STUDIA DOCTORALIA
PSYCHOLOGY AND EDUCATIONAL SCIENCE

UNIVERSITY OF BUCHAREST
VIRTUTE ET SAPIENTIA

Social Competence and Self-Esteem in Preschool Children with CAS (Childhood Apraxia of Speech)

Dana Elena Ciobanu
University of Bucharest

ARTICLE INFO

Article history
Received 02-January-2023
Accepted 24-April-2023
Available online 01-May-2023

This article should be cited as: Ciobanu, D. E. (2023). Social Competence and Self-Esteem in Preschool Children with CAS (Childhood Apraxia of Speech). *Studia Doctoralia. Psychology and Educational Science, 14(1),* 32-45. https://doi.org/10.47040/sdpsych.v14i1.159

This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

Corresponding author at: University of Bucharest, Department of Psychology, 90 Panduri Av, Bucharest, RO.
Tel.: +40 (0) 31-425.34.45
E-mail address: dana.elena.ciobanu@drd.unibuc.ro

ABSTRACT

The aim of the present study is to analyze the relationships between language difficulties, self-esteem and social competence in children with (Childhood Apraxia of Speech) CAS. Receptive language, expressive language and pragmatic language, self-esteem and four dimensions of social competence were analyzed, respectively emotional problems, conduct problems, peer problems and prosocial behavior. The participants were 64 children aged between 5 and 6, M = 5.44, SD = .50, of which 45 boys (70%) and 19 girls (30%) and their mothers, aged between 26 and 45 years, M = 35.34, SD = 5.01. To measure language difficulties, three tests based on cards and specific tasks were used, social competence was measured with Strengths and Difficulties Questionnaire (SDQ-Rom) (Goodman, 1997), Romanian version, and self-esteem was measured with four items from Self-Perception Profile for Children (Harter, 2012). The results showed that receptive language is negatively associated with self-esteem and emotional problems, expressive language is negatively associated with emotional problems, conduct problems and peer problems, pragmatic language is negatively associated with emotional problems and peer problems. Practical implications and ways to support children with CAS in improving social competence and self-esteem were discussed.

Keywords: *childhood apraxia of speech, children, self-esteem, social competence*

1. INTRODUCTION

Childhood apraxia of speech (CAS) is a neurological language disorder that affects the precision and consistency of movements required to produce speech in the absence of a neuromuscular deficit (ASHA, 2007). Difficulties are hypothesized to arise as a result of a dysregulation of planning and programming of the spatiotemporal aspects of speech movement sequences (Duffy, 2013; Grigos, Miss, & Lu, 2015) which causes errors in the pronunciation of

sounds, variability and inconsistencies of segmental and suprasegmental aspects of speech (ASHA, 2007; Iuzzini, 2012). Because of the language difficulties it causes, CAS also brings emotional or behavioral changes in children's lives. This study aims to analyze the relationships between language difficulties of children with CAS, their emotional competence and self-esteem, as essential variables for their good social functioning.

Social competence

Psychologically, social competence is defined as a multifaceted personality trait such as cooperation, assertiveness, empathy, trust, respect and tolerance for others, conscientiousness, self-control, and emotional intelligence. From a pedagogical perspective, it includes aspects related to social learning, the ability to adapt to different learning contexts and the capacity for continuous development. In short, social competence is associated with the idea of social and contextual adaptive behavior and continuous personal development (Allemand et al., 2014).

Specialists have offered different definitions of social competence, so various operationalizations have been suggested. Weinert (2001) considers social competence as necessary prerequisites, available to an individual or group of individuals, in order to successfully respond to complex demands. In addition to cognitive competencies, Weinert also identifies other competencies, such as motivational, moral and volitional ones. Argyle et al. (1985) describe social competence as a relational process. Kanning (2009) distinguishes three major approaches to social skills: in clinical psychology, in developmental psychology, and in organizational psychology. Clinical psychology considers social competence as the ability to express personal interests or pursue personal goals, not taking into account interaction partners. Developmental psychology focuses on the extent to which individuals adapt to the environment.

According to a meta-analysis by Calderella and Merell (1997), there are five dimensions necessary for the acquisition and development of social skills in the educational environment: 1. The ability to establish positive relationships in the group (social orientation); 2. The ability to cooperate, accept social rules and constructively manage criticism (compliance); 3. Self-management skills (self-control); 4. Academic skills, which include relationships between students and teachers and relationships between students and colleagues, which also involve following directions; 5. Assertiveness, which involves the ability to initiate and maintain a dialogue or friendship.

Kolb and Hanley-Maxwell (2003) added the meaning of communication and problem solving/decision making to the above model. Language quality therefore becomes an essential condition for the development of social competence. Conversely, language deficits can inhibit the development of social competence, leading to rejection from groups. Thus, language problems reduce integration and opportunities for social participation, while adequate language is an important resource in establishing social relationships and acquiring social skills.

The relationship between social competence and language

Early childhood is a critical period for the development of language and social skills, which develop in parallel (Barnett et al., 2012). Specialists are of the opinion that language gives the child the necessary tools for social interactions, being extremely important in the development of social skills (Longobardi et al., 2016; Longoria et al., 2008). Social competence is reflected in the effectiveness of interactions and is conceptualized as the outcome of behaviors that cover children's short- and long-term developmental needs (Rose-Krasnor, 1997). For preschool or elementary school children, this means organizing social behaviors to form and maintain positive relationships with peers, which is an essential developmental goal at these ages (Denham et al., 2003).

Moreover, social competence is seen as a transactional process in which the child's abilities and skills interact with the environment (Rose-Krasnor, 1997). The effectiveness of child's interactions depends largely on the context in which the interactions take place and the child's understanding of those contexts. When children enter school this understanding is relatively difficult, the school classroom representing a completely new social context in which children must learn to interact appropriately and effectively with peers of the same age, in larger groups, away from the protection of family or environment from kindergarten (DiDonato, 2014). In this context, language is the most important means to achieve this goal, which is why most definitions of social competence also include references to social skills (Rose et al., 2018).

Communication skills are often conceptualized in two domains: receptive skills and expressive skills, both of which enable the child to understand and respond appropriately to others in order to establish positive mutual relationships and act with social competence. Through receptive language, children manage to understand and infer the meaning of spoken messages, which contributes to the improvement of social skills and implicitly to more meaningful interactions (Rose et al., 2018). These interactions bring more opportunities to learn about others' perspectives and experience positive exchanges with positive impacts on social understanding. As a result, children will be more liked by their peers, which will bring them even more social interactions. Through expressive language, children express their thoughts and needs during social interactions, minimizing misunderstandings, reducing frustration and conflict, and enhancing social interactions. Consequently, children with increased expressive language skills may

become more popular among peers, while children lacking these skills are more likely to be ignored (Gertner et al., 1994).

When children experience rejection from others, they may become withdrawn, stop trying to approach peers, preferring interactions with adults who are more available and able to understand their language difficulties (Gertner et al, 1994). However, this compensatory strategy causes these children to be seen as less socially competent. A series of studies that analyzed children with language disorders showed that they are less receptive, less integrated in the classroom, less popular, have difficulties in performing social tasks, such as initiating and maintaining a conversation (von Grunigen et al., 2010).

Given its mutual interdependence with language, social competence must be conceptualized in the context of language, and language must be analyzed in social context (Gallagher, 1993). This statement is consistent with sociocultural theory (Vâgotski et al., 1978) which claims that language development occurs in parallel with social development and occurs in a specific social and cultural context. Empirical studies have shown that both receptive and expressive language are significant predictors of social competence. Gertner et al. (1994) showed that receptive language is the strongest predictor of social acceptance, as measured by peer nominations. Children with increased receptive skills were found to be more socially accepted than their peers with lower skills. Menting et al. (2011) reported similar results when examining children's receptive language in association with externalizing behavior. Children with difficulty understanding verbal information reported more problems with peers and more externalizing behaviors.

Regarding expressive language, Girard et al. (2016) showed that increased skills at age three are associated with prosocial behavior at age five. Other studies that looked at composite scores of receptive and expressive language or standardized tests assessing the level of language development showed similar results, low language skills being associated with inappropriate behaviors, poor peer relationships, low prosocial behavior (Cassidy et al., 2003; Longoria et al., 2008; Stowe et al., 2000).

Effects of CAS on communication and social competence

Differences in the production of speech sounds in children with CAS are observed early in development. In a retrospective study examining video recordings of children from birth to two years of age, Overby and Caspari (2015) noted that children with CAS used 3–4 times fewer sounds and 2–3 times times fewer consonants than children with typical development. Even at older ages, children with CAS show multiple speech errors. In a comparative study of children with and without CAS, aged between three and seven years, it was observed that in children with CAS the accuracy of production of target sounds improves with increasing number of trials, and the stability of articulatory movements decreases with increasing phonological task length (Grigos et al., 2015). Given the pervasive effects of CAS on speech production, speech intelligibility is considered one of the most acute consequences (ASHA, 2007; Hall, 2000). Also, CAS can have effects on language level, with difficulties being reported in all aspects of language (form, content, use) (Lucas, Weiss, & Hall, 1993). Thus, receptive language skills are generally higher than expressive language skills, but both present difficulties, and phonological awareness skills are often impaired. In addition, difficulties with writing and pronunciation are frequently reported (Lewis, Freebairn, & Taylor, 2000), with children with CAS often unable to learn to write.

Regarding the social consequences of children with language disorders, studies show that children and adolescents with communication problems have difficulties in interacting with peers and friends, with long-term effects on their social functioning (Durkin & Conti-Ramsden, 2007). CAS can affect pragmatic skills, self-esteem, friendship formation, school adjustment (Anderson & Felsenfeld, 2003; Crichton-Smith, 2002). Because of poor verbal production and poor language skills, children with CAS are prone to adverse social consequences.

Studies have shown that there is an association between children's ability to express themselves and successful participation in social interactions (Aro et al., 2014; Hadley & Rice, 1991). Incorrect verbalization poses a threat to successful social communication, with poor speech intelligibility and grammatical errors being found to be the strongest predictors of failed interactions between children. Thus, CAS can lead to bullying, poor social interactions, and a general decrease in life satisfaction (Hitchcock, Harel, & Byun, 2015). A lietrature review that analyzed articles on the relationship between childhood language disorders and activity or participation limitation showed that these disorders correlate with low levels of forming and maintaining interpersonal relationships (McCormack et al., 2009).

Repeated failure to develop interpersonal relationships will discourage the child with CAS from initiating further interactions with peers, and this reduced interaction leads to a tendency to attempt interactions with adults instead (Hadley & Rice, 1991). A vicious circle is thus created, as interactions will decrease in intensity and frequency, children with CAS will be rejected or ignored by their peers and less willing to respond to others' attempts to interact. Limited social interactions reduce opportunities for children with CAS to practice social communication skills. Quality social relationships presuppose communication, and in its absence, or if it cannot occur adequately, reciprocity between peers does not occur, putting the child with CAS in

a disadvantaged situation. Longitudinal studies have shown that this phenomenon has long-term negative consequences, with adolescents with CAS reporting less satisfying social relationships than those without CAS (Lewis et al., 2016).

There are studies that report social communication problems among children with CAS (Teverovsky et al., 2009), but they are not very numerous. The results of the studies generally show that the difficulties encountered in the production of sounds limit the social interactions of children with CAS, which affects the proper development of pragmatic language (another vicious circle). These problems have been called by specialists "social communication difficulties" and include insufficient understanding of verbal and non-verbal messages, as well as their ineffective production. Children with CAS have also difficulties in the production of non-verbal messages, through the inappropriateness of intonation changes, caused by prosody problems. Conversation is the context in which pragmatic rules apply, and children with CAS have demonstrated various difficulties in conversational interactions throughout their developmental years (Lucas et al., 1993; Teverovsky et al., 2009). Researchers believe that because of the disrupted language profile, children with CAS may experience difficulties with social skills, even in adolescence (Beitchman et al., 1996).

Effects on self-esteem

Language disorders can place the child with CAS in situations of risk of decreased self-image and self-esteem. Prizant and Meyer (1993) consider that socioemotional development that occurs in childhood constitutes the process of self-concept formation and emotional well-being, is influenced by the development of language and communication, due to the common context in which they occur. So, disturbances in the level of communication development in childhood can threaten the development of self-image. This can later lead to social exclusion and rejection by other children (Gordon-Brannan & Weiss, 2007). Specialists believe that because articulation is so visible and audible, it predisposes to judgments from others and implicitly to negative assumptions about the general abilities of children with CAS (Hitchcock et al., 2015).

Effects on friendships

For the development of positive social interactions, and implicitly friendships, satisfactory communication skills are necessary. Children with CAS have the disadvantage of not being fully understood during interactions with other children, so they tend to be rejected. Craig (1993) observed that children with CAS experience reduced opportunities to interact with peers, and the few interactions they do have are of low quality. The low quantity and quality of these interactions underlines the fact that these children are more difficult to be accepted by their peers. Gertner, Rice and Hadley (1994) showed that the low level of communication skills of children with CAS is a significant predictor of status among peers, in the sense that they are less popular and liked by others, being less equipped with the linguistic "tools" needed to form friendships.

Self-esteem in children with language difficulties

Self-esteem is a subjective construct regarding how the individual perceives himself and is built on the basis of evaluations of his own abilities and by internalizing the evaluations of others (Jerome et al., 2002). Changes in self-esteem occur as a result of interpreting the judgments of others. Social interactions, such as receiving negative comments or rejection, increase the likelihood of low self-esteem (Lindsay et al., 2002).

Leary et al. (1995) presented the sociometric hypothesis in an attempt to explain why rejection increases the chances of low self-esteem. The hypothesis claims that self-esteem acts as a sociometer that monitors the extent to which people are excluded or included by others, which directs behavior in the direction of decreasing the chances of being rejected. Leary and his colleagues conducted five studies to examine this hypothesis and found that participants' perceptions of their chances of being included in a group correlated significantly with their level of self-esteem. Those who believed they were excluded on purpose reported lower self-esteem, and those who believed they were excluded accidentally reported higher self-esteem.

Cooley (1964, 2003) introduced the term "looking-glass self" in reference to the social dependence that individuals rely on to formulate their beliefs about themselves. According to Cooley, attitudes toward self are strongly influenced by the attitudes that individuals imagine others have toward them. This process makes the individual become a social self that internalizes the attitudes reflected by others. Thus, children, whether or not they have a speech disorder, can misinterpret how their peers treat them, which can lead to lower self-esteem.

Children with language disorders experience multiple difficulties, not only in effective communication, but also in their perception of themselves. During the preschool years, children interact and begin to build a miniature social life that will form the pattern for later interactions. Children's relation to themselves and others occurs naturally, depending on the context in which they carry out their interactions, but also according to their individual characteristics, as they can perceive them at preschool age. The multiple problems manifested by children with language disorders have been mentioned in numerous studies in the specialized literature, starting from a very young age (Beitchman et al., 1996; Dockrell & Lindsay, 1998; Stothard et al., 1998) . The process of comparison with others was explained by Festinger (1954) in his Social Comparison Theory, which states that people are motivated to evaluate their abilities

and opinions, and when they do not have an objective standard to compare themselves to, they compare themselves to others people. This process usually consists of comparison with those of the same age and ability. Children compare their abilities, including communication skills, with those of other children, and if they believe that theirs are inferior, a decrease in self-esteem will occur (Butler, 1990).

The association between speech disorders and social, emotional and behavioral development has been reported in various studies, focusing on self-image and self-esteem of affected children (Botting & Conti-Ramsden, 2000). These problems that children with language disorders face seem to arise from the discrepancy between the self-image and the ideal self, more precisely between what the child thinks about himself and what he would like to be. Harter (1999) argues that self-esteem is influenced by interactions with others. The behaviors of others affect the child's self-perception, with negative feedback or rejection being risk factors for low self-esteem. Harter and Pike (1984) show that 4–7-year-old children are able to make accurate judgments about their own competences and the behaviors they display. Children with language disorders typically have lower levels of self-esteem because poor communication skills directly affect perceived competence. In addition, incorrect or incoherent speech may cause other children to make negative evaluations of children with speech difficulties. On the other hand, speech-impaired children cannot engage as much in social interactions to somehow negotiate their skills (other than speech), so it is possible that those skills they own to go unnoticed by others. Children with speech difficulties evaluate themselves negatively compared to their peers, including social skills. This leads to a change in the behavior of colleagues, more precisely to a reduced social acceptance. At the same time, children with language impairments cannot make themselves understood, cannot support their opinions and cannot influence their peers without difficulties (Lindsey et al., 2002).

Hadley and Rice (1991) found that preschoolers with language disorders were more likely to be ignored by their peers and tended to respond less when a peer initiated a conversation with them. According to the sociometric hypothesis, the tendency not to respond to colleagues' invitations to talk is a defense mechanism used to decrease the likelihood of being rejected again.

The present study

Taking into account the above, we aim to verify the extent to which language impairment in children with CAS is associated with low levels of social competence and self-esteem. In this regard, we will analyze the level of receptive, expressive and pragmatic language, in relation to social competence, translated through emotional problems, conduct problems, problems with colleagues and prosocial behavior and self-esteem. We establish the following hypotheses:

H1. *Social competence mediates the relationship between language difficulties and self-esteem of children with CAS.*

H1a. *Receptive language, expressive language and pragmatic language are significant positive predictors of self-esteem.*

H1b. *Receptive language, expressive language, and pragmatic language are significant negative predictors of social competence problems (emotional problems, conduct problems, peer problems).*

H1c. *Receptive language, expressive language and pragmatic language are significant positive predictors of prosocial behavior as a positive aspect of social competence.*

H1d. *Problems related to social competence (emotional problems, conduct problems, peer problems) are significant negative predictors of self-esteem*.

H1e. *Prosocial behavior as a positive aspect of social competence is a significant positive predictor of self-esteem*.

.

2. METHODOLOGY

Participants and procedure

A number of 64 children diagnosed with CAS participated in the present study, of which 45 boys (70%) and 19 girls (30%), aged between 5 and 6 years, M = 5.44, SD = .50 and their mothers, aged between 26 and 45 years, M = 35.34, SD = 5.01. Regarding family type, 13 come from single-parent families (20%) and 51 from two-parent families (80%). Regarding the mothers' education level, 20 have secondary education (31%) and 44 have higher education (69%). Taking into account the regulations in force, no other socio-demographic data could be obtained regarding the children's families.

The children are enrolled at kindergartens within Argeș county and participate in speech therapy sessions carried out in the office of the author of the study. All children were diagnosed with apraxia of speech or at risk of apraxia of speech by a pediatric neurologist. Their parents were contacted and informed about the present study, being invited to participate by completing a set of questionnaires related to their children's behavior. Out of 92 parents, only 64 agreed to participate in the study (70%). Following acceptance, parents were asked to complete the informed consent and agreement to the processing of personal data, as well as the socio-demographic data sheet. During the

following week, the parents completed the questionnaire regarding the children's behavior. Research ethics rules were followed, participants were not rewarded in any way, but parents were provided with short evaluation reports of the children after the interpretation of the test results.

This study has a crossectional, descriptive and correlational design. The data were organized in excel tables, then transferred and processed through the statistical analysis program IBM SPSS 24 (IBM Corp, 2016). The mediation analysis was performed using the medmod (GLM) module from Jamovi (The Jamovi project, 2023).

Instruments

Sociodemographic data were collected through a list of questions regarding the child's gender and age, the type of family, as well as the mother's age and education level. These were completed by the mothers.

Language difficulties were measured by means of three tests, constructed by the author of the study, using the usual materials in the office and the assessment sheets of language disorders.

a) Receptive language. Five boards with black and white images were used to assess receptive language. Each board includes three different drawings, which represent: objects (identifying and choosing the image of the objects and naming the nouns), actions (identifying and choosing the action and naming the verbs), phrases of the noun and adjective type (identifying and choosing the characters with the required attributes and explaining them), simple sentences (choosing the pictures described in the sentence and explaining them), spatial relations (identifying and choosing the correct pictures and explaining them). For task 1 - objects, the instruction is as follows: "I name an object, and you have to show it on the board". The child is presented with the first board that includes three different objects: a ball, a flower, a bike. If the child is asked to point to the bike, he must put his finger on the bike. For task 2 – actions, the instruction is as follows: "I name an action and you have to show it on the board". The child is presented with the second board which includes three different actions: a child running, a boy drawing, a little girl swinging. If the child is asked to show the picture to the drawing boy, he must put his finger on the picture. For task 3 – noun and adjective phrases, the instruction is as follows: "I'm going to show you a picture of a bunny that is a certain way, and you have to show it on the board." The child is presented with the third board which contains three bunnies with different features: one is green and has ears up, one is red and has ears down, and the third is yellow and has an orange bow on neck. If the child is asked to point to the yellow bunny, he must put his finger on that picture. For task 4 – simple sentences, the instruction is as follows: "I'm going to show you a picture that represents an event, and you have to show it on the board." The child is presented with the fourth board which includes three simple scenes: people and children with umbrellas walking through the rain, children sledding in the snow, children sunbathing by the sea. If the child is asked to point to the children who are on vacation at the sea, he must put his finger on that picture. For task 5 – spatial relations, the instruction is as follows: "I am going to show you a picture that represents an apple positioned on top of a grape". The child is presented with the fifth board which includes three drawings: an apple positioned above a grape, below and diagonally. If the child is asked to show the apple that is positioned above the grape, he will have to indicate the correct picture.

b) Expressive language. To assess expressive language, the child was presented with a complex board depicting a mountain setting with fir trees, squirrels, birds, two children, and two adults hiking along a stream. The child is asked to describe the picture and formulate five main ideas.

c) Pragmatic language. For the assessment of pragmatic language, the child was observed during an hour interacting with children of the same age. The observed indicators were: the polite request ("please, give me the Lego box"), the choices ("I don't want to play with the ball"), the description of a desired object (when asked "what new toys would you like you find it in the cabinet?" to give answers like "I want to find a construction game with blue and red cubes"), expressing a personal need ("I want to go to the toilet"), asking for help ("I can't open the box with balls, help me?").

All 15 tasks were scored 1 if correctly completed and 0 if not completed or incompletely or incorrectly completed. Scores can range from 0 to 5, where 0 – low level and 5 – high level of language use. The evaluation was carried out by the author of the study in collaboration with two other speech therapists from the office, during two weeks.

Social competence was measured with the Strengths and Difficulties Questionnaire (SDQ-Rom) (Goodman, 1997), Romanian version. The instrument includes 25 items, five for each of the following five dimensions: emotional problems, conduct problems, hyperactivity/inattention, problems with peers, prosocial behavior. In the present study we eliminated the hyperactivity/inattention dimension. Scores are given on a three-point Likert scale, where 0 – not true, 1 – more or less true, 2 – definitely true. Examples of items: "Takes other people's feelings into account", "Is bullied by other children", "Has many fears, gets scared easily". Scores range between 0 and 10. For the dimensions emotional problems, conduct problems, problems with colleagues, high scores indicate more pronounced problems, and for the prosocial behavior dimension, high scores indicate a higher level.

Self-esteem was measured with Self-Perception Profile for Children (Harter, 2012). The instrument includes 36 items, six for each specific domain (social competence,

scholastic competence, athletic competence, physical appearance and conduct) and separately for self-esteem. The items were worded to adapt to the children's level of understanding. Sample items: “Some children are not happy about the way their lives are, while other children are happy”, “Some children are happy to be the way they are, others are not happy”. According to the instructions of the author of the questionnaire, the child first chooses which category he falls into (of happy or sad children), then provides a level of intensity (very true/false or slightly true/false). Thus, the answers are given on a four-point Likert scale, where 0 – very untrue and 3 very true. The scores can range from 0 to 18, and high scores indicate high self-esteem.

3. RESULTS

Descriptive statistics

Table 1. *Descriptive statistics*

	M	SD	α	LR	LEX	LPR	PREM	PRCO	PRCOL	PRCP	SS
LR	3.64	1.15	.72	1							
LEX	2.81	1.30	.74	.56**	1						
LPR	3.38	1.08	.75	.61**	.55**	1					
PREM	5.06	2.64	.69	-.67**	-.63**	-.67**	1				
PRCO	5.73	2.43	.67	-.49**	-.58**	-.42**	.72**	1			
PRCOL	6.14	2.56	.70	-.42**	-.59**	-.69**	.53**	.36**	1		
PRCP	5.84	2.26	.70	.41**	.46**	.37**	-.46**	-.46**	-.21	1	
SS	7.14	2.56	.85	.42**	.63**	.56**	-.73**	-.60**	-.66**	.59**	1

**. p < .01, *. p < .05.
LR – Receptive language, LEX – Expressive language, LPR – Pragmatic language, PREM – Emotional problems, PRCO – Conduct problems, PRCOL – Peer problems, PRCP – Prosocial behavior, SS – Self-esteem

It can be seen that the scores obtained by the participants are relatively high for receptive language, M = 3.64, SD = 1.15, are low for expressive language, M = 2.81, SD = 1.30, and moderate for pragmatic language, M = 3.38, SD = 1.08. Regarding social competence, the scores are moderate for emotional problems, M = 5.06, SD = 2.64, high for conduct problems, M = 5.73, SD = 2.43, significantly higher for problems with colleagues, M = 6.14, SD = 2.56, and high for prosocial behavior, M = 5.84, SD = 2.26. Self-esteem has low scores, M = 7.14, SD = 2.56.

Skewness and kurtosis range between (-2, 2), which reflects a normal data distribution.

Hypoteses testing

In order to test the hypotheses, a multiple mediation analysis was performed, with the three types of language (receptive, expressive and pragmatic) as predictors, self-esteem as the dependent variable and,the four components of social competence as mediating variables (emotional problems, conduct problems, peer problems, prosocial behavior).

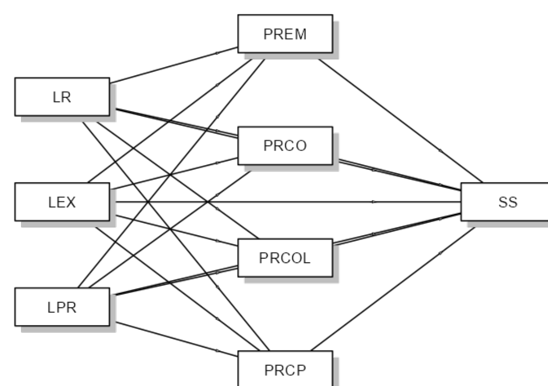

Figure 1
Conceptual diagram of multiple mediation analysis

Table 2. *Multiple mediation analysis for social competence in the relationship between language difficulties and self-esteem in children with CAS*

Type	Effect	Estimate	SE	95% C.I. Lower	95% C.I. Upper	β	z	p
Indirect	LR ⇒ PREM ⇒ SS	.30	.13	.04	.56	.14	2.29	.02
	LR ⇒ PRCO ⇒ SS	.03	.05	-.07	.13	.01	.60	.55
	LR ⇒ PRCOL ⇒ SS	-.12	.11	-.35	.10	-.05	-1.07	.29
	LR ⇒ PRCP ⇒ SS	.17	.12	-.07	.41	.08	1.41	.16
	LEX ⇒ PREM ⇒ SS	.22	.11	.01	.43	.11	2.09	.04
	LEX ⇒ PRCO ⇒ SS	.05	.08	-.11	.21	.03	.63	.53
	LEX ⇒ PRCOL ⇒ SS	.31	.11	.09	.53	.16	2.71	.01
	LEX ⇒ PRCP ⇒ SS	.19	.11	-.02	.39	.10	1.80	.07
	LPR ⇒ PREM ⇒ SS	.31	.14	.04	.58	.13	2.27	.02
	LPR ⇒ PRCO ⇒ SS	.01	.02	-.04	.05	.00	.30	.77
	LPR ⇒ PRCOL ⇒ SS	.60	.17	.26	.94	.25	3.49	.00
	LPR ⇒ PRCP ⇒ SS	.07	.12	-.18	.31	.03	.53	.60
Component	LR ⇒ PREM	-.77	.27	-1.30	-.24	-.32	-2.86	.00
	PREM ⇒ SS	-.39	.10	-.59	-.19	-.43	-3.83	.00
	LR ⇒ PRCO	-.48	.28	-1.03	.08	-.22	-1.68	.09
	PRCO ⇒ SS	-.06	.10	-.26	.13	-.06	-.64	.52
	LR ⇒ PRCOL	.30	.27	-.23	.82	.12	1.10	.27
	PRCOL ⇒ SS	-.41	.09	-.58	-.25	-.44	-4.80	.00
	LR ⇒ PRCP	.45	.31	-.15	1.06	.22	1.47	.14
	PRCP ⇒ SS	.38	.08	.23	.53	.35	4.86	.00
	LEX ⇒ PREM	-.56	.23	-1.00	-.12	-.26	-2.49	.01
	LEX ⇒ PRCO	-.80	.24	-1.26	-.33	-.42	-3.36	.00
	LEX ⇒ PRCOL	-.74	.23	-1.19	-.30	-.35	-3.29	.00
	LEX ⇒ PRCP	.50	.26	-.01	1.00	.27	1.93	.05
	LPR ⇒ PREM	-.80	.28	-1.35	-.24	-.31	-2.81	.01
	LPR ⇒ PRCO	-.10	.30	-.69	.48	-.04	-.34	.74
	LPR ⇒ PRCOL	-1.45	.28	-2.01	-.89	-.57	-5.09	.00
	LPR ⇒ PRCP	.17	.32	-.46	.81	.08	.53	.60
Direct	LR ⇒ SS	-.50	.20	-.88	-.11	-.22	-2.51	.01
	LEX ⇒ SS	.16	.18	-.19	.52	.08	.89	.37
	LPR ⇒ SS	-.19	.24	-.66	.28	-.08	-.78	.44
Total	LR ⇒ SS	-.12	.28	-.66	.43	-.05	-.42	.68
	LEX ⇒ SS	.93	.23	.47	1.38	.47	3.99	.00
	LPR ⇒ SS	.80	.29	.22	1.37	.34	2.72	.01

LR – Receptive language, LEX – Expressive language, LPR – Pragmatic language, PREM – Emotional problems, PRCO – Conduct problems, PRCOL – Peer problems, PRCP – Prosocial behavior, SS – Self-esteem

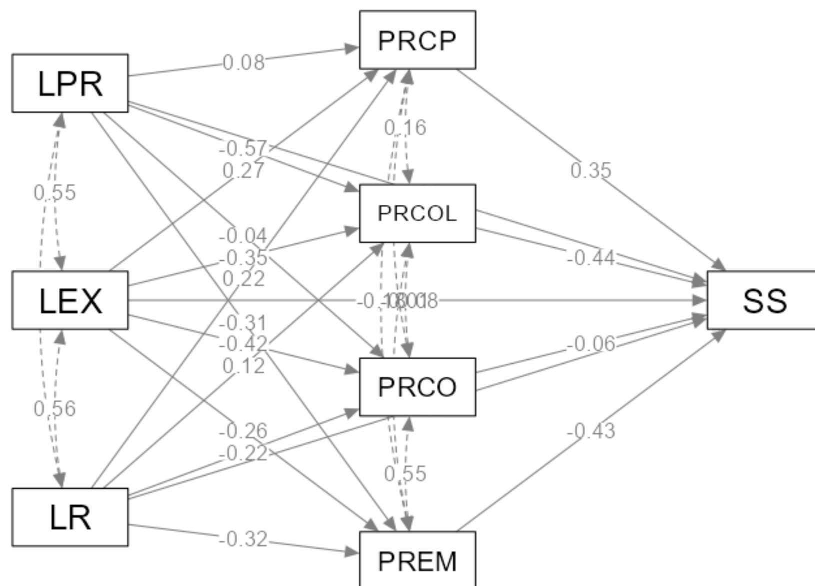

Figure 2

Mediation analysis, social competence in the relationship between language difficulties and self-esteem

Social competence as a mediator of the relationship between language difficulties and self-esteem

Emotional problems mediate the relationship between receptive language and self-esteem, $b = .30$, CI95%(.04, .56), $\beta = .14$, $z = 2.29$, $p < .05$. A high level of receptive language is associated with a decrease in emotional problems, which in turn is associated with a decrease in self-esteem, the total effect of receptive language on self-esteem being still negative, but weaker and statistically insignificant, $b = -.12$, CI95%(-.66, .43), $\beta = -.05$, $z = -.42$, $p = .68$.

Emotional problems mediate the relationship between expressive language and self-esteem, $b = .22$, CI95%(.01, .43), $\beta = .11$, $z = 2.09$, $p < .05$; also, peer problems mediate the relationship between expressive language and self-esteem, $b = .31$, CI95%(.09, .53), $\beta = .16$, $z = 2.71$, $p < .05$. A high level of expressive language is associated with the decrease of emotional problems and peer problems, which in turn are negatively associated with self-esteem, the total effect of expressive language on self-esteem being a significant positive one, $b = .93$, CI95%(.47, 1.38), $\beta = .47$, $z = 3.99$, $p < .01$.

Emotional problems mediate the relationship between pragmatic language and self-esteem, $b = .31$, CI95%(.04, .58), $\beta = .13$, $z = 2.27$, $p < .05$, and peer problems mediate the relationship between pragmatic language and self-esteem, $b = .60$, CI95%(.26, .94), $\beta = .25$, $z = 3.49$, $p < .01$. A high level of pragmatic language is associated with a decrease in emotional problems and problems with colleagues, which in turn decrease self-esteem, the total effect of pragmatic language on it being a significant positive one, $b = .80$, CI95%(.22, 1.37), $\beta = .34$, $z = 2.72$, $p < .05$.

Language difficulties and self-esteem

Only receptive language difficulties are significantly and negatively associated with self-esteem, $b = -.50$, CI95%(-.88, -.11), $\beta = -.22$, $z = -2.51$, $p < .01$.

Language difficulties and social competence

Receptive language is significantly and negatively associated with emotional problems, $b = -.77$, CI95%(-1.30, -.24), $\beta = -.32$, $z = -2.86$, $p < .01$, but not with the other components of social competence. Expressive language is significantly and negatively associated with emotional problems, $b = -.56$, CI95%(-1.00, -.12), $\beta = -.26$, $z = -2.49$, $p < .01$, with conduct problems, $b = -.80$, CI95%(-1.26, -.33), $\beta = -.42$, $z = -3.36$, $p < .01$, with peer problems, $b = -.74$, CI95%(-1.19, -. 30), $\beta = -.35$, $z = -3.29$, $p < .01$ and positively with prosocial behavior, $b = .50$, CI95%(.01, 1.00), $\beta = .27$, $z = 1.93$, $p < .05$. Pragmatic language is significantly and negatively associated with emotional problems, $b = -.80$, CI95%(-1.35, -.24), $\beta = -.31$, $z = -2.81$, $p < .01$ and with peer problems, $b = -1.45$, CI95%(-2.01, -.89), $\beta = -.57$, $z = -5.09$, $p < .01$.

Social competence and self-esteem

Emotional problems are significantly and negatively associated with self-esteem, $b = .39$, CI95%(-.59, -.19), $\beta = -.43$, $z = -3.83$, $p < .01$, conduct problems are not significantly associated with self-esteem, $b = -.06$, CI95%(-.26, .13), $\beta = -.06$, $z = -.64$, $p = .52$, peer problems are significantly and negatively associated with self-esteem, $b = -.41$, CI95%(-.58, -.25), $\beta = -.44$, $z = -4.80$, $p < .01$, and prosocial behavior is significantly and positively associated with self-esteem, $b = .38$, CI95%(.23, .53), $\beta = .35$, $z = 4.86$, $p < .01$.

4. DISCUSSION

The aim of the present study was to analyze the relationships between language difficulties of children diagnosed with CAS, social competence and self-esteem. The results only partially confirm our assumptions.

The indirect effects of language difficulties on self-esteem are relatively consistent. Emotional problems mediate the relationship between receptive language and self-esteem, between expressive language and self-esteem, and between pragmatic language and self-esteem. Peer problems mediate the relationship between expressive language and self-esteem and between pragmatic language and self-esteem. These results can be attributed to the fact that, although language difficulties (expressive and pragmatic) do not have direct effects on self-esteem, they exert indirect effects by interposing the problems they determine on social competence (emotional problems and peer problems). The way in which the child socializes and demonstrates his social competence determines the attitudes towards himself because these attitudes are based on the feedback received from others as a result of social interactions.

a) Regarding the relationship between language difficulties and self-esteem, receptive language is negatively associated with self-esteem, contrary to our expectations. We can attribute this result to the fact that through receptive language the child becomes aware of his (poor) level of understanding, which can affect his level of self-esteem. In children with CAS there is a discrepancy between the ability to understand messages, which can be high, and the ability to express or use pragmatic language, which are usually low. By the fact that a child can understand the messages, but cannot respond adequately, a fracture can occur in the self-evaluation process, thus leading to a low self-perception and implicitly to a diminished self-esteem.

b) Receptive language is negatively associated with emotional problems, but not with the other components of social competence, expressive language is negatively associated with emotional problems, conduct problems and peer problems and positively with prosocial behavior. Pragmatic language is negatively associated with emotional problems and peer problems, but not with the other components of social competence.

These results emphasize the importance of expressive and pragmatic language. In fact, receptive language, which refers to the understanding of messages, does not significantly contribute to the construction of social competence which in itself involves concrete contribution to social interactions. Conversely, expressive and pragmatic language, which normally facilitates interactions, helps initiate or respond to conversations, bring peers closer, and get to know each other, affects social competence at all levels. Emotional problems include withdrawal, avoiding interactions, the child can become sad or irritable, complain of headaches or stomachaches, cry for nothing, look unhappy, get scared easily and have many fears. The child perceives his own inability to convey what he wants and fears the negative judgment of others. In terms of behavior, the child may manifest anger, does not listen to her parents or teachers, initiates conflicts with other children, lies or cheats at games. Children cannot express what they feel, what they think, what their needs and desires are, which leads to frustration, to the accumulation of tensions that erupt from time to time as a form of release and as a simplistic solution to this extremely pressing problem. Looking at peer problems, the child with CAS tends to play alone, has no friends, is not liked by peers or is not chosen in team games, in many cases is a victim of bullying, prefers to spend time rather around adults than around children of the same age. The more expressive and pragmatic language is developed, the more these problems decrease, the child being able to contribute to the discussions and games with peers. Regarding prosocial behavior, expressive and pragmatic language helps the child to focus on the emotions of others, share toys, is helpful when someone is in need, is kind with younger children, or volunteer for certain activities. As long as she cannot master the usual language, all these actions suffer, the child choosing to withdraw in order not to be shunned by peers or negatively evaluated.

c) emotional problems and peer problems are negatively associated with self-esteem, prosocial behavior is positively associated with self-esteem, and conduct problems are not significantly associated with self-esteem. Children who exhibit emotional problems and problems interacting with peers will build a negative self-image, perceiving themselves as less competent and valuable. The overall picture of their lives and who they are as people deteriorates by comparison with other children. Prosocial behavior, manifested through acts of kindness, generosity and altruism, will facilitate the building of a higher self-esteem in that the child can notice that she is capable of doing certain things for which she is valued by others.

Our results are congruent with other studies carried out in this area. For example, similar results were obtained by Lindsey et al. (2002) in a study of self-perception and self-esteem among children with language disorders. The authors found that children with language disorders have lower levels of self-perception than children without language disorders, and these are maintained over a long period of time. Moreover, children with speech difficulties experience problems in learning activities, which further reinforces their already negative self-image and low self-esteem. Low levels of self-esteem in children with language disorders were also found by Novom (2017) in a study on self-esteem and social anxiety among children with communication difficulties. Rannard and Glenn (2009) analyzed the level of self-esteem in children with language disorders when entering the first year of school. The results of this study showed that children with learning disabilities experienced low levels of self-esteem, poor interactions with peers and unsatisfactory school performance.

Regarding language and social skills difficulties, other studies have shown that there is a specific set of problems, such as peer problems, low level of acceptance by friends,

low number of friends, increased vulnerability to rejection by peers (Laws et al., 2012; Mok et al., 2014).

Conclusions

The main objective of this study was to highlight the relationships between language difficulties, emotional competence and self-esteem in children with CAS. Self-esteem is an important personal construct that can mark the child's existence until adulthood. Language difficulties associated with the diagnosis of CAS put the child at a disadvantage. Despite a possible normal receptive language, children with CAS present difficulties in expressive and pragmatic language, and these two communication areas would impede social interactions. Children understand the messages sent but are unable to respond appropriately. The way they communicate verbally often causes these children to be negatively evaluated by their peers and to be rejected from group activities. Language problems primarily lead to a low level of social competence, which creates a vicious circle. The child will no longer try to interact with others because of fear of being judged for the way she expresses herself, and this would limit her socialization opportunities that would perhaps help her adjust her language and adapt it to the context as much as possible.

Social competence is built from real life experiences and from the way relationships with others are produced. Language difficulties in CAS are persistent and visible. Affected children, despite specific therapy, will have pervasive speech problems that will overshadow their interactions and relationships with those around them. The emotional consequences can be extremely acute, spreading in all spheres of the child's life. Not only relationships can be affected, but also school performance, adaptation to new social contexts, relationships with others and with oneself.

Practical implications

Perhaps the most important result of this study is that in children with CAS, language difficulties affect social competence. The family has an important role in helping the child to build a correct self-image, focusing on his strengths, and not on language difficulties. Also, this phenomenon can be improved in kindergarten and school through teachers. Beyond the speech therapy environment, where the child feels at ease and feels that he is making progress, efforts must be made to provide him with an appropriate learning context with his peers. There is therefore a need for teachers and educators to be aware that although the link between language difficulties and children's social competence is an inherent one, they have the responsibility to mediate relationships between children and facilitate the construction of healthy interactions, to prevent bullying and social rejection. A recommendation would be to introduce a series of socioemotional development sessions, which would train children in prosocial behaviors, social skills and emotional awareness.

Another implication relates to supporting teachers in understanding how children perceive rejection and negative evaluation from others. It is recommended to support children in developing friendships, by increasing tolerance towards diversity and eliminating aggressive behaviors. There are a number of activities carried out by educators that could improve the well-being of children with CAS in the context of kindergarten and school. It is recommended that the educator give the child time for one-on-one interactions to ensure that the child is heard and understood. The child must be praised, and the products of his activity valued. The educator must act as a role model for his students, focusing on the acceptance of diversity, by organizing collaborative activities among students, to which each can make a contribution according to his skills and abilities.

As far as possible, the educator should give children with language difficulties (of any kind) enough time to complete the tasks and provide answers. Children with very low self-esteem need encouragement from educators and peers, and this cannot occur in the absence of a positive and harmonious classroom atmosphere and an educator who handles such situations extremely well.

Limitation and future research

One of the limitations of this study is the small number of children and parents who participated. The number of children diagnosed with CAS is not very high, so the process of recruiting and convincing them was a difficult one. Also, the subject of the study is somewhat restrictive, referring exclusively to children with CAS. In our future studies, we will consider children with different language disorders, so that we can obtain conclusive results for both speech therapy and educational practices in general, towards a better approach to children with language difficulties.

5. REFERENCES

Allemand, M., Steiger, A. E., & Fend, H. A. (2014). Empathy development in adolescence predicts social competencies in adulthood. *Journal of Personality*. 10.111/jopy.12098.

American Speech-Language-Hearing Association. (2007). *Childhood apraxia of speech*. https://www.asha.org/policy/tr2007-00278/

Anderson, T. K., & Felsenfeld, S. (2003). A thematic analysis of late recovery from stuttering. *American Journal of Speech-Language Pathology, 12*, 243-253.

Argyle, M., Henderson, M., & Furnham, A. (1985). The rules of social relationships. *British Journal of Social Psychology, 24*(1), 125–139.

Aro, T., Laakso, M., Maatta, S., Tolvanen, A., & Poikkeus, A. (2014). Associations between toddler-age communication and kindergarten-age self-regulatory skills.

Journal of Speech, Language, and Hearing Research, 57*, 1405-1417.

Barnett, M. A., Gustafsson, H., Deng, M., Mills-Koonce, W. R., & Cox, M. (2012). Bidirectional associations among sensitive parenting, language development, and social competence*. Infant Child Development, 21*(4), 374–393. 10.1002/icd.1750.

Beitchman, J. H., Wilson, B., Brownlie, E. B., Walters, H., Inglis, A., & Lancee, W. (1996). Long-term consistency in speech/language profiles: II. Behavioral, emotional, and social outcomes. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*, 815-825.

Botting, N., Conti-Ramsden, G. (2000). Social and behavioural difficulties in children with language impairment. *Child Language Teaching and Therapy, 16*,105-120.

Butler, R. (1990). The effects of mastery and competitive conditions on self-assessment at different ages. *Child Development, 61*(1), 201-210. doi:10.2307/1131059

Calderella, P., & Merell, K. W. (1997). Common dimensions of social skills of children and adolescents: A taxonomy of positive behaviors. *School Psychology Review, 26*(2), 264–278.

Campbell, T. F. (2003). Childhood apraxia of speech: Clinical symptoms and speech characteristics. In L. D. Shriberg & T. F. Campbell (Eds.), *Proceedings of the 2002 Childhood Apraxia of Speech Research Symposium* (pp. 37-47). The Hendrix Foundation.

Cassidy, K. W., Werner, R. S., Rourke, M., & Zubernis, L. S. (2003). The relationship between psychological understanding and positive social behaviors. *Social Development, 12*, 198–221. 10.1111/1467-9507.00229.

Cooley, C. H. (2003). The Looking-Glass Self. In J. A. Holstein (Ed.), *Inner Lives and Social Worlds: Readings in Social Psychology* (pp. 123-124). Oxford University Press. (Original work published 1964)

Craig, H. K. (1993). Social skills of children with specific language impairment: Peer relationships. *Language, Speech, and Hearing Services in Schools, 24*, 206-215.

Crichton-Smith, I. (2002). Communicating in the real world: Accounts from people who stammer. *Journal of Fluency Disorders, 27*, 333-352.

Denham, S. A., Blair, K. A., DeMulder, E., Levitas, J., Sawyer, K., Auerbach–Major, S., & Queenan, P. (2003). Preschool emotional competence: Pathway to social competence? *Child Development, 74*(1), 238–256. 10.1111/1467-8624.00533.

DiDonato, A. (2014). *New directions in social competence research: Examining developmental trajectories and language minority populations* (Dissertation). Arizona State University. https://keep.lib.asu.edu/_flysystem/fedora/c7/114024/DiDonato_ asu_0010E_14024.pdf.

Dockrell, J., Lindsay, G. (1998). The ways in which speech and language difficulties impact on children's access to the curriculum. *Child Language Teaching and Therapy, 14*, 117-133.

Duffy, J. R. (2013). *Motor speech disorders: Substrates, differential diagnoses, and management* (3rd ed.). Elsevier Mosby.

Durkin, K., & Conti-Ramsden, G. (2007). Language, social behavior, and the quality of friendships in adolescents with and without a history of specific language impairment. *Child Development, 78*, 1441-1457.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117-140. doi:10.1177/001872675400700202

Gallagher, T. M. (1993). Language skill and the development of social competence in school-age children. *Language, Speech, and Hearing Services in Schools, 24*, 199–205. 10.1044/0161-1461.2404.199.

Gertner, B. L., Rice, M. L., & Hadley, P. A. (1994). Influence of communicative competence on peer preferences in a preschool classroom*. Journal of Speech and Hearing Research, 37*, 913-923

Girard, L.-C., Pingault, J.-B., Doyle, O., Falissard, B., & Tremblay, R. E. (2016). Expressive and prosocial behavior in early childhood: Longitudinal associations in the UK millennium cohort study*. European Journal of Developmental Psychology, 14*(4), 381–398. 10.1080/17405629.2016.1215300

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A Research Note. *Journal of Child Psychology and Psychiatry, 38*, 581-586.

Gordon-Brannan, M. E., & Weiss, C. E. (2007). *Clinical management of articulatory and phonologic disorders* (3rd ed.). Lippincott Williams & Wilkins.

Grigos, M., I., Hayden, D., Eigen, J. (2015). Perceptual and Articulatory Changes in Speech Production Following PROMPT Treatment. *Journal of Medical Speech-Language Pathology, 18*(4), 46-53.

Hadley, P. A., & Rice, M. L. (1991). Conversational responsiveness of speech- and language-impaired preschoolers. *Journal of Speech and Hearing Research, 34*, 1308-1317.

Hall, P. K. (2000). A letter to the parent(s) of a child with developmental apraxia of speech: Part I: Speech characteristics of the disorder. *Language, Speech & Hearing Services in Schools, 31*, 169-172.

Harter, S. (1999). *The construction of self: A developmental perspective*. Guilford Press.

Harter, S., Pike, R. (1984). The pictorial perceived competence scale for young children. *Child Development, 55*, 1969-1982.

Harter, S. (2012). *Self-Perception Profile for Children: Manual and Questionnaires*. University of Denver, Arts, Humanities & Social Sciences.

Hitchcock, C., Ellis, A. A., Williamson, P., Nixon, R. D. V.(2015). The Prospective Role of Cognitive Appraisals and Social Support in Predicting Children's Posttraumatic Stress. *Journal of Abnormal Child Psychology, 43*(8), 1485-1492. doi: 10.1007/s10802-015-0034-7.

IBM Corp. Released 2016. *IBM SPSS Statistics for Windows, Version 24.0*. Armonk, NY: IBM Corp.

Iuzzini, J. (2012). *Inconsistency of speech in children with childhood apraxia of speech, phonological disorders, and typical speech* (Doctoral dissertation). Available at ProQuest Dissertations and Theses. (UMI No. 3498932)

Jerome, A. C., Fujiki, M., Brinton, B., & James, S. L. (2002). Self-esteem in children with specific language impairment. *Journal of Speech Language and Hearing Research, 45*(4), 700-714. doi:10.1044/1092-4388(2002/056

Kanning, U. (2009). *Diagnostik sozialer Kompetenzen*. Hogrefe.

Kolb, S. M., & Hanley-Maxwell, C. (2003). Critical social skills for adolescents with high incidence disabilities: Parental perspectives. *Exceptional Children, 69*(2), 163–179.

Laws, G., Bates, G., Feuerstein, M., Mason-Apps, E., and White, C. (2012). Peer acceptance of children with language and communication impairments in a mainstream primary school: associations with type of language difficulty, problem behaviours and a change in placement organization. *Child Language Teaching and Therapy, 28*, 73–86. doi: 10.1177/0265659011419234

Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an Interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology, 68*(3), 518-530. doi:10.1037/0022-3514.68.3.518

Lewis, B. A., Freebairn, L. A., & Taylor, H. G. (2000). Academic outcomes in children with histories of speech sound disorders. *Journal of Communication Disorder, 33*, 11-30.

Lewis, B. A., Patton, E., Freebairn, L. A., Tag, J., Iyengar, S. K., Stein, C. M., & Taylor, H. G. (2016). Psychosocial co-morbidities in adolescents and adults with histories of communication disorders. *Journal of Communication Disorders, 61*, 60-70.

Lindsay, G., Dockrell, J., Letchford, B., & Mackie, C. (2002). Self esteem of children with specific speech and language difficulties. *Child Language Teaching and Therapy, 18*(2), 125–143. https://doi.org/10.1191/0265659002ct231oa

Longobardi, E., Spataro, P., Frigerio, A., & Rescorla, L. A. (2016). Language and social competence in typically developing children and and late talkers between 18 and 35 months of age. *Early Child Development and Care, 186*(3), 1–17. 10.1080/03004430.2015.1039529.

Longoria, A. Q., Page, M. C., Hubbs-Tait, L., & Kennison, S. M. (2008). Relationship between kindergarten children's language ability and social competence. *Early Child Develpment and Care*, 1–10. 10.1080/03004430701590241.

Lucas, D. R., Weiss, A. L., & Hall, P. K. (1993). Assessing referential communication skills: The use of a non-standardized assessment procedure. *Journal of Childhood Communication Disorders, 15*, 25-34.

McCormack, J., McCleod, S., McAllister, L., & Harrison, L. J. (2009). A systematic review of the association between childhood speech impairment and participation across the lifespan. *International Journal of Speech-Language Pathology, 11*, 155-170.

Menting, B., van Lier, P. A. C., & Koot, H. M. (2011). Language skills, peer rejection, and the development of externalizing behavior from kindergarten to fourth grade. *Journal of Child Psychology and Psychiatry, 52*(1), 72–79. 10.1111/j.1469- 7610.2010.02279.x.

Mok, P. L. H., Pickles, A., Durkin, K., and Conti-Ramsden, G. (2014). Longitudinal trajectories of peer relations in children with specific language impairment. *Journal of Child Psychology. Psychiatry Allied Discipline, 55*, 516–527. doi: 10.1111/jcpp.12190

Novom, R. I. (2017). *Self-esteem and Social Anxiety in Children with Communication Impairments*. Scripps Senior Theses, 968. http://scholarship.claremont.edu/scripps_theses/968

Overby, M., Carrell, T., & Bernthal, J. (2007). Teachers' perceptions of students with speech sound disorders: A quantitative and qualitative analysis. *Language, Speech, and Hearing Services in Schools, 38*, 327-341.

Pinto, J. C., do Ceu Taveira, M., Candeias, A., Araujoa, A., & Mota, A. I. (2012). *Procedia –Social and Behavioral Sciences, 69*, 271–278. doi:10.1016/j.sbspro.2012.11.409.

Rannard, A., Glenn, S. (2009). Self-esteem in children with speech and language impairment: an exploratory study of transition from language units to mainstream school. *Early Childhood Development and Care, 179*(3), 369-380. doi: 10.1080/03004430601121170

Rose, E., Lehrl, S., Ebert, S., & Weinert, S. (2018). Long-term relations between children's language, the home literacy environment, and socioemotional development from

ages 3 to 8. *Early Education and Development, 29*(3), 342–356. 10.1080/10409289.2017.1409096.

Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. *Social Development, 6*(1), 111–135. 10.1111/j.1467-9507.1997.tb00097.x.

Stothard, S., Snowling, M., Bishop, D.V.M. , Chipchase, B., Kaplan, C. (1998). Language Impaired Preschoolers: A follow-up into adolescence. *Journal of Speech, Language and Hearing Research, 41*, 407-418.

Stowe, R. M., Arnold, D. H., & Ortiz, C. (2000). Gender differencs in the relationship of language development to disruptive behavior and peer relationships in preschoolers. *Journal of Applied Developmental Psychology, 20*(4), 521–536. 10.1016/S0193-3973(99)00024-6.

Teverovsky, E. G., Bickel, J. O., & Feldman, H. M. (2009). Functional characteristics of children diagnosed with Childhood Apraxia of Speech. *Disability and Rehabilitation, 31*, 94- 102.

The jamovi project (2023). *jamovi (Version 1.4) [Computer software]*. Accesat la https://www.jamovi.org.

von Grünigen, R., Perren, S., Nägele, C., & Alsaker, F. D. (2010). Immigrant children's peer acceptance and victimization in kindergarten: The role of local language competence. *British Journal of Developmental Psychology, 28*, 679-697.

Weinert, F. E. (2001). Concept of competence: A conceptual clarifi cation. In D. S. Rychen & L. H. Salganik (Eds.), *Defining and selecting key competencies* (pp. 45–65). Hogrefe & Huber.

.