors are hyperthermia and meningitis 14.8%, and 7.4% respectively. Additionally, 11.1% of the studied sample have unknown causes of hearing impairment.

**Table (2):** Shows that moderate aggressive behavior towards self, Belbees school has the higher score then Zagazig (25.7%, and 20.2%) respectively. Additionally aggressive behavior towards properties, Zagazig school has the higher score, then Menya Al Kamh, and Belbees (25.5%, 26.1%, and 20.0%) respectively. Finally, the higher total moderate aggressive behavior present in Kenyat (44.4%), Zagazig (34.0%) compared to Belbees 22.9%, and the higher total severe aggressive behavior presents in Belbees 11.4% compared to 10.6% in Zagazig School. Overall prevalence of aggressive behavior at EL-Amal schools at Sharkia Governorate is found between moderate and high 24.4%, and 7.7% respectively.

**Table (3):** Regarding overall mean aggressive behavior among children before intervention was  $63.1 \pm 24.1$  which reduced after intervention to  $35.9 \pm 13.9$  and increased during follow up period to reach  $44.1 \pm 6.9$ . However, there was a highly significant difference in the mean score of aggressive behavior.

**Table (4):** Presents that there are statistically significant differences between mean score of the studied sample in the pre & post test in emotional- social intelligence, the total mean of social intelligence was  $4.9 \pm 1.8$  changed to  $11.0 \pm 2.1$ , and the

total mean of emotional intelligence was  $2.8 \pm 0.9$  changed to  $6.8 \pm 1.4$ .

**Table (5):** Indicates that significant positive correlation is found between total aggressive behavior, age of the studied sample, and their mother age. Also, there is negative correlation between aggressive behavior towards others, age of children, and class. On the same way is the relation between aggressive behavior towards self and birth order.

**Table (6):** Displays that significant positive correlation is found between interpersonal (Social) intelligence, age of the studied sample, and class and negative correlation is found between mother and father education.

### Discussion:

In the present study, over than three fifths of the study sample had congenital causes of hearing impairment compared to slightly less than half of the studied sample who had acquired causes. A minority of the children in the studied sample had unknown causes of hearing impairment. This finding might be due to the prevalence of consanguineous marriages among parents of the study subjects. This result corresponded to the results of the study conducted by Ozturk et al.,<sup>(10)</sup> who mentioned that in Turkey the etiological features of deafness among children were found to be due to genetic causes. Dereköy<sup>(11)</sup> found that marital consanguinity was noted among parents of 64 (49.2%) of all children in the school and this rate was higher than the average in Afyon, Turkey ( $P < 0.05$ ). Also, a study done by Shawky et al.,<sup>(12)</sup> in Egypt about consanguineous mating among Egyptian population, this study revealed that consanguineous marriage was still high in Egypt (35.3%), especially among first cousins (86%). However the frequency varied by region. It was higher in Sohag (42.2%) and Cairo (36.1%) than in Assuit (21.7%). Also it was higher in rural areas (59.9%) than in semi-urban and urban areas (23.5% and 17.7%, respectively).

Overall prevalence of aggressive behavior at EL-Amal schools at Sharkia Governorate, children were found between moderate and high (24.4%, and 7.7% respectively). This result may be due to children with hearing impairment may demonstrate aggressive behavior in adjustment, and some children may compensate for the disability by becoming aggressive, deviant, or disobedient; others withdraw, avoid, also, language deficits may contribute to behavior problems. This result was in agreement with Hindley<sup>(13)</sup>, who assessed the behavior problems in deaf children in London, and found that deaf children are at greater risk of aggressive behavior than hearing children, with rates of up to 15%. Additionally, this finding was supported by Howley and Howe<sup>(14)</sup>, who found that the higher rate of aggression related to communication skills were in hearing impaired children. Also the current study result was in accordance with the finding of Sunal and Cam<sup>(15)</sup>, which showed that prevalence of behavior problems in deaf children has been found to be around 29% where after intervention program, there was significance improvement in the interpersonal intelligence domain and low aggressive behavior. The same result was recorded by Eksi<sup>(16)</sup>, who mentioned that in order to improve the target social skills an instruction program which was composed of 30 sessions; 10 sessions for basic social skills, 10 sessions for the skills starting and continuing the relationship, and 10 sessions for conducting a work with group were prepared and applied. It was found that all the children groups in this study learned the target behavior, with a percentage of 100%. This result was in agreement with Joseph and Strain<sup>(17)</sup>, in University of Illinois at Chicago which showed that SEL (Social and Emotional Learning) based programs yielded significant positive effects on targeted social-emotional competencies and attitudes about self, others, and school. They also enhanced students' behavioral

adjustment in the form of increased prosocial behaviors and reduced conduct and internalizing problems, and improved academic performance on achievement tests and grades.

**Conclusion:**

In light of results of the current study, it can be concluded that El-Amal Schools for the deaf and hard of hearing in (Zagazig & Belbais) at Sharkia Governorate had a higher score of aggressive behavior, and it was more common in boys than in girls from rural area. Also the main risk factors for aggressive problems were lower IQ, lack of interpersonal and emotional skills, sensorineural hearing impairment, and lack of language acquisition before three years, rural residence, and parents' disability to use sign language. The emotional-social intelligence played a significant role on reducing aggressive behavior, and on improving interpersonal, intrapersonal intelligence among deaf pupils. As well as the stability of results from post test and follow up of aggressive behavior scale emphasized the important role of the emotional-social intelligence.

**Recommendations:**

The current study recommended the following :

- Newborn hearing screening should be conducted to all newborns before one month of age.
- Consanguinity marriage should be discouraged through health education of the public clarifying the adverse effects of interrelated marriage.
- Genetic counseling, premarital, and antenatal screening should be applied whenever possible at least for those at risk of developing genetic diseases including hearing impairment.
- Emotional-social intelligence based curriculums should be applied to improve emotional and

social intelligence at El-Amal schools for the deaf and hard of hearing.

- Training intervention programs should be directed to the parents, children with hearing disabilities, and teachers about how to adapt with hearing impairment.

**Table (1): Causes of hearing impairment of the studied sample (N=54)**

<b>Causes of hearing impairment</b>	<b>No</b>	<b>%</b>
<b>1. Congenital causes of hearing impairment</b>		
▪ Yes	33	61.1
▪ No	21	38.9
<b>A. Genetic</b>		
▪ Yes	5	9.3
▪ No	49	90.7
<b>B. Parents consanguinity</b>		
▪ Yes	28	51.9
▪ No	26	48.1
<b>2. Acquired causes of hearing impairment</b>		
▪ Yes	26	48.1
▪ No	28	51.9
<b>a) Before birth factors</b>		
▪ RH incompatibility	2	3.7
▪ Drugs & hyperthermia during pregnancy	4	7.4
▪ No	48	88.9
<b>b) During birth factors</b>		
▪ Obstructed labor	3	5.5
▪ Pre term	2	3.7
▪ Neonatal Jaundice	1	1.9
▪ No	48	88.9
<b>c) After birth factors</b>		
▪ German measles	1	1.9
▪ Garamycine drugs	1	1.9
▪ Accident	1	1.9
▪ Hyperthermia	8	14.8
▪ Hyperthermia & Meningitis	4	7.4
▪ No	39	72.1
<b>3. Unknown causes</b>		
▪ Yes	6	11.1
▪ No	48	88.9

**Table (2): Distribution of aggressive behavior at EL-Amal schools at Sharkia governorate (N=246)**

Schools		Aggression							
		Self Aggressive		Others aggressive		Properties aggressive		Overall	
		No	%	No	%	No	%	No	%
Zagazig	▪ No	62	66.0%	49	52.1%	59	62.8%	52	55.3%
	▪ Moderate	19	20.2%	32	34.0%	24	25.5%	32	34.0%
	▪ High	13	13.8%	13	13.8%	11	11.7%	10	10.6%
Husseinya	▪ No	24	100.0%	22	91.7%	23	95.8%	23	95.8%
	▪ Moderate	0	0.0%	2	8.3%	1	4.2%	1	4.2%
Al Asher	▪ No	2	100.0	2	100.0	2	100.0	2	100.0
Belbees	▪ No	26	62.9%	23	57.1%	25	65.7%	23	65.7%
	▪ Moderate	7	25.7%	8	28.6%	6	20.0%	8	22.9%
	▪ High	2	11.4%	4	14.3%	4	14.3%	4	11.4%
Fakous	▪ No	30	85.7%	26	74.3%	29	82.9%	27	77.1%
	▪ Moderate	1	2.9%	5	14.3%	6	17.1%	4	11.4%
	▪ High	4	11.4%	4	11.4%	0	0.0%	4	11.4%
Abou Hammad	▪ No	19	79.2%	17	70.8%	21	87.5%	19	79.2%
	▪ Moderate	4	16.7%	4	16.7%	2	8.3%	4	16.7%
	▪ High	1	4.2%	3	12.5%	1	4.2%	1	4.2%
Kenyat	▪ No	9	100.0%	5	55.6%	7	77.8%	5	55.6%
	▪ Moderate	0	0.0%	4	44.4%	2	22.2%	4	44.4%
Menya	▪ No	22	95.7%	16	69.6%	17	73.9%	16	69.6%
Al Kamh	▪ Moderate	1	4.3%	7	30.4%	6	26.1%	7	30.4%

**Table (3): Mean score of Aggressive behavior throughout the intervention phases of the studied sample (Zagazig & Belbees) (N=54)**

Aggression items	Mean	SD	pre & post	Pre & FA	Post& FA
<b>Aggression towards self</b>					
▪ Pre	12.3	2.9	3.9	4.1	0.96
▪ Post	7.6	1.4	(0.009)*	(0.005)*	(0.715)
▪ Follow-up	7.4	2.2			
<b>Aggression towards others</b>					
▪ Pre	40.2	6.7	13.8	8.8	4.
▪ Post	19.8	7.5	(0.0000)*	(0.000)*	(0.000)*
▪ Follow-up	28.9	8.3			
<b>Aggression towards prosperities</b>					
▪ Pre	22.8	5.4	9.2	13.4	3.2
▪ Post	14.2	4.9	(0.0000)*	(0.000)*	(0.002)*
▪ Follow-up	11.4	2.8			
<b>Overall aggression</b>					
▪ Pre	63.1	24.1	13.5	5.9	4.2
▪ Post	35.9	13.9	(0.000)*	(0.000)*	(0.000)*
▪ Follow-up	44.1	6.9			

(\*) Statistically significant at  $p < 0.05$



**Table (4): Mean score of Emotional- Social intelligence studied sample throughout the intervention phases (N=54)**

Emotional- Social intelligence for two schools	Studied phase N=54				t <sub>p</sub>	P
	Pre intervention		Post intervention			
	Mean	SD	Mean	SD		
▪ Social intelligence	4.9	±1.8	11.0	2.1	18.9	0.000*
▪ Emotional intelligence	2.8	±0.9	6.8	1.4	19.0	0.000*
▪ Overall .pre Emotional- Social intelligence	7.7	±2.7	17.8	3.5	20.5	0.000*

(\*) Statistically significant at  $p < 0.05$

**Table (5): Correlation matrix between distribution of aggressive behavior before intervention and selected characteristics**

Item		Aggressive behavior towards Self	Aggressive behavior towards others	Aggressive behavior towards prosperities	Overall
Age	Correlation Coefficient	.001	-.274(*)	-.219	.278(*)
	P	.996	.045	.111	.042
	N	54	54	54	54
Class	Correlation Coefficient	-.062	-.335(*)	-.336(*)	.218
	P	.655	.013	.013	.113
	N	54	54	54	54
Birth order	Correlation Coefficient	-.273(*)	.092	.056	-.067
	P	.046	.507	.687	.632
	N	54	54	54	54
Mother age	Correlation Coefficient	-.074	.050	-.015	.317(*)
	P	.596	.720	.913	.020
	N	54	54	54	54

Correlation is significant at the 0.05 level (2-tailed). Except father, mother education, enrollment and income (Spearman's rho test)

**Table (6): Correlation matrix between distribution of Emotional-social intelligence before intervention among the studied sample and selected characteristics**

			Interpersonal (Social) intelligence	Intrapersonal (Emotional) intelligence	Overall pre
Spearman's rho	Aggressive behavior towards Self	Correlation Coefficient	.111	.025	-.059
		P	.426	.857	.669
		N	54	54	54
	Aggressive behavior towards others	Correlation Coefficient	-.099	-.039	-.065
		P	.478	.779	.639
		N	54	54	54
	Aggressive behavior towards properties	Correlation Coefficient	-.028	.096	-.056
		P	.842	.489	.687
		N	54	54	54
	Overall1	Correlation Coefficient	.280(*)	.030	-.120
		P	.040	.830	.389
		N	54	54	54

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