PROFESSIONALS OF LANGUAGE SCHOOLS IN CHILE
ABOUT SPECIFIC LANGUAGE IMPAIRMENT

Teorías subjetivas de profesionales de escuelas de lenguaje en Chile sobre el trastorno específico del lenguaje

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ABSTRACT

**Purpose:** understand and reconstruct the Subjective Theories from professionals in language schools in Chile about causes and treatment of Specific Language Impairment. **Method:** qualitative methods were used to recollect data in depth. The sample included four speech therapists and four psychopedagogists from four different language schools. Every participant was interviewed based on an individual, semi-structured interview. The interviews were recorded, transcribed and analyzed with the computer program Atlas.ti 5.0. The results were visualized in three models. **Results:** according to the speech therapists and the psychopedagogists, social factors within the families of the affected children are the main causes of specific language impairment. With regard to efficient therapy and the overcoming of this impairment, participants emphasized the importance of family support. **Conclusions:** the subjective explanations from the interviewed professionals regarding the cause of specific language impairment differ from the scientific explanations: While the participants of this study attribute social causes to specific language impairment, the scientific explanations focus on biological factors. This inconsistency should be investigated in future studies. The speech therapists and psychopedagogists indicate that certain circumstances in families as one of the main causes of the impairment. But at the same time they talk about the family support as a pivotal element in the treatment. As a result, they claim that if school and family work together SLI becomes a superable impairment.

**KEYWORDS:** Child Language; Language Development Disorders; Language Therapy; Concept Formation

INTRODUCTION

Specific language impairment (SLI) is a language skill disorder that manifests in various forms. According to DSM-IV criteria, there are two types of SLI: **expressive language deficit**, which is seen as difficulties in particularly the production of speech, while **mixed receptive-expressive language deficit** additionally includes deficits in comprehension. Within these two subtypes, there are several forms of SLI, depending on the deficits and degree of impairment.

Currently, there is no generally accepted explanation as to the cause of SLI, although various hypotheses exist that can explain SLD subtypes. The linguistic approach aims to explain language structure, focusing on the delay of speech development due to limitations in certain areas of the brain responsible for speech processing. The other important approach is the focus on processing, and supporters of this approach claim functional problems in different areas of the brain. This may influence the processing of general information, as well as specific processes such as the speed...
of processing, memory deficits in speech therapy work, or difficulties in auditory perception\textsuperscript{2,3}.

Moreover, studies carried out in the last decade highlight the importance of a genetic component in the manifestation of SLI\textsuperscript{4,5}.

The prevalence of SLI in Chile is approximately 4\% within the child population\textsuperscript{6}.

In order to include children exhibiting SLI in early and efficacious treatment programs, as well as to integrate these children into the regular school system, the Government of Chile has been supporting special language schools since 2002 under Decree no. 1300, which was last modified in 2010\textsuperscript{7}. According to this decree, speech therapists and special needs educators staff these institutions, working with boys and girls between the ages of 3 and 5 (pre-school). Treatment is approached from a General Plan as well as a Specific Plan. The general plan in established in classes led by special needs educators and takes up much of the week, whereas the specific plan is tailored to each child according to their impairment. In a weekly period of half an hour, speech therapists work with pre-school children in groups of one to three students, focusing on overcoming their speech impairment. Depending on the age of the child, special needs educators follow the specific plan for four to eight additional hours each week. The design and treatment of preschool children is the responsibility of the speech therapists and special needs educators\textsuperscript{8} and hence these professionals have the greatest interaction with SLI children. Therefore this study is interested in the professional's subjective theories on causes, manifestations and proper treatment of SLI.

The concept of subjective theories originated in Germany with Groeben, Wahl, Schlee and Scheele, who defined subjective theories as "cognitions of oneself and the world, that can be understood as a complex set having an argumentative structure, at least implicitly, and functions as explanation, prediction and technology, and is also contained in scientific theories" (1988)\textsuperscript{9}. These explanatory beliefs are approached in a similar manner as are other concepts, such as implicit theories\textsuperscript{10} or personal theories\textsuperscript{10}.

Within the context of an education framework, there are several studies proposing that subjective theories influence the behaviour of professionals\textsuperscript{11,12}. The influence of a professional's beliefs on their lesson plans has also been confirmed by several studies\textsuperscript{8}. However, there are few studies on the subjective theories of professionals regarding SLI. The beliefs of parents and professionals on speech impairments have been studied in England\textsuperscript{13,14} and another study compared the explanatory beliefs of mothers from different cultures on speech impairments\textsuperscript{15}. However, there have not been any studies conducted in Chile that have considered the explanatory beliefs of professionals in regards to SLI.

Taking into account the fact that the team of speech therapists and special needs educators plan and directly treat children in schools, their subjective theories are of extreme interest, and are thus the focus of this study.

\subsection*{METHOD}

The study sample included 8 professionals who gave their verbal consent in order to participate in the study, and signed an Informed Consent agreement.

The current study was approved by the Ethics and Bioethics Committee of the University of La Serena, letter no.002/2013.

The nature of the study is descriptive-interpretative, specifically, it included the participation of four speech therapists and four special needs educators. The convenience sampling method was used to choose the interviewees\textsuperscript{16}. All participants interviewed had at least two years of experience in their field and were between 25 and 31 years of age. Four language schools were chosen for the study, three in the city of Coquimbo and one in the city of La Serena, and in each school, an interview was conducted with a representative of the two groups of professionals. From these schools, one of them in the city of Coquimbo was located in a lower class neighbourhood, while the rest of the schools were located in middle class neighbourhoods. The sample distribution is justified in this study, given that the aim of this investigation is not to generalize the findings obtained to the entire population of speech therapists and special needs educators in Chile, but to gain in depth information that may reveal new insights for future research.

Qualitative methods were used for data collection and reconstruction of subjective theories. Following the Grounded Theory model, a new explanatory theory was developed using an inductive process starting from the collected data\textsuperscript{17}. Semi-structured interviews were conducted to gather data, allowing the collection of detailed data in order to gain further detail into the participants’ explanatory beliefs and reconstruct correctly their subjective theories\textsuperscript{18}. Using a semi-structured interview script, information was gathered on the explanatory beliefs of speech therapists and special needs educators regarding different types of SLI, their causes and treatments.

Each interview was recorded for subsequent transcription according to standardized guidelines.
Starting from the transcripts, data was coded in a three-step process, following a Grounded Theory model:

- During open coding, data was sorted and carefully placed in categories. This was an important step in order to gain thorough insight into the interviews.
- Axial coding included refining the categories in order to identify the most important categories as well as subcategories. Additionally, categories and subcategories were organized taking into account interrelationships among them, allowing the process of data analysis to reach a more interpretive level. Two models of this axial coding are presented in the results.
- Lastly, during selective coding all elements were integrated into a central concept. Starting with the data collected, information from the interviews was analysed and interpreted in order to reconstruct the subjective theories of the interviewees. In the results, model 3 incorporates previous models of axial coding.

The analysis process followed a constant comparative method, consisting in permanent reviews of the interpretations with original data, allowing the findings of theories linked to the research field. For this analysis, the Atlas Ti 5.0 programme was used, and findings were visualized by graphical modelling. This analysis method allows for accurate review of the researcher's steps.

Open coding was complemented with the categorization of the subjective theories, according to the sorting system recommended by Catalán (2010). This allowed the extraction of structural characteristics of the subjective theories regarding their theoretical status, structure, functional and emotional meaning, explanatory orientation and course of action.

To guarantee the scientific quality of the results, the following procedures were followed, recommended for qualitative research:

The subjective semi-structured interview script was evaluated by two experts in subjective theory research, and interviews were conducted by two of the authors of this study. Analysis of each interview conducted by the first author was reviewed by the second and third authors in order to achieve inter-subjectivity of the results. Additionally, the opinion of the creator of the categorization system regarding subjective theories according to their structural characteristics was sought for the analysis and interpretations in order to triangulate the analytic process. In the coding process and data analysis, uniform rules were used to improve the transparency of the analytic steps and to discriminate between the interpretations of the researchers and the statements of the interviewees.

### RESULTS

During analysis, the subjective theories of the speech therapists and special needs educators were reconstructed using two axial coding models, which were combined after selective coding. A sorting system of subjective theories was also used in order to understand their structural characteristics.

#### Axial coding

Model 1 includes the explanatory beliefs of the interviewees regarding the causes and effects of SLI. According to the professionals, one can distinguish between two causative factors of SLI: external factors, which are aspects that include parents and the social surroundings of the child that may cause SLI; and internal factors, which arise from the child.

According to the special needs educators and speech therapists interviewed in this study, lack of stimulation in the household and parents' lack of knowledge about normal language development of their children can cause SLI. In addition, they reported internal problems within the family, overprotection by mothers and infantilization of the child, as causative and external factors in SLI development. The following quotes are examples of such beliefs (the code Px/Fx refers to the person being interviewed).

- **P7/F4:** “However, I believe, that the lack of stimulation within the household is one of the main causes of specific language impairment.”
- **P5/F3:** “When they are small they say: ‘oh, now that he is small he speaks badly, but he will overcome it once he is older”.

The child's social surrounding also influences the development of language in children, according to the interviewees. Socio-cultural deprivation and socioeconomic status were reported as one of the main causes of specific language impairment.

- **P4/E2:** “The main cause, in my personal opinion, is socio-cultural deprivation, because there are children that have language problems and that do not have any alterations, and that come from families that are socio-culturally deprived, where you find poor vocabulary, and no incentive, and where the family does not get together to speak, so I believe...”
that one of the main causes is the socio-cultural deprivation in language problems.”

P8/F2: “And there, generally, since the socioeconomic status was very low, generally the language impairment is due to socio-cultural deprivation.”

The internal factors that could cause SLI, according to these speech therapists and special needs educators, are genetic, anatomical or neurological in nature, such as difficulties in auditory discrimination. They additionally mentioned the child’s personality as a causal factor of SLI. However, in comparison with external factors, for them, internal factors are not primary in the cause of this type of disorder.

P4/E2: “generally, there are several factors that can influence language impairments, among them, the main ones for me are, socio-cultural deprivation and to some degree genetics”


Therefore, due to the aforementioned factors, SLI causes limitations in language. According to the beliefs of the professionals, these difficulties affect the child in his social scope. Their subjective theory could be summarized as: if the child has difficulties in communicating, then the parents will discriminate him and the child will isolate himself.

P4/E2: “Children between the ages of 3, 4, and 5 can manifest impairment in language, so obviously the child will have problems communicating”

P6/E4: “it affects him socially, so the child cannot interact with his classmates, they suffer this type of discrimination, if you can say that. Because he will feel like he is less. I mean, because he will be discriminated against, they will tell him that he cannot say the words correctly. They do not understand.”

This is where a vicious circle is generated, since the child’s social difficulties cause an overprotective reaction in the parents, which is a causative factor, or at present a factor that maintains SLI, according to the beliefs of those interviewed.

P3/F1: “Even though we see them as 4 or 5 years old, they are still like a baby. We continue to see them as a baby, and we still give them a bottle and a soother. So we continue with bad oral habits.”

Problems in their social scope influence the personal scope of the child. According to speech therapists and special needs educators, social difficulties lead to shyness, low self-esteem and a low tolerance to frustration in a child with SLI.

P6/E4: “Because he will feel like he is less. Since he will be discriminated against, they will tell him that he does not know how to say words properly, that he cannot understand. Hence his self-esteem and his concept of self will be affected.”

P4/E2: “the child will have problems in communication, he will not be understood and that is where self-esteem starts to decrease “Oh! I am not understood, so it is as if I have no opinion, I do not speak because I will not be understood”. Self-esteem starts to decrease”

During school age, SLI and the child’s personality can affect academic performance. Professionals stated that a child with SLI is often a slower learner, and in addition, has difficulties in reading and writing.

P5/F3: “but the problem will be seen later, when the child has already started elementary school and is introduced to reading and writing, so then the child will pronounce words as they are written. And that is how he will read, so then that is where academic problems begin.”

To summarize the explicative beliefs of speech therapists and special needs educators, SLI can be caused by a number of factors, with social and external factors being the main causes of this impairment. The consequences for the child are many, shaping their social, personal and academic scopes.
Beliefs on language impairments

Model 2 of the axial coding of the sample shows the reconstruction of the subjective theories of the participants interviewed regarding the treatment of SLI.

Treatment begins when the child is in a special language school and the school aims to help the child and educate parents.

The conditions of an adequate and efficacious treatment, according to those interviewed, are: interest from the parents in treating and overcoming the child’s SLI, the will and motivation of the child in the treatment and patience and commitment on behalf of professionals.

P1/E1: “Motivation is very important as well as the will of the children to put in the effort.”

Additionally, the participants reported in their interviews that there are fundamental characteristics of an efficacious treatment. These are: a) specificity in the treatment for SLI, that it be in accordance with the age of the child, b) the use of concrete material and c) that the treatment be fun and constant. The speech therapists and special needs educators also spoke about the importance of their own adaptation to the child’s preferences, and to be aware of the child’s personal processes and learning, as well as to have constant interaction with the child. To obtain favorable results in the treatment of SLI, another important point, according to the interviewees, is the permanent collaboration among professionals. On behalf of the child, attendance and participation were mentioned as important prerequisites for an efficacious treatment.

The following quotes demonstrate these beliefs of the interviewees:

P2/E3: “that activities be motivational, that they be something the children are interested in, and that it also be a constant process.”

P3/F1: “I mean, the idea is to always have the material and everything available, but sometimes the child arrives with a different attitude that one was not expecting, and you have to work with that.”
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P7/F4: “Special needs educators, they are always in contact with speech therapists, it is extremely important that there be feedback on how the child is doing in the classroom and how he is doing here in the resource classroom.”

According to speech therapists and special needs educators, they are unable to help a child overcome SLI without the support of the parents. This is why they refer to the importance of educating parents so that they are able to support the school and their child in the treatment.

P6/E4: “In fact, we also work with the family here. We have workshops for parents alongside the speech therapist and special needs educator that works with us, so as to educate parents, so that together we can overcome the impairment.”

P1/E1: “A lot of family support is needed, or else we alone cannot work well.”

It is the opinion of the professionals working in special language schools that children can overcome SLI, and therefore they can decrease their difficulties in their social scope and avoid academic problems when the child is integrated into the regular school system, if they receive the proper treatment. In order for this to be achieved, the collaboration between the parents and the professionals at the special language school is important, and the work in the school needs to comply with the prerequisites presented.

P7/F4: “Yes, it is possible that during the years a child is here that he completely overcomes his SLI.”

P8/F2: “It is great when children receive timely treatment, because they do not have any problems in reading and writing, they acquire proper phonemes and a good vocabulary for their age.”

Figure 2 – Axial Coding Model 2: Subjective theories on the treatment of SLI
Selective coding

Selective coding incorporates the two previous models presented. The child is the subject, and his social surrounding as well as the conditions that come from the parents, are the main causes for specific language impairment, according to the participants of this study. As well, internal factors like genetics and anatomy of the child are factors that may cause SLI. This disorder affects the social, personal and academic scopes of the child. To interrupt this cycle and allow the child to overcome his impairment, special language schools offer treatment. According to those interviewed, the child can overcome his SLI when they are in a special language school. However, this will only be achieved if parents and school professionals work together in the treatment.

![Figure 3 – Selective coding model 3: Subjective theories on causes, consequences treatment of SLI](image)

Analysis of the structural characteristics of subjective theories

In terms of the analysis of the subjective theories according to their structural characteristics, below are some of the most relevant findings.

All reconstructed subjective theories of the professionals interviewed, with the exception of one, have a restricted theoretical level. Thus they have the structure of a hypothesis, without the complexity or depth of an elaborated subjective theory.

Most of the subjective theories of the interviewed professionals are regressive. This means that they are explanations or justifications of past actions or situations. In regards to the effects of SLI and its treatment, the subjective theories were identified as regressive-progressive theories, meaning that in addition to providing an explanation for past situations, these theories serve to anticipate or trigger certain actions in the future. Some of these theories reconstructed by the researchers are:

**TS 2.2:** If the child does not receive proper treatment, then additional difficulties or disabilities will appear.

**TS 2.4:** If the child does not receive proper treatment, then he will develop a learning disability, since the child does not understand nor speak in class.

**TS 2.5:** If the child does not receive treatment, he will then have social difficulties.
DISCUSSION

When considering the results as a whole, the most noteworthy element is the fundamental role the social surroundings of the child plays as a cause of SLI in the subjective theories of the speech therapists and special needs educators interviewed. Currently, scientific explanations on SLI focus on integrating hypotheses regarding neurological causes\(^2,^3\) with a genetic component\(^4,^5\), all being internal and biological factors of the child. The reconstruction of the subjective theories of those interviewed contradicts the current scientific stance. The results presented here are in agreement with a study conducted in England, where professionals also proposed social factors, such as stimulation in the household and the socioeconomic status of the parents, as the main causes of a delay in the development of language\(^1^3\). From these findings, we can now ask ourselves about the significance of this difference.

Deficiencies in a child’s social environment are excluded in the diagnosis of SLI according to the DSM-IV\(^1\). Special language schools in Chile have been criticized for over diagnosing, due to large monthly grants received by these schools for each diagnosed student. Therefore, the interviewees likely developed their subjective theories about the causes based not only on their experiences with SLI children, but also based on their experiences with children having other language deficiencies. It is important to note that the Chilean law under which these institutions operate requires that all pre-school children attending have a diagnosis of SLI, even when many specialists recommend making the diagnosis only after age 5. Thus these professionals may have confused their explanatory beliefs with the causes of several other deficits, such as the delay in development of language, attributing them to SLI. However, from a different perspective, if the opinions of these professionals, who work daily with these children in special language schools, are taken into account, the social factor may well be an important factor in the onset of SLI, and this knowledge could be considered within the scientific explanations for SLI. Although SLI has a genetic component, it does not determine the onset of SLI, it is one of many factors that interact. In developing countries, the socioeconomic status of the household could be a more prominent factor than in a country like the United States or England, where most of the studies on this topic originate\(^2,^5\).

The important role played by parents is not only part of the cause of SLI, but also part of the treatment. According to the speech therapists and special needs educators, it is impossible to work
efficiency with these children without the support of their families. This statement is in agreement with other studies that have demonstrated the efficaciousness of a treatment in SLI and proves the importance of family support. It is interesting to note that in the current study, the role played by the parents is coherent with the causes and treatment of SLI. According to the professionals, they should also educate parents, since their lack of knowledge on normal language development and their inappropriate behavior when facing their child are factors that enable the child's SLI. By contrast, the child can overcome their SLI if parents and professionals work together in the treatment. It can therefore be concluded that the speech therapists and special needs educators view parents as a main cause of SLI, while being a controllable factor. Therefore, including the parents in the treatment of overcoming SLI decreases the triggering factors.

From the structure analysis of the subjective theories, the following can be concluded:

The participants’ subjective theories on special language schools are positive and regressive. Therefore, they speak about these schools in a positive manner, based on their past experiences. This can be interpreted as a justification of the existence of special language schools. Keeping in mind the criticism these schools currently receive in Chile, this justification is even more relevant. The subjective theories on the effects of SLI are regressive or regressive-progressive, and they are additionally initiators of actions. Thus the explanatory beliefs of those interviewed serve to justify and explain the importance of the treatment children receive at special language schools.

The aforementioned is in agreement with the characteristics of the subjective theories of those professionals interviewed regarding the work in the schools and treatment of SLI. These theories are maintenance factors that influence whether or not speech therapists and special needs educators continue their work with SLI children.

One of the limitations of this study is the homogenous sample. All the participants are from the same region of the country (although two different cities), all are female with similar ages and experience. However, it should be considered that in Chile special language schools have only existed for a short period and a great percentage of professionals working in these schools are female. Nonetheless it is important to keep in mind that, it is not the intention of this study to generalize from this sample or any other population, although the intention is to disseminate these findings.

From the reconstructed subjective theories, a possible influence in the duties of the interviewed professionals was interpreted. Although the importance of subjective theories on a person’s behaviour has been proven, this study did not examine the agreement in subjective theories, verbally expressed, with the participants’ daily actions. This could be an area of future research.

Additionally, further research in this area should be conducted in the future with a more heterogeneous sample. The question about the relevance of social factors as a cause of SLI remains unanswered. Although currently an exclusion criterion for SLI, those professionals working with SLI children feel that this factor is not only important in the cause, but it is also important in the treatment of this disorder. Further insight must be gained through studies in Chile, as well as in other countries.

**CONCLUSION**

With the aim of reconstructing the subjective theories of professionals working in special language schools regarding SLI, the following can be concluded:

1. Among the subjective theories of speech therapists and special needs educators regarding the causes and scientific explanations of SLI, there were significant differences found. Therefore, there are two possible conclusions:
   a. Not all children in a special language school have a SLI, or
   b. The socio-cultural factor is one aspect that may contribute to SLI.

2. The Chilean decree that rules special language schools in the country states that “specific language impairment can be diagnosed starting from 3 years of age.” This differs from the literature, where the established age for the diagnosis of SLI is after age 5. This could explain why the special needs educators and speech therapists interviewed in this study believe that the difficulties children face are caused by different factors that are generally accepted to make a correct diagnosis of SLI.

3. According to professionals working in special language schools, a child will be able to overcome their SLI up to age 5.

4. In order for a child to overcome SLI, the child’s school and family must work together. According to two of the professionals, the school will be unable to help the child overcome their SLI without the support of the family.
RESUMEN

Objetivo: comprender y reconstruir las teorías subjetivas de profesionales de escuelas de lenguaje en Chile, sobre las causas y el tratamiento del trastorno específico del lenguaje. Método: se utilizó métodos cualitativos para recolectar datos en profundidad. Se realizó entrevistas individuales semi-estructuradas con una muestra de cuatro fonoaudiólogas (logopedas) y cuatro educadoras diferenciales de cuatro escuelas de lenguaje. Se grabó y transcribió las entrevistas, las que fueron analizadas con el programa informático Atlas.ti 5.0. Los resultados del análisis relacional se sintetizaron en tres modelos. Resultados: para las fonoaudiólogas y educadoras diferenciales las causas principales del trastorno específico del lenguaje son factores sociales, originados en la familia de los niños afectados. Con respeto a la superación de este trastorno las entrevistadas destacaron con alta importancia el apoyo familiar para un tratamiento eficaz. Conclusiones: entre las explicaciones subjetivas de las profesionales entrevistadas y las explicaciones científicas acerca las causas del trastorno específico del lenguaje, existen diferencias. Mientras las entrevistadas hablan de causas sociales, los enfoques científicos explican este trastorno por causas biológicas. Esta diferencia debería ser investigada en estudios posteriores. Las fonoaudiólogas y educadoras diferenciales ven la familia del niño como una de las causas principales del trastorno específico del lenguaje y al mismo tiempo consideran el apoyo familiar como un requisito crucial en el tratamiento. En la opinión de los profesionales de las escuelas de lenguaje el trastorno específico del lenguaje es un trastorno superable, si escuela y familia trabajan en conjunto.

PALABRAS CLAVES: Lenguaje Infantil; Trastornos del Desarrollo del Lenguaje; Terapia del Lenguaje; Formación de Concepto
child rearing, education, and language impairment.