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SELECTIVE MUTISM AND BILINGUALISM: A CASE STUDY OF KAZAKH-DUTCH TWINS

Abstract: *The purpose of this study is to present the history of appearance of selective mutism (SM) in bilingual Kazakh-Dutch twins. Selective mutism is a social anxiety disorder characterized by a total lack of speech in certain specific situations despite the ability to speak in others. One of the risk factors of SM is bilingualism. We can assume that SM in a weaker language or in both languages of the child leads to a substantial delay of language proficiency compared to that of their age peers without SM, and negatively influences their school achievements. The current study describes the language proficiency of the twins in Dutch and Kazakh before the emergence of SM and during the initial period of behavioral treatment.*

Key words: *Selective mutism, bilingualism, the Kazakh language, twins, behavioral treatment.*

Аңдатпа: *Бұл мақалада қазақ және дат екі тілді егіздердің элективтік мутизмнің пайда болу тарихы қарастырылды. ЭМ – бұл баланың тіл аппараты сау бола тұра, қорқыныш сезімдерінің әсерінен кейбір қоғамдық жерлерде қарым-қатынас жасаудан бас тартуы. Ғалымдардың пайымдауынша, ЭМ-нің бірден бір себебі - екі тілділік. ЭМ-нің себебінен баланың ана тілінде не болмаса екінші (әлсіз) тілінде сөйлемей, қатарлас бір тілді балдарға қарағанда тіл даму дағдыларына едәуір әсер етіп, мектеп бағдарламасынан қалып қоюына әкеліп соғады. Мақалада, ЭМ-нің пайда болуына дейінгі кезеңде егіздердің қазақ және дат тілдерінің даму сатылары және ЭМ-нің мінез-құлық терапиясының алғашқы кезеңі қарастырылды.*

Тірек сөздер: *элективтік мутизм, екі тілділік, қазақ тілі, егіздер, мінез-құлық терапиясы.*

Аннотация. *В данной статье рассматривается история возникновения элективного мутизма у двуязычных казахско-голландских близнецов. ЭМ – это коммуникативное расстройство, обусловленное повышенной социальной тревожностью ребенка и характеризующееся его постоянной неспособностью говорить в определенных условиях при сохранении способности говорить в прочих ситуациях. К факторам риска появления ЭМ исследователи относят также билингвизм. Можно предположить, что избирательная немота в одном (слабом) или в обоих языках ведет к значительному отставанию ребенка в развитии языковых навыков по сравнению с его одноязычными сверстниками, что влияет и на школьную успеваемость. В статье описывается уровень владения близнецов голландским и казахским языками до проявления ЭМ и в начальный период поведенческой терапии.*

Ключевые слова: *элективный мутизм, двуязычие, казахский язык, близнецы, поведенческая терапия.*

1. Introduction: Selective mutism and risk factors

Selective mutism (SM) is a rare childhood disorder when children fail to speak in specific situations (such as school) and/or in the presence of specific individuals despite speaking adequately at home [1]. The most common theory for SM attributes the symptoms to a high level of anxiety, particularly social anxiety disorder [2]. SM usually appears during the (pre)school years (between 2;08 and 4;01 years), when the child is consistently identified as not meeting the expectations for speech and verbal participation in the school setting [3]. It affects approximately 1-2% of the general population, or 6-8 per 1000 children [1].

Recent studies have shown that the most important risk criteria of SM are (a) marital problems of parents of children who were diagnosed with SM [4]; (b) comorbidity with other disorders such as social phobia and genetic inheritance [3]; (c) individual characteristics such as extreme shyness [5]; (d) migration status and bilingualism [6]. Problems with self-identification alongside high linguistic and cognitive demand resulting from sudden immersion in a second language in combination with lack of class support for learning a second language increase social and linguistic insecurity and anxiety in bilingual minority children which can lead to a higher risk of getting selective mutism than in the native-born population [7]. For example, in the study by

Bradley & Sloman [8], a prevalence of selective mutism was 12 times higher among Canadian children with minority status in comparison to native families.

There are three types of treatment on SM over the world: behavioral, cognitive, and medical treatment. Behavioral treatment, which takes on average a year, is the most popular in the Netherlands with children under the age of 12. It is a joint effort of both the psychotherapist and the teacher. According to some studies, after the end of the treatment 70% of children become and stay fluent speakers, while 17% are in partial remission, and 13% show no improvement [9].

2. Selective mutism and bilingualism

In a bilingual context, one of the factors hampering the speaking process in a second language is the anxiety state of children. According to Krashen's [10] Affective Filtering Hypothesis, anxiety lowers the effectiveness of the learner's filtering device and hinders the individual's absorption of relevant language knowledge. On the contrary, if an individual has self-confidence and lower anxiety, this will help them internalize more linguistic knowledge and produce more language. However, when learning a new language in a new linguistic environment, many children go through the so-called "silent period" which should be distinguished from selective mutism. Normally, this period does not exceed six months [7] and during the "silent period" a child must speak their heritage language with their parents. If not, then the child can be diagnosed with SM.

It is not surprising that when children acquire a new (second) language they are less proficient in this language compared to monolinguals. Evidence shows that young bilinguals are often less proficient in both their languages. However, these comparisons primarily concern vocabulary knowledge [11]. Different grammatical aspects are mostly tested only in a weaker language. For instance, in the study by Boon et al. [12], Dutch-Turkish and Dutch-Moroccan children scored more poorly than monolingual Dutch children on expressive language measures including Dutch morphosyntax, lexical semantics, and pragmatics. However, it remained unclear whether the bilingual children in this study also lagged behind their Turkish versus Moroccan peers.

One of the reasons of a lower proficiency in one or both languages is the diminished amount of input and output in each language. In this respect, mutism in the community language may lead to a delay in its linguistic development (productive vocabulary and morphosyntax) as the child practices significantly less in producing some words and structures. There is indeed some evidence that children with SM score lower on phonetic discrimination, receptive vocabulary and grammar [13], and produce shorter sentences and less detailed narratives [14] compared to controls without selective mutism. All this points to certain language deficit and supports the Output Hypothesis [15] that clearly emphasizes the importance of actively producing the target language that plays a fundamental role in learning a language. However, it remains unclear how SM impacts the linguistic development of bilingual children, and specifically their heritage language. The long-term effect of SM on the further linguistic development of children is also unclear as well as the effect of the parental switching to the community language in home communication with the child.

As part of the behavioral therapy protocol, parents who communicate with their children diagnosed with SM in their heritage language are frequently recommended to switch to the community language in home situations [16]. Although studies have shown that switching to a dominant language at home for immigrant children does not help in second language (L2) acquisition whereas continued use of the first language (L1) in home situations is a prerequisite for acquiring it proficiently. It has been documented that immigrant children can profit from their L1 skills when developing their L2 skills [17] and that the conceptual knowledge basis built up in L1 facilitates learning of L2 [18]. Thus, the compensation in L2 input must be searched in other types of activities, such as frequent parental book reading and tv watching [19].

To summarize, (foreign) language anxiety exists by nature. Although no 100% evidence has been found concerning the risk factors, an immigrant status of the family and linguistic and cultural insecurity of young children can lead to SM. From the theory, we can expect that even when children are successfully treated and became fluent speakers, the mute period impacts their linguistic proficiency and has a long-term effect on it. However, there is no single study investigating this aspect as well as the influence of parental communicative strategies.

3. The Case study

This small-scale study focuses on the linguistic development of one pair of twins (due to privacy measures, the names of the children are replaced with child A and child B), born in the Netherlands in a Kazakh-speaking family. From their birth, the children are consistently addressed in their heritage language. When the twins turned two years old, they started visiting a Dutch preschool where they were addressed by the teachers and other children only in Dutch and after a few weeks both of the children started communicating in Dutch with them.

3.1 Language proficiency in the twins before emergence of SM

Before the children went to primary school, at the age of 3;7, their proficiency in Dutch, according to the preschool report, was developing at the same pace as in their Dutch peers. However, the school assessed only general characteristics of the twins' speech production and their communication skills and did not examine mastery of Dutch vocabulary and grammar. After a detailed examination of their grammatical development in Dutch, we concluded that the twins lagged behind age-matched Dutch monolinguals [20]. For example, they produced shorter sentences (four words) and the word order was often deviant compared to the child norm in Dutch. The pronominal system was underdeveloped: both children did not use plural forms; and with respect to object personal pronouns, only the 1st and 2nd person singular ('me' and 'you') were attested in their spontaneous speech. Modal verbs were partly acquired only by child A ('may' and 'can'), while child B used no modal verbs at all. Periphrastic expression of the Future tense *gaan + infinitive* ('to be going to ...') and the Present continuous tense *zijn aan het ...* ('to be doing') were not attested, though these constructions are typical for child language [21].

With respect to the twin's proficiency in the Kazakh language, it was difficult to say whether they lagged behind monolingual Kazakh children as there is very little information available on the developmental paths and acquisition stages in the child Kazakh language [22]. However, it was obvious that the children were more proficient in their Kazakh compared to their Dutch. The longest utterances produced by both children in Kazakh consisted of six words and were quite complex (in terms of using verbal tenses, suffixing, postpositions, and auxiliaries), but the word order was often not-target like, specifically concerning the position of subjects and objects [21]. As in Dutch, the twins acquired only a limited set of personal pronouns: namely, the 1st and 2nd person singular (except the formal usage). It could be related to the parental input, as in adult speech the meaning of personality can be conveyed by personal endings, avoiding thus personal pronouns.

From the variety of all case endings, the children used a limited set of markers and meanings of a certain case. From our data, the genitive, dative, and accusative cases were already used at the age of 3;1, although they occurred not consistently and only in the most frequent functions:

- (1) A: Мама, папа телефон В лақтыр-ып жібер-ді. (3;2)
mother father telephone B through-GER go-PST-3SG
'Mommy, B threw away father's telephone.'

The other three cases (locative, ablative, instrumental) appeared later: at the age of 3;3 in child A's speech, while child B started to use them three to four months later.

Regarding verbal morphology, the Present and Future Simple tenses were fully acquired by the age of 3;1, and the children used a set of personal endings to mark these, although they did not know all stem alternations to choose a proper ending when needed. The 2nd and 3rd plural forms were not acquired at the age of 3;7. To compensate this, the children applied the ending of the 3rd person singular in combination with the pronoun 'all' instead of 'they' (which was grammatically correct). Both children used the Complex Present Continuous tense from 3;2 onwards with only auxiliaries *žatyr* 'to lie' and *otyr* 'to sit' to express the duration of a process. From all past tenses, the twins used only the Simple Past tense with its correct bound morphemes *-dy/-di/-ty/-ti* added to a verb according to the vowel harmony. From the specific personal forms in Kazakh that are used in the Past tense, the children only applied the 3rd person singular (that has no ending). However, at the age of 3;7 child B started to also use the 1st and 2nd person singular.

From the corpus, the children utilized all the three types of negation in Kazakh. The negation particles *жоқ* 'no' and *emes* 'not' that are marked for person and number were used correctly, and the children knew the difference between them. The negation type with the bound morphemes that must be added to a verbal stem

according to the vowel harmony, was not completely acquired. When the children did not know which of the morphemes to apply, especially with new verbs just learnt, they overgeneralized *-ma/-me*:

- (2) B: Есік-ті жап-ма! (3;2)
door-ACC close-NEG
'Do not close the door.'

To sum up, at the age of 3:7 the twins could express themselves in both languages, although they were substantially more proficient in their Kazakh with respect to the knowledge of vocabulary, basic morphology and syntax.

3.2 Emergence of SM, twin's linguistic behavior and treatment

After the long six weeks summer holiday child B (3;09 years old) became muted from the first day at the preschool. According to the teachers, it was a normal process for bilingual children not to speak during the first weeks after the summer holiday. However, child B did not speak even after two months and at this time child A (3;11) also became silent. The children exhibited a deviant behavior pattern when they were brought to school. Child B was clinging to the mother or father and hugged them tightly during saying goodbye, while child A stayed frozen. In the immediate surrounding of school the twins refused to speak, but as soon as they went outside of the school building they both started speaking freely in Kazakh. This behavior was observed also in other official public places, like in the hospital or at the dentist's office. At home, the children spoke freely in both languages.

Such deviant behavior forced the parents to seek for professional help. When the children turned 4;06 years old and already attended elementary school, they were diagnosed with selective mutism; thereafter, they received professional therapy provided by the organization which is specialized in treatment of young children with different speech and behavior problems.

Although there is little information available regarding SM in twins, research has shown it may deviate in characteristics and severity from SM in singletons and possibly contribute to reinforcement and maintenance of the muteness [23]. However, in our case, it was more likely a matter of imitation: when child B was asked, why he did not speak at school, he always said that he was afraid of something or somebody, like a thunderstorm or drilling sounds by the neighbors. In the behavior of child A, no anxiety but rather imitation was observed: according to her she preferred not to speak out of "solidarity" with child B.

The SM treatment is now ongoing and will be proceeded for a year or even longer depending on the children's behavior and speaking success at school. During the treatment, the psychotherapist follows the protocol which includes individual one-hour treatment sessions with each child and multiple individual short sessions (approximately 15 minutes) provided by the teacher during a school week [16]. The parents are also involved and have been recommended to communicate with the twins in Dutch, although they are not proficient in this language and do not believe that their poor command of Dutch would help the children to overcome their anxiety to speak.

3.3 Twins' linguistic development in both languages during SM treatment

During the SM treatment, Dutch proficiency of children (aged 4;7) has been assessed by the speech specialist. Their Kazakh mastery was analyzed on the basis of longitudinal recordings by the authors of this paper. According to the report of the speech therapist both children performed on Dutch proficiency below the average. In accordance with the standardized proficiency assessment [24], the Dutch language of child A was assessed as significantly below the monolingual level for vocabulary knowledge and word comprehension. Free production of phrases and sentences was below average: although the mean length of utterances (MLU) was about six words, the child had problems with the Dutch word order.

Child B showed quite average knowledge of vocabulary in Dutch but he scored below average level for other components of the Schlichting test. The child was not able to repeat Dutch sentences longer than three words; and in longer sentences he either changed the pronunciation of some words or skipped some words.

In Kazakh, the children showed a better command of the language. However, in nominal morphology not all meanings of certain cases were acquired. Thus, the children used endings of the accusative correctly only in the most frequent contexts. In long and complex sentences, the children always applied the endings of the dative case instead. In addition, child B sometimes skipped the ending of the instrumental case, whereas child A did not apply it always according to the vowel harmony.

As for personal pronouns in Kazakh, only the 2nd person plural was still absent in children's speech. All other forms were used correctly. The knowledge of verbal morphology was expanded. By the age of 4;11 the children already used the Past Perfect tense, all verbs to form the Simple Present Continuous tense and the other two auxiliaries *žyr* 'to walk' and *tyr* 'to stand' to form the Complex Present Continuous tense.

In short, although we observed some delay in language proficiency of Kazakh, it is difficult to say to what extent the twins lag behind monolingual peers as there are no detailed studies to compare.

4. Discussion and conclusion

The goal of this paper was to give a brief impression of the linguistic development of the successive bilingual Kazakh-Dutch twins diagnosed with selective mutism. Before the children went to school, they were extensively assessed in both of their languages. From overall results, bilingual proficiency of child B was lower than that of child A, but both children lagged behind their age-matched monolingual peers, although the delay in Dutch was more severe compared to the Kazakh language. During the treatment, the twins were assessed for the second time. The delay in Dutch proficiency remained significant. However, this time child A performed more poorly than child B. Their mastery of Kazakh was comparable, but it was still unclear to what extent they lagged behind monolingual children.

Selective mutism emerged at the end of the preschool period and continued in the elementary school. The behavioral treatment is ongoing and follows an established protocol according to which the parents are recommended to speak Dutch in home situations to make the twins less anxious and to increase the amount of input in the community language. However, the parents question whether the switch to Dutch would be facilitative and not harmful for the twins' proficiency in the heritage language. There are no data to support or reject this fear. Future studies are needed to investigate whether parental accommodation to the community language can indeed facilitate the treatment of SM in bilingual children.

From behavioral observations, it is unclear whether SM is merely the matter of disorder or also imitation behavior. In our case, there is an indication that one of the twins tends to be reinforcing and imitating her twin pair.

At this moment it is difficult to say to what degree the treatment process will be successful as it has not been finished yet, though there is some indication that the children get a little bit less anxious when speaking to other people. It is also unclear whether the twins will be able to improve their language proficiency due to the treatment and to what extent they will lag behind their monolingual peers. In general, there is nothing known about the effects of SM on language proficiency after the treatment as the focus is always on language fluency. This concerns not only monolingual children but also bilinguals. This aspect will be in scope of our future research project.

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