ASSOCIATION BETWEEN EMOTIONAL INTELLIGENCE AND STUTTERING IN SCHOOL-AGE CHILDREN IN KOSOVO

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Abstract: *Several studies have shown that emotional intelligence can impact stuttering in children and that these children begin to exhibit impaired emotional and social behaviour from the age of 3 years onwards. These difficulties have also been observed in adults who stutter.*

The purpose of this research study was to examine the association between emotional intelligence factors and stuttering in school-age children in Kosovo. The outcome of this study will provide a baseline to compare factors related to the emotional intelligence of children who stutter and those who do not.

This descriptive cross-sectional study included a sample of 62 participants stratified into the two groups: a group of children who stutter (N = 31) and a control group of children who do not stutter (N = 31). Participants ranged in age from 8-15 years. The instrument used for data collection was a self-report emotional intelligence questionnaire for children: The Trait Emotional Intelligence Questionnaire - Child Short Form (TEIQue-CSF) (Mavroveli & Petrides, 2009). We collected and analysed data on the level of emotional intelligence of children who stutter and those who do not.

Our findings show that adaptability as a construct of emotional intelligence is observed at a lower level in children who stutter (M = 21.5) than those who do not (M = 40.9). In addition, we observed lower adaptability in male students (M = 27.9) than females (M = 35.2) in both groups of participants. Furthermore, children who stutter showed lower levels of emotional expression (M = 23.4 vs 39.7) and emotional perception (M = 22.3 vs 42.8) than those who do not stutter.

Based on our analysis, we concluded that school-age children who stutter have significantly lower levels of emotional intelligence than their peers who do not stutter.

Keywords: *Emotional intelligence, Stuttering, Children*

INTRODUCTION

Stuttering is a multifactorial neurodevelopmental motor speech disorder (Smith, Weber, 2017). This condition occurs as a result of the influence of many factors, including genetic predisposition (Yairi, Ambrose, 2013), motor speech skills, linguistic skills, as well as other cognitive, emotional, and environmental factors. Stuttering is a type of speech disfluency characterised by stuttered disfluencies including sound, syllable, and word repetitions (ASHA, 2016), prolongations, and blocks. Stuttering can also result in disfluencies in the form of interjections, revisions, and phrase repetitions. Additionally, secondary behaviour may include clinical symptoms such as tensed body, involuntary eye blinking, as well as jaw and head jerking (Prasse, Kikano, 2008).

Covert stuttering is a type of stuttering experience that occurs when a person who stutters tries to hide their disfluency from others in an attempt to be perceived as a nonstuttering individual. A person who covertly stutters experiences the cognitive and emotional elements of stuttering with minimal overt behavioural symptoms (Douglass, Schwab & Alvarado, 2018). Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR) characterises stuttering in terms of "frequent repetitions or prolongations of sounds or syllables" (APA, 2000). Apart from DSM-IV, The Diagnostic and Statistical

Manual of Mental Disorders, Fifth Edition (DSM V) defines this fluency disorder as Childhood-Onset Fluency Disorder. According to DSM V, even if the presence of interjections is excluded, children who stutter show signs of anxiety related to speaking, which in turn results in ineffective communication and limitations related to social participation and/or academic or occupational performance – these limitations can occur individually or in combination (APA 2013).

In children up to the age of 15 years, stuttering has been reported as a persistent problem with a prevalence rate of 1% and an incidence rate of about 5% (Yairi, Ambrose, 2013. Most cases of stuttering begin between the ages of three and five years. According to Reilly (2009), the mean age of onset of stuttering in children is 29.9 months, and the onset of stuttering is reported at a similar age for both sexes (Yairi, Ambrose, 2013). Andrews & Haris (1964) reported that more boys stuttered than girls (overall ratio of 2.4:1) and that this ratio increased as the children got older (indicating that girls recovered from stuttering at an earlier age than boys). Studies have shown that the male to female ratio for stuttering varies across different age groups: 4:1 for 11- to 20-year-olds and up to 1.4:1 for adults aged 50 years and above (Craig, Tran, Hancock, Craig & Peters, 2002). Based on a recent survey, the likelihood of stuttering is reported to be higher in children struggling with atypical development, weaker executive functioning, and socio-emotional problems (Smith, Choo, Foster, 2021).

Emotional intelligence (EI) describes the ability, capacity, skill, or self-perceived ability to identify, assess, and manage personal emotions, as well as emotions of others (Serrat, 2017). The process and outcomes of EI development consists of many elements known to reduce stress in individuals by moderating conflict, promoting understanding and relationships, and fostering stability (Goldman, 2006). An interesting finding was noted by Schutte, et al. (2002) when considering the relationship between EI and the ability to perform emotion regulation: the authors proposed that individuals with high levels of EI maintain higher positive mood states because their emotion regulation capacities enable them to amplify the effect of a positive environment. Under experimental circumstances, EI can also moderate emotional reactivity. However, several studies addressing EI in general have reported that there is no difference between people with low and high EI in relation to mood induction (Ciarrochi et al., 2001).

Stuttering in relation to communication and emotional intelligence

Stuttering can affect a range of aspects such as speech, language, emotions, and the psychology of an individual (Shafiei, Mokhtari 2020). During puberty, additional circumstances that influence individual behaviour and attitudes can affect the manifestation of stuttering. The psychological aspect in individuals who stutter can affect human interactions and relationships. Management of human relationships is highly correlated with intelligence, given that there is a link between traditional and emotional intelligence (Goleman, 2006). It is important that one can manage human communication in a manner that is optimistic, flexible, and realistic, so that one can successfully solve problems and cope with stress without losing control (Bar-On, 1997): these attributes correspond to an individual's emotional quotient (EQ). As stated by Taylor, Parker, and Bagby (1999), EI is important for individuals to be able to identify and describe emotions and manage states of personal emotional arousal, as well as emotions in others, and to learn to use their personal feelings and emotions in an adaptive style.

Several studies have confirmed the association between emotional factors and stuttering (e.g.Conture, Kelly & Walden, 2013; McAllister, 2016; Jones, Choi, Conture & Walden, 2014; Choi, Conture, Walden, Lambert & Tumanova 2013;). While one group of studies include questionnaire data from parents of children who stutter (Eggers, Nil & Bergh, 2010; Karrass, Walden, Conture, Graham, Arnold, Hartfield & Schwenk, 2006), others explore behaviours such as frustration and neutral conditions and its relationship with emotion regulation (Johnson, Walden, Conture & Karrass, 2010).

Considering the impact of EI on stuttering, McAllister (2016) found that children who stutter may begin to exhibit impaired emotional and social behaviours from the age of 3 years, and these difficulties have also been proven in older children who stutter. Jones, Conture, and Walden (2014) showed that emotion may serve as a causal contributor to developmental stuttering, with empirical findings indicating that preschool-age children who stutter exhibit differences in temperament and emotions. Prior to or during their stuttered utterances, children predominantly display negative emotion (Jones, Conture & Walden, 2014). According to Arnold, Conture, Key and Walden (2011), the decreased use of regulatory strategies may be directly related to an increase in the stuttering manifestation, which might further the suspicion that a causal link cannot be expected. Other surveys have higlighted different findings regarding these relationships. For example, Treleaven, Buhr, Kucharski, and Coalson (2018) concluded that negative emotions influence emotional intensity in correlation with stuttering and that it was correlated mainly with the intensity of the event.

Emotional manifestation (expression and perception) is highly dependent on behavioural feedback in everyday circumstances. When exposed to a specific experimental task, children who stutter typically exhibit different behavioural impacts based on the type and intensity of emotional reactivity and emotion regulation. Whether the child's reaction was pleasant or unpleasant, it was confirmed that emotional reactivity had an impact on self-speech regulatory abilities related to stuttering and reduced the child's capability to modulate personal emotions (Ntourou, Conture & Walden, 2013). When measured at rest, there are no differences between these two components in children who stutter and their peers who do not. In the case of challenging conditions, however, children who stutter tend to be more emotionally reactive and need to employ more emotion regulation skills (Tumanova, Wilder, Gregoire, Baratta & Razza, 2020). Furthermore, Adigun (2020) pointed out that during the teenage period of stuttering children, levels of EI are impacted by their socioeconomic status, social support, and perceived quality of life.

A study involving 71 male participants indicated that the presence of several disruptions in emotional expression corresponded to high impacts of stuttering (Haley, 2009). This study was conducted using a self-report questionnaire survey assessing the disruption of emotional expression, restrictions on male emotionality, and the impact of stuttering. These disruptions included negative attitudes toward emotional expression, low self-regulation of emotion, and difficulties related to emotional articulation. Based on response patterns, it appears that disruptions in emotional expression and the impact of stuttering are significantly connected for men who stutter (Haley, 2009).

Current situation in Kosovo

Due to the current socio-political circumstances, Kosovo seems to be heading in the direction of a post-conflict region, which will definitely influence many aspects of life in general, and children's wellbeing in particular. Post-conflict conditions and its associated consequences, as well as poor economic conditions will undoubtedly result in moderate stress risk for the general population. Of which, the most vulnerable group are the children in Kosovo, especially in terms of their mental and psychomotor health. So far, there is no organised approach for the assessment or treatment of children with different disorders in Kosovo - this makes it difficult to establish a practical database for scientific research.

Therefore, our research study aims to contribute to make a start in this direction and provide baseline information on emotional intelligence and stuttering among school-age children in Kosovo.

METHODS

Our study was designed as a descriptive, cross-sectional study. The sample included participants selected from different municipalities, schools, and speech therapy clinics where children who stutter were treated. This was important since the number of children with a medical/clinical diagnosis of stuttering is limited. The final sample consisted of 62 participants stratified

into two groups based on whether they stuttered or not: a group of examinees (ES), i.e., children who stuttered (N = 31) and a control group of examinees (EC), i.e., children who did not stutter (N = 31). The sample selection criteria were fulfilled by recruiting stuttering children and their typical peers from the same educational institutions (for example, primary schools).

First, we recruited the required number of children for the ES group from Speech Therapy Clinics. Following which, we selected non-stuttering children (ECs) from the schools attended by the children in the ES group. A stratified sample was obtained by matching the participants based on age, grading achievement, and demographic origin. Participants in this research survey were between 8 and 15 years old, with an average age of 10.8 years. Graded achievements were measured based on the child's Grade Point Average (GPA) in the previous school year. All children in the ES group had already received diagnosis of stuttering from a qualified speech and language therapist, based on the diagnostic criteria defined by DSM. For the purpose of the present study, stuttering children were assessed for severity of stuttering using the Disfluency Count Sheet. It was estimated that all 31 children in the ES group had a mild form of stuttering, since they achieved between 3-8% disfluency in their speech. Table 1 presents descriptive data on the number of participants in relation to sex and place of settlement for 2 respective groups.

Table 1. *Descriptive data on number of children with and without stuttering, stratified by gender and place of settlement*

Variables	Children who stutter N (31)	Children who do not stutter N (31)
Gender	N	N
Male	21	15
Female	10	16
Settlement		
Village	9	9
Town	22	22

The instrument used for data collection in the present study was a self-report emotional intelligence questionnaire in children: The Trait Emotional Intelligence Questionnaire – Child Short Form, TEIQue-CSF (Mavroveli & Petrides, 2009). We collected data on the level of EI of children who stuttered (ES) and those who did not (EC). With respect to the ES group selection, neither the level nor the type of stuttering was considered an inclusion criteria. Therefore, children who stuttered were recruited from the school setting only after making sure that the stuttering was diagnosed based on their medical history.

In the demographic part of the survey, participants were asked about their place of settlement, sex, age, level of education, and graded achievement. The questionnaire consists of a total of 36 questions that could be completed by the children themselves, which has been proven to be effective in assessing the level of EI in children. The questionnaire consists of nine components such as adaptability, affective tendency, expression of emotions, perception of emotions, emotion regulation, low impulsivity, interpersonal relationships, self-esteem, and self-motivation. High overall scores on all components indicates high levels of EI. Cronbach's alpha analysis was used to estimate the internal consistency of the questionnaire for the overall levels of EI, as well as for each of its factors. The results showed that the questionnaire had excellent internal consistency ($\alpha = 0.93$) for measuring overall EI. When each of the nine components were considered separately, some had higher internal consistency, while others had lower consistency based on Cronbach's alpha. As a result, out of all nine EI factors, only adaptability and emotion regulation showed results below the acceptability threshold based on the Cronbach's alpha analysis. The other seven factors resulted in an acceptable to excellent consistency based on Cronbach's alpha.

In order to address the research questions of this study, data were collected in two forms – through direct contact and via the support of the school staff. After receiving approval from the school and centres regarding the data collection questionnaire, we requested the staff to help us

collect data on the EI of children who stuttered and those who did not stutter (chosen at random). The questionnaire was given to the children to complete during classes or during speech therapy practice, along with an explanation by their teachers or their speech therapists. The second part of the study was conducted by requesting the permission and assistance of Directors of Education in certain municipalities in Kosovo. In this case, data on demographic, stuttering and emotional intelligence was collected through a questionnaire answered by the children. A letter of consent was obtained from the parents of all the participants.

RESULTS

Here are the results of the statistical analysis of the EI of both the ES and EC groups of children. This section presents demographic data regarding the research participants, the internal consistency of the questionnaire, a comparison of EI between the ES and EC groups, a comparison of EI based on the sex of participants, as well as the impact of stuttering on the EI of these children. Table 2 presents descriptive data such as average, standard deviation, minimum, and maximum for the analysed variables, including EI, age, and graded achievement for both groups of children participating in this study. The ES and EC samples were selected in such a way that the children were matched in age. We found that age does not affect the differences in the level of emotional intelligence between the two groups.

Table 3 presents the analysis of the Mann Whitney-U test comparing the main variables of the research study. Due to the non-normal distribution of data, non-parametric Mann Whitney-U

Table 2. *Descriptive statistics of variables used to analyse both groups of children*

Variable	Children who stutter (N = 31)				Children who do not stutter (N = 31)			
	M	*DS*	*Min*	*Max*	*M*	*DS*	*Min*	*Max*
Emotional intelligence	123.9	18.9	93.0	160.0	153.7	7.9	133.0	167.0
Age (in years)	11.4	2.7	8	15	10.1	1.5	8	15
Graded achievement (GPA)	4.1[1]	1.0	2	5	4.5	0.7	3	5

M, Mean; Max, Maximum; Min, Minimum; N, number of cases; SD, Standard deviation

Table 3. *Mann Whitney-U test comparing emotional intelligence and its factors between the two groups of children*

	Children who stutter		Children who do not stutter				
	N	*M*	*N*	*M*	*U*	*Z*	*P*
Emotional intelligence	31	18.0	31	45.0	61.5	- 5.9	**0.001**
Adaptability	31	21.5	31	40.9	169.0	- 4.3	**0.001**
Affective disposition	31	20.6	31	41.8	142.0	- 4.7	**0.001**
Emotional expression	31	23.4	31	39.7	228.0	- 3.6	**0.001**
Emotional perception	31	22.3	31	42.8	130.0	- 5.0	**0.001**
Emotional regulation	31	20.1	31	39.4	204.0	- 3.9	**0.001**
Low impulsivity	31	20.1	31	42.9	126.1	- 5.0	**0.001**
Peer relations	31	23.4	31	38.8	230.5	- 3.4	**0.001**
Self-esteem	31	21.7	31	41.3	176.5	- 4.3	**0.001**
Self-motivation	31	21.7	31	40.7	175.5	- 4.2	**0.001**

[1] In Kosovo, 1 indicates a lower grade and 5 indicates a higher grade

Table 4. *Mann Whitney-U test comparing emotional intelligence and its factors between sexes*

	Female		Male				
	N	*M*	*N*	*M*	*U*	*Z*	*P*
Emotional intelligence	26	35.8	36	28.4	356	-1.6	.108
Adaptability	26	35.2	36	27.9	347	-1.6	.112
Affective disposition	26	32.6	36	29.9	409	-0.6	.546
Emotional expression	26	33.1	36	30.4	428	-0.6	.561
Emotional perception	26	35.8	36	28.4	356	-1.6	.108
Emotional regulation	26	32.9	36	29.6	406	-0.7	.461
Low impulsivity	26	34.7	36	29.2	385	-1.2	.233
Peer relations	26	33.0	36	29.5	402	-0.8	.434
Self-esteem	26	34.3	36	29.5	397	-1.0	.302
Self-motivation	26	37.0	36	26.8	300	-2.2	.026

tests were used to compare the levels of EI and its associated factors in the ES and EC groups. Our results show that the group of children who stutter had a significantly lower level of EI (M = 18.0) than the group of children that did not stutter (M = 45.0, U (62) = 61.5, $p = 0.001$). In addition, statistically significant differences were observed between the two groups for all nine associated factors, with distinctly lower levels in children who stuttered than those who did not stutter.

The analysis of the level of EI was also conducted using the Mann Whitney-U test to understand the difference between male and female participants in this research study. As shown in Table 4, we found that females had a slightly higher level of EI and its nine factors compared to males. However, these differences were not significant, except in the case of self-motivation, where the females scored significantly higher than the males.

Table 5 presents the results of linear regression analysis to test whether stuttering affects EI, since we identified a significant difference only in the mean levels of EI and its factors between children who stuttered and those who did not. The regression analysis showed that stuttering is significantly associated with EI (F (61) = 63.0, p < 0.001**) and can explains 51% of the variance. The results also showed that children who do not stutter have a higher level of EI than those who stutter.

Table 5. *Regression analysis to understand the relationship between emotional intelligence and stuttering*

Model	***B***	***Standard error***	***Beta***	***T***	***p***
Stuttering	29.5	3.7	0.716	7.939	0.001

R^2 : 0.512; model is significant at level $p = 0.001$.

DISCUSSION

The estimation and comparison of EI in school-age children who stutter in relation to their typical peers brings several issues to light, including the influence of sex-based differences, graded achievements, social relations, as well as factors of EI.

As the results of the present survey confirm, most ES/stuttering students have very good GPAs (4.1). This was used as an input criterion for the selection of the EC group of typical peers, and they were required to have an average GPA of 4.5 as a prerequisite for the assessment of EI. This fact was confirmed by Sari & Gökdağ (2017) who found that students who stuttered did not meet academic challenges in terms of success, but more often with insufficient self-confidence. The students were less successful in verbal lessons than in other classes and activities. Another study showed statistically significant differences between stuttering children and their peers in terms of intelligence levels, sex-based differences, handedness,

some aspects of general health, and family history (Cavenagh, Costelloe, Davis & Howell, 2015). Also the ratio by gender of 2:1, in male favour. In the present survey, there were more male participants who stuttered than female participants (ratio 2:1). These results are similar to the survey conducted by Sari and Gökdağ, (2017) and little less than in the cross-sectional research of Fradelos et al., where the ratio of 3:1 was confirmed (2015). Our study also confirmed that the female gender had an influence on EI levels, i.e., female participants had higher EI than male participants.

Stuttering influences many different segments of adequate reaction and response to social surroundings, as well reaction and response to social stimuli and maintained relationships. Based on our sample, we found that children who stutter have a lower level of adaptability than their peers (M = 21.5 vs 40.9). Similarly, male students had lower levels of adaptability than females (M = 27.9 vs 35.2) in both the ES and EC groups. Many studies have shown that stuttering children are less successful in maintaining attention and adapting to the environment (Embrechts et al., 1998), more reactive to environmental stimuli, and more sensitive, anxious, and introverted overall (Wakaba, 1998; Fowlie & Cooper, 1978). Howell (2004) claimed that activity and negativity are simultaneously observed in stuttering kids and that they face challenges when trying to adapt.

As for Buhr, Scofield, Eyer, and Walden (2017), there is no main effect of emotional intensity in relation to stuttering observed in a child, i.e., stuttering largely occurred in the absence of any observable emotional impact. However, negative emotions were related to stuttering, indicating that when stuttering was accompanied by an emotion, it tended to be negative. Our results showed lower levels of emotional expression and emotional perception in the ES group (M = 23.4/22.3) compared to the EC group (M = 39.7/42.8). These results are consistent with Buhr, Scofield, Eyer, and Walden (2017), where emotional arousal need not function as a mediator between stressful events and stuttering. It is noticeable that event intensity can influence stuttering, independent of emotional arousal that may be provoked by a specific event.

Johnson, Walden, Conture & Karrass (2010) offered findings indicating that stuttering and non-stuttering children exhibited no significant differences in the amount of positive emotional expressions after a positive event (as seen in the example of receiving a desired gift). However, stuttering when compared with non-stuttering children exhibited more negative emotional expressions after a negative event (for example: receiving an undesirable gift). Furthermore, stuttering children were more disfluent after a positive event (receiving a desired gift) than after receiving a disappointing gift. Future research must focus on analysing emotional expression and perception according to the type of emotion, either positive or negative, faced by stuttering children. When it comes to the discussion of younger age, stuttering children are more emotionally reactive to situational requirements than their fluent peers, they are not able to regulate their emotions easily in situations where they became upset or excited, and they do not know how to maintain a calm state of mind. Stuttering children are unable to flexibly control their attention as easily as their normally fluent peers (Karrass et al., 2006).

Emotional control is another challenging issue for a stuttering individual, where it is expected an adequate type and amount of reaction (for example inhibition or inadequate execution), as response of a surrounding situation, In the present study, emotional control abilities are lower in stuttering children (M = 20.1) than in their typical peers (M = 39.4), and within the group, they appear to be higher in female participants than in male participants. Eggers, De Nil, and Van den Bergh (2012) showed that stuttering kids had lower levels of inhibitory control, pointing toward a lowered ability to inhibit negative responses. Ntourou, Conture, and Walden (2013) claimed that stuttering pre-schoolers are more emotionally responsive than their typical peers, and this might lead to the possibility that their regulatory attempts may not be very effective in modulating their emotions. When analysing preschool-age children who stutter, there is a connection between emotion

regulation strategies and stuttered disfluencies. When their attention elevates, or disrupts, they inhibit speech fluency, and then facilitating fluent speech-language production is needed. Eggers De Nil & Van den Bergh (2010) suggest that the association between emotion regulation and disruption in speech fluency could be influenced by various changes of attention processes, relatively unregulated emotional arousal, and/or competing communicative intentions.

In terms of impulsivity, we found that the stuttering children had higher impulsivity (M = 20.1) than non-stuttering peers who scored almost double on impulsivity (M = 42.9): within the group stuttering females had higher impulsivity than stuttering males. These results are contrary to those presented by Embrechts et al. (1998), where children who stutter exhibited higher activity levels and impulsivity, but lower attentional focusing and inhibitory control compared to typical peers.

"Establishing and maintaining healthy peer relationships are considered important elements of psychological adjustment, well-being, and social connectedness" (Bukowski, Newcomb, & Hartup, 1996; Carbery & Buhrmester, 1998; Hartup & Stevens, 1997). Within the context of peer interaction, children learn a wide range of skills and attitudes, and master ways to resolve conflicts, establish healthy friendships (Gottman, 1983), develop social skills such as cooperation and negotiation (Horowitz, Jansson, Ljungberg, & Hedenbro, 2006), and maintain social interactions after conflict (Horowitz et al.).

Peer relations appeared as a lower factor of EI in the ES group (M = 23.4) than in the EC group (M = 38.8). Within the group, it is higher in female participants who stutter than in male counterparts. Observational studies of younger stuttering children interacting with peers in a preschool playground setting (Ladd, Kochenderfer & Coleman, 1997) showed that the majority of peer responses were judged to be neutral/positive. Mostly, peers in the survey showed normal and appropriate responses in the context of play, but results suggest that stuttering did have some social consequences for all participants. Besides negative peer responses, specific social misbehaviour appeared infrequently (Ladd, Kochenderfer & Coleman, 1997). Even if a negative peer response to stuttering occurs rarely, it negatively affects the child's emotional and social well-being. These differences appear in the studies of Ladd, Kochenderfer and Coleman, (1997) and Blood and Blood (2007), where the surrounding factors might significantly influence peer relationships. Blood and Blood (2007) also found a correlation between vulnerability to bullying of school-age children who stutter, as measured by the Life in School Scale (Arora, 1994), and self-reported anxiety, as measured by the Revised Children's Manifest Anxiety Scale.

According to Langevin et al. (2008, 2009), most preschool children face the possibility of psychological or emotional influence on stuttering. The present study has a small number of examinees and the results do not adequately represent the entire population of children with stuttering. But they may be relevant to specific cases and provide directions for future research.

It is interesting to further analyse the type of peer relationships that develop in a school setting, since social relationships determine the popularity of each kid in a group. Langevin et al. (2009) concluded that scholars who stutter were often the less favourite or even neglected by peers. The results of several tests showed that teachers have no difficulty in establishing a relationship with stuttering school-age kids, when it is a matter of affective disposition. But with typical pupils who are unpopular and rejected by classmates, this can be quite overwhelming (Berchiatti, Badeness-Ribera, Ferrer, Longobardi & Gastaldi 2020). Children who stutter also showed high levels of hyperactivity and low academic outcomes.

The cumulative opinion of clinicians and researchers working with people who stutter is that speech disorders can have adverse effects on self-perception and, specifically, on self-esteem (Bajina, 1995; Luper & Mulder, 1964; Shames & Rubin, 1986; Starkweather, Gottwald & Halfond, 1990; Van Riper, 1982). Unfortunately, there is very little data that influence the implementation of regular clinical attention to self-esteem in

stuttering patients (Yovetich, Leschied & Flicht, 2000).

Lower levels of self-esteem were observed in stuttering children (M = 21.7) than those who do not stutter (M = 41.3). Similar results were observed regarding the self-motivation (M = 21.7 vs 40.7). Furthermore, within the group, self-esteem and motivation appeared to be higher in female participants than in male examinees. This is quite a general estimation of self-esteem in the examinees who were part of our study, and these results partially overlap with the research results from Yovetich, Leschied & Flicht, (2000). The authors studied the impact of stuttering on different aspects of self-perception and found that stuttering children had different self-esteem aspects which were close to the typical population of early grade school agers. Academic and parent-related self-esteem scores were higher in stuttering children than in typical school children. These data are contrary to our results, as well as previous findings of researchers and clinicians who work with the stuttering population. There is no direct measure of correlation for stuttering and self-esteem, discounting the importance of verbal communication, as well as the importance of verbal communication since children may not have enough exposure to verbal experiences for their self-esteem to be adversely affected.

Clinical implications on speech therapy practice

When a speech therapy session for the treatment of stuttering is being planned, the speech therapist should analyse the influence of emotions on stuttering (Reichel & St. Louis, 2007). This will help develop holistic treatment goals that can be harmonized with outcomes connected with individual emotional expression, emotional regulation, level of impulsivity, and the improvement of peer relations via managing self-esteem and self-motivation. Some of the recommendations of the Bar-On model (2000) make good suggestions that overlap with the clinical implications of the present study. Children who stutter have low self-esteem and they may feel sad or dependent. Based on a clinical approach, the treatment should improve the ability to accurately self-appraise. Another important point is the level of impulsivity since many children have difficulties managing their emotions during a state of hyper-arousal. While speech therapy is performed, a child should be taught strategies to manage their emotions (Reichel & St. Louis, 2004). The relationships of children who stutter are often limited because of avoidance, humiliation, and fear. Therefore, speech language pathologists should help their clients improve their ability to understand their own emotions and the emotions of others, as well as improve their self-regard and self-actualisation abilities.

CONCLUSION

It is interesting to note that the results of many studies vary from one another when it comes to the practical manifestation of EI factors in the school setting, especially in stuttering children, or between groups of stuttering and non-stuttering children. This leads us to conclude that stuttering as an entity is a complex compound of personal and environmental factors. A contemporary view suggests that the association of emotion, stuttering, and temperament are evident. Furthermore, many emotional factors are manifested under the influence of constitutionally originated emotional processes, which are consistently influenced by the environment.

This preliminary survey examined the EI expression of included examinees and contributed to the assessment of EI factors from the children's personal point of view. Under these circumstances, we can conclude that EI in school-age children who stutter is significantly lower than that observed in their peers. Factors of EI, such as adaptability, affective disposition, emotional expression, emotional perception, emotional regulation, low impulsivity, peer relations, as well as self-esteem and self-motivation appear to be constantly lower in the ES group compared to their EC peers. The statistical difference was significantly higher in the EC group, for example, some factors were even twice as high compared to the ES group.

When taking the sex of the participants into consideration, it was confirmed that female participants expressed a higher level of EI and EI factors, which were expressed as quantitative outcomes, but this relationship was not statistically significant.

It seems challenging to consider the results established by this study that can be used as a baseline for further analysis. Some of the questions to consider are: which of the emotional factors are prone to higher correlation with stuttering intensity, what type of environmental stimuli, either person or situation, contributes to emotional rest or emotional exacerbation, and what type of link is observed between EI, EI factors, and stuttering – is it causative, provocative, or correlative?

Validation of these research results is possible if this preliminary study is continued with a parallel assessment of Emotional quotient (EQ) and its factors in stuttering children. It would also help to understand this subject from the perspective of parents and teachers. Thus, an objective insight of the respective examinees and their EQ must be studied in detail.

Limitations

After considering certain limitations of the present study, we recommend an in-depth survey, where every factor is examined thoroughly by taking into consideration several exclusion and inclusion criteria that are observed daily in the relationships between these groups of children. In addition, a bigger representative example might be able to firmly establish more relevant data on EI in stuttering children and its consequences on everyday social inclusion.

Another limitation is the small sample used in this study and the fact that our sample did not consist of equal numbers of male and female participants.

Nevertheless, such research studies are considered to be a good basis for scientific evidence in the case of school-age children from Kosovo who stutter.

Conflict of interest

The author declares no conflicts of interest.

REFERENCES

American Psychiatric Association. (2000). Stuttering. In M. B. First (Ed.). Diagnostic and statistical manual of mental disorders: DSM-IV-TR (4th ed.) (pp. 67-69). Arlington, VA: American Psychiatric Association

American Psychiatric Association, Diagnostic and Statistical manual of mental disorders. Washington DC: APA 2013, 46-49.

Adigun, O. T. (2020). Perceived quality of life of adolescents who stutter: Does self-efficacy, emotional intelligence, parental socio-economic status and social support play a role? *Gender and Behaviour 18*(2), 15874 – 15883.

Andrews, J. G., & Harris, M. M. (1964). *The syndrome of stuttering: By Gavin Andrews and Mary Harris with Roger Garside and David Kay*. London: The Spastics Society Medical Education and Information Unit in association with Heinemann Medical Books.

Arnold, H. S., Conture, E. G., Key, A. P., & Walden, T. (2011). Emotional reactivity, regulation and childhood stuttering: a behavioral and electrophysiological study. *Journal of communication disorders*, *44*(3), 276–293. https://doi.org/10.1016/j.jcomdis.2010.12.003

Arora, T. (1994). Measuring Bullying with the 'Life in School' checklist. *Education Division, Sheffield University, Pastoral Care in Education, 12*(3), 11–15. doi:10.1080/02643949409470880

American Speech-Language-Hearing Association. (2016) https://www.asha.org/practice-portal/clinical-topics/fluency-disorders/#collapse_8

Bajina, K. (1995). Covert aspects associated with the 'stuttering syndrome': focus on self- esteem. In M. Fawcus (Ed.). *Stuttering: From Theory to Practice.* London: Whurr Publishers Ltd.

Bar-On, R. (1997). *The emotional quotient inventory (EQ-i): A test of emotional intelligence*. Toronto: Multi-Health Systems.

Bar-On, R. (2000). Emotional and social intelligence: Insights from the emotional quotient inventory. In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional intelligence* (363 --388). San Francisco: Jossey-Bass

Berchiatti, M., Badenes-Ribera, L., Ferrer, A., Longobardi, C., Gastaldi, F. G. M. (2020). School adjustment in children who stutter: The quality of the student-teacher relationship, peer relationships, and children's academic and behavioral competence. *Children and Youth Services Review, 116*. https://doi.org/10.1016/j.childyouth.2020.105226

Blood, G. W., & Blood, I. M. (2007). Preliminary study of self-reported experience of physical aggression and bullying of boys who stutter: relation to increased anxiety. *Perceptual and motor skills*, *104*(3 Pt 2), 1060–1066. https://doi.org/10.2466/pms.104.4.1060-1066

Buhr, A. P., Scofield, J., Eyer, J. C., & Walden, T. A. (2017). Cued self-awareness and speech fluency. *Speech, Language and Hearing, 20*(4), 187-195. https://doi.org/10.1080/2050571X.2016.1277455

Bukowski, W. M., Newcomb, A. F., & Hartup, W. W. (Eds.). (1996). *The company they keep: Friendship in childhood and adolescence*. New York: Cambridge University Press.

Carbery J, Buhrmester D. (1998). Friendship and Need Fulfillment During Three Phases of Young Adulthood. *Journal of Social and Personal Relationships*, *15*(3), 393-409. doi:10.1177/0265407598153005

Cavenagh, P., Costelloe, S., Davis, S., & Howell, P. (2015). Characteristics of Young Children Close to the Onset of Stuttering. *Communication Disorders Quarterly, 36*(3), 162–171. https://doi.org/10.1177/1525740114549955

Ciarrochi, J., Chan, A., & Bajgar, J. (2001). Measuring emotional intelligence in adolescents. *Personality and Individual Differences, 31*, 1105- 1119.

Choi, D., Conture, E. G., Walden, T. A., Lambert, W. E., & Tumanova, V. (2013). Behavioral inhibition and childhood stuttering. *Journal of fluency disorders*, *38*(2), 171–183. https://doi.org/10.1016/j.jfludis.2013.03.001

Conture, E. G., Kelly, E. M., Walden, T. A. (2013). Temperament, speech and language: an overview. *Journal of communication disorders*, *46*(2), 125–142. https://doi.org/10.1016/j.jcomdis.2012.11.002

Craig, A., Hancock, K., Tran, Y., Craig, M., Peters, K. (2002). Epidemiology of stuttering in the community across the entire life span. *Journal of speech, language, and hearing research : JSLHR*, *45*(6), 1097–1105. https://doi.org/10.1044/1092-4388(2002/088)

Douglass, J. E., Schwab, M., & Alvarado, J. (2018). Covert Stuttering: Investigation of the Paradigm Shift From Covertly Stuttering to Overtly Stuttering. *American journal of speech-language pathology*, *27*(3S), 1235–1243. https://doi.org/10.1044/2018_AJSLP-ODC11-17-0190

Eggers, K., De Nil, L. F., & Van den Bergh, B. R. (2012). Inhibitory control in childhood stuttering. *Journal of fluency disorders*, *38*(1), 1–13. https://doi.org/10.1016/j.jfludis.2012.10.001

Eggers, K., De Nil, L. F., Van den Bergh, B. R. (2010). Temperament dimensions in stuttering and typically developing children. *Journal of fluency disorders*, *35*(4), 355–372. https://doi.org/10.1016/j.jfludis.2010.10.004

Embrechts M., Ebben H., Franke P., van de Poel C. (1998). *Temperament: A comparison between children who stutter and children who do not stutter*. Bosshardt HG, Yaruss JS, Peters HF, editors. The Netherlands: Nijmegen Press, 557–562.

Fowlie, G. M., Cooper, E. B. (1978). Traits attributed to stuttering and nonstuttering children by their mothers. *Journal of Fluency Disorders, 3*(4), 233- 246. https://doi.org/10.1016/0094-730X(78)90023-2.

Fradelos, E., Marioeleni, A., Charalampos, S. (2015). Children with Stuttering at School. *Journal of Human and Social Science Research HSSR. 5*(1), 1-7. https://www.researchgate.net/publication/268806066_CHILDREN_WITH_STUTTERING_AT_SCHOOL

Goleman, D. (2006). *Social intelligence: The new science of human relationships.* Bantam Books. https://psycnet.apa.org/record/2006-13172-000

Gottman, J. M. (1983). How children become friends. *Monographs of the Society for Research in Child Development, 48*(3, Serial No. 201). https://www.johngottman.net/wp-content/uploads/2011/05/How-Children-Become-Friends.pdf

Haley, J. T. (2009). Stuttering, emotional expression, and masculinity: fighting out words, fighting back tears. PhD (Doctor of Philosophy) thesis. *University of Iowa.* https://doi.org/10.17077/etd.hbmz8q5h

Hartup, W. W., Stevens, N. (1997). Friendships and adaptation in the life course. *Psychological Bulletin, 121*(3), 355-370. https://psycnet.apa.org/buy/1997-03609-002

Horowitz, L., Jansson, L., Ljungberg, T., Hedenbro, M. (2006). Interaction before conflict and conflic resolution in pre-school boys with language impairment. *International Journal of Language & Communication Disorders, 41*(4), 441-466. https://doi.org/10.1080/13682820500292551

Johnson, K. N., Walden, T. A., Conture, E. G., Karrass, J. (2010). Spontaneous regulation of emotions in preschool children who stutter: preliminary findings. *Journal of speech, language, and hearing research : JSLHR*, *53*(6), 1478–1495. https://doi.org/10.1044/1092-4388(2010/08-0150)

Jones, R. M., Conture, E. G., Walden, T. A. (2014). Emotional reactivity and regulation associated with fluent and stuttered utterances of preschool-age children who stutter. *Journal of communication disorders*, *48*, 38–51. https://doi.org/10.1016/j.jcomdis.2014.02.001

Jones, R., Choi, D., Conture, E., Walden, T. (2014). Temperament, emotion, and childhood stuttering. *Seminars in speech and language*, *35*(2), 114–131. https://doi.org/10.1055/s-0034-1371755

Karrass, J., Walden, T. A., Conture, E. G., Graham, C. G., Arnold, H. S., Hartfield, K. N., & Schwenk, K. A. (2006). Relation of emotional reactivity and regulation to childhood stuttering. *Journal of communication disorders*, *39*(6), 402–423. https://doi.org/10.1016/j.jcomdis.2005.12.004

Ladd, G. W., Kochenderfer, B. J., Coleman, C. C. (1997). Classroom peer acceptance, friendship, and victimization: distinct relational systems that contribute uniquely to children's school adjustment?. *Child development*, *68*(6), 1181–1197. https://doi.org/10.1111/j.1467-8624.1997.tb01993.x

Langevin, M., Packman, A., & Onslow, M. (2009). Peer responses to stuttering in the preschool setting. *American journal of speech-language pathology*, *18*(3), 264–276. https://doi.org/10.1044/1058-0360(2009/07-0087)

Langevin, M., Packman, A., Onslow, M. (2008). The impact of stuttering on preschoolers and parents I: Quantitative findings.

Luper, H. L., Mulder, R. L. (1964). *Stuttering-Therapy for Children.* Prentice Hall PTR.

McAllister, J. (2016). Behavioural, emotional and social development of children who stutter. *Journal of fluency disorders, 50*, 23–32. https://doi.org/10.1016/j.jfludis.2016.09.003

Ntourou, K., Conture, E. G., & Walden, T. A. (2013). Emotional reactivity and regulation in preschool-age children who stutter. *Journal of fluency disorders*, *38*(3), 260–274. https://doi.org/10.1016/j.jfludis.2013.06.002.

Prasse, J. E., & Kikano, G. E. (2008). Stuttering: an overview. *American family physician*, *77*(9), 1271–1276.

Reichel, I., & St. Louis, K. O. (2007). *Mitigating Negative Stereotyping of Stuttering in a Fluency Disorders Class.* In J. Au-Yeung & M. Leahy (Eds.), *Research, treatment, and self-help in fluency disorders: New horizons: Proceedings of the Fifth World Congress on Fluency Disorders* (pp. 236-244). International Fluency Association.

Reichel, I., & St Louis, K. O. (2004). The effects of emotional intelligence training in fluency disorders classes. *Fluency disorders: theory, research, treatment, and self-help,* 474-481.

Schutte, N.S., Malouff, J., Simunek, M., Hollander, S., & McKenley, J. (2002). Characteristic emotional intelligence and emotional wellbeing. *Cognition and Emotion, 16,* 769-785.

Serrat, O. (2017). Understanding and developing emotional intelligence. In *Knowledge solutions*, 329-339. Springer, Singapore.

Shames, H., & Rubin, R. (1986). *Stuttering then and now. Columbus, OH*. Merrill Publishing Co.

Shafiei, B., Mokhtari, F. (2020). comparison of emotional intelligence in adolescents stutterers and non-stutterers in Isfahan. *Jundishapur Scientific Medical Journal*, 18(6), 649-662. doi: 10.22118/jsmj.2020.189925.1860

Smith, S. A., Choo, A. L., & Foster, M. E. (2021). Latent Class Analysis Reveals Distinct Groups Based on Executive Function and Socioemotional Traits, Developmental Conditions, and Stuttering: A Population Study. *Child psychiatry and human development*. https://doi.org/10.1007/s10578-021-01160-3

Smith, Anne & Weber, Christine. (2017). How Stuttering Develops: The Multifactorial Dynamic Pathways Theory. Journal of speech, language, and hearing research : JSLHR. 60. 1-23. 10.1044/2017_JSLHR-S-16-0343.

Starkweather, C. W., Gottwald, S. R., & Halfond, M. M. (1990). *Stuttering prevention: A clinical method*. Englewood Cliffs, N.J: Prentice Hall.

Taylor, G. J., Parker, J. D., & Bagby, R. M. (1999). Emotional intelligence and the emotional brain: points of convergence and implications for psychoanalysis. *The Journal of the American Academy of Psychoanalysis*, *27*(3), 339–354. https://doi.org/10.1521/jaap.1.1999.27.3.339

Treleaven, S., Buhr A., Kucharski, B., Coalson, G. (2018). Daily Emotions and Stuttering: What Is the Relation? *Clin Arch Commun Disord, 3*(3): 246-252. https://doi.org/10.21849/cacd.2018.00444

Tumanova, V., Wilder, B., Gregoire, J., Baratta, M., & Razza, R. (2020). Emotional Reactivity and Regulation in Preschool-Age Children Who Do and Do Not Stutter: Evidence From Autonomic Nervous System Measures. *Frontiers in human neuroscience*, *14*(600790), 558. https://doi.org/10.3389/fnhum.2020.600790

Wakaba, Y. (1998). Research on temperament of children who stutter with early onset. In:Healey, E. C., Peters, H. F. M., (Ed.): Stuttering*: Proceedings of the Second World Congress on Fluency Disorders,* 84 –87. University Press Nijmegen; Nijmegen, The Netherlands.

Yairi, E., & Ambrose, N. (2013). Epidemiology of stuttering: 21st century advances. *Journal of fluency disorders*, *38*(2), 66–87. https://doi.org/10.1016/j.jfludis.2012.11.002

Yovetich, W., Leschied, A., & Flicht, J. (2000). Self-esteem of school-age children who stutter. *Journal of Fluency Disorders, 25*, 143-153. DOI:10.1016/S0094-730X(00)00031-0

Goldman, A. I. (2006). *Simulating minds: The philosophy, psychology, and neuroscience of mindreading*. Oxford University Press on Demand.

Shafiei, B., Mokhtari, F. (2020). Comparison of emotional intelligence in adolescent stutterers and non-stutterers in Isfahan. *Jundishapur Scientific Medical Journal, 18* (6), 649-662. Doi: 10.22118 / jsmj.2020.189925. 1860

Mavroveli, S., & Petrides, K. V. (2009). Trait emotional intelligence questionnaire-Child short form.

Sari, H., & Gökdag, H. (2017). An Analysis of Difficulties of Children with Stuttering Enrolled in Turkish Primary Inclusive Classes Who Encounter in Academic and Social Activities: From Their Perspectives. *Journal of Education and Practice*, *8*(2), 31-43.

Haley, J.T. (2009). Stuttering, emotional expression, and masculinity: fighting out words, fighting back tears, https://doi.org/10.17077/etd.hbmz8q5h

Howell, P. (2004). Assessment of some contemporary theories of stuttering that apply to spontaneous speech. *Contemporary issues in communication science and disorders*, *31*(Spring), 123-140.

Van Riper, C. (1982). *The nature of stuttering.* 2nd edition. Englewood Cliffs, NJ: Prentice Hall.

Yairi, E., & Ambrose, N.G. (2013). Epidemiology of stuttering: 21st century advances. *Journal of fluency disorders, 38 2*, 66-87.