Nonfactual meanings in early use of evidentials in Turkish child-caregiver interactions

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Previous and current observational and experimental studies conducted on Turkish evidentials mainly focus on reportative and inferential uses of the -mîş particle. Here we focused on its nonfactual usage in child-caregiver interaction where we examined a relatively large videotaped corpus of child-caregiver interactions of six children between 8 and 36 months of age. Almost half of the utterances in child's speech (46.2%) and child-directed speech (50.2%) contained nonfactual information. Besides the previously documented nonfactual functions such as conveying folktales, myths, dreams, and jokes, we noticed that nonfactual utterances can be used to modulate the addressee’s behavior. Furthermore, we observed that children acquired nonfactual usage relatively early. Here, we discuss the emergence and the functions of the nonfactual usage.

Keywords: evidentiality, longitudinal corpus study, child-caregiver interaction

Among Ayhan Aksu-Koç’s notable features as a researcher, her enthusiasm, curiosity, theory-based approach, and attention to detail are the ones that impressed me the most. Her warm smile and sincerity towards us, the students, makes her a rare professor that one both loves and respects, and feels comfortable in her presence.

– Berna A. Uzundag

Ayhan Aksu-Koç is one of those professors one feels lucky to meet and conduct research with. Her sincerity and sense of humor makes one comfortable not only to engage in mind-opening discussions but also to reflect together about life or ask for personal advice. I wish all the best for you, Ayhan Hocam.

– Süleyman S. Tasci

Ayhan Aksu-Koç has deeply inspired me since my undergraduate years, both as a person and as a scholar. Whether during scholarly discussions or personal chitchats, she is engaging, stimulating, and fun. Her relentless trust of good scholarship and search for answers to very many challenging questions in child language led to the formation of a great bunch of ‘Turkish’ researchers. Cheers to Ayhan Hocam!

– Aylin C. Küntay
1. Introduction

Owing to several studies pioneered by Ayhan Aksu-Koç, we have gained knowledge about various functions and acquisition of the -mlş particle, the Turkish evidential marker. In Turkish, an evidential language where one has to mark one’s source of information when uttering a sentence in past tense, the verbal affix -mlş indicates indirect access to conveyed information. Namely, if the speaker had direct access (e.g. seeing all aspects of an event) to the information he presents, he would use the -DI marker for direct experience. If the information is obtained indirectly, through hearsay or inference, then -mlş is used. The hearsay usage corresponds to conveying information obtained from a source (oral or written) to another person (Example 1). Inference, on the other hand, means that the person makes an inference about a process or a state based on an observation (Example 2).

(1) Yağmur yağ-acak-miş
Rain rain-FUT-PAST-3SG
‘(I heard that) it is going to rain’

(2) Yağmur yağ-müş
Rain rain-PAST-3SG
‘(I inferred that) it rained’ (e.g. after seeing that the ground is wet)

(3) Yağmur yağ-miş ve ayıcık üşü-miş
Rain rain-PAST-3SG and teddy bear feel cold-PAST-3SG
‘It rained and the teddy bear felt cold’

However, the functions of the -mlş affix are not limited to hearsay and inference. This particle also has pragmatic meanings and can be used to indicate irony or surprise. Furthermore, the -mlş particle has one more function and that is to specify nonfactual information (see Example 3) such as imaginary folktales, stories, jokes, and dreams, and events in pretend play (Aksu-Koç & Slobin 1986). We will focus on such nonfactual functions of the -mlş particle in this chapter.

Aksu-Koç’s (1988) longitudinal study about the acquisition of the -mlş marker showed that children were able to use the marker around age 2 in spontaneous speech. Children usually first used -mlş to specify a change of state that they have just noticed in an object that is in joint attention with the caregiver. This was followed by the inferential usage in the first half of the third year, and then the hearsay usage before age 3.

Experimental studies conducted on children’s production and comprehension of the particle showed that children performed worse in experimental settings, and comprehension of the -mlş functions came after their production (Aksu-Koç 1988; Ozturk & Papafragou 2015; Ünal & Papafragou 2016). These experimental
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studies focused on (factual) hearsay and inference uses of the marker. Hence, we do not possess much information about the nonfactual usage by children and adults. An example about nonfactual usage from other languages can be given from Matsui and Yamamoto’s analysis (2013) of the usage of the Japanese sentence-final hearsay particle *tte* in imaginary quotations in one child’s interaction with her mother. Here, imaginary quotations refer to utterances that were not actually produced, but the speaker acts as if they were. These quotations were used as if they were heard from a doll during pretend play or from a person in real life. This study showed that the case study child used more nonfactual quotations than real ones at 2 years of age. At 3 years of age this difference decreased. Similarly, in mother’s utterances the number of nonfactual quotations decreased with time as the child developed. In our data, we came across similar imaginary hearsay uses.

In this brief chapter we will focus on examining the use of the *-mIş* particle in a nonfactual sense in child-caregiver interactions, and we will descriptively analyze (a) when children begin to produce the nonfactual *-mIş*, (b) its frequency compared to the other uses of the evidential marker, and (c) speakers’ purposes in using it. We examined the interactions between six children and their caregivers where children were followed longitudinally between 8 and 36 months. While we only focus on the nonfactual usage in this chapter, we will examine all types of sources of information conveyed by the *-mIş* particle in our complete work (Uzundag, Tasci, Küntay & Aksu-Koç under review).

2. Corpus

The Koç University Longitudinal Language Development Database (KULLDD; Küntay, Koçbaş & Taşçı 2015) is comprised of transcriptions of video recordings of eight children, observed in their home environment twice a month from 8 to 36 months. All 8 were single children at the time of recording. Each session was composed of one hour of recording of interactions between children and their caregivers (e.g. parents, grandparents, babysitters) while the participants were engaged in daily activities (e.g. eating, playing, reading books, and watching cartoons). Although the corpus contains recordings of eight children, here we report findings pertaining to six children since the data collection of one child was terminated at the 21st month, and the data of another child has not yet been transcribed fully. Three of the remaining six children (Child 1 to Child 3) come from families with low socioeconomic status (with parents graduated from primary or middle school), whereas the other three come from families with high socioeconomic status (with parents graduated from high school or university).
The corpus we used contains 210 hours of recording with 113,301 child-directed (CDS) and 83,580 child (CS) utterances. Four percent (4,759) of the CDS and two percent (1,823) of the CS contained the evidential -mIş, and were extracted and coded.

3. Coding

Each utterance that contained the -mIş particle (its allomorphs, and lengthened or child-like pronunciations) was extracted from child-directed speech (researcher-to-child speech was not taken into consideration) or child speech, coded, and further analyzed. In the initial step of the coding, it was determined whether -mIş was used in an evidential sense, i.e. with the purpose of conveying the speaker’s source of information. Since the -mIş particle can be used for other purposes than expressing evidential modality (see Examples 4 and 5), these uses were eliminated from further analyses.

(4) Ali gel-
=mIş-ti
Ali come-perf-past
‘Ali had come’

(5) boya-n-mIş duvar
paint-pass-ptpl wall
‘painted wall’

In sentences like (Example 4), the -mIş particle is followed by another tense-aspect-modality marker and it does not express evidentiality. Its participle function is shown in (Example 5), where it gives an adjectival meaning to the verb it is attached to.

After eliminating non-evidential uses (4.7% of all uses of the -mIş particle), each remaining utterance was coded for the source of information, and finally for its pragmatic function as intended by the speaker by evaluating the utterance in its own conversational context and by examining video recordings when it was necessary to watch the nonverbal behaviors and the interaction context.

3.1 Source of information

Based on the previous research on evidentials, we first determined four categories of source of information, namely (a) perceptual, (b) inference, (c) hearsay, and (d) nonfactual. While the perceptual category is limited to the here and now (e.g. islakmıssın ’(I now see/realize that) (you) are wet’, Child 5, CDS, 8 months\(^1\)), the

\(^1\) The format of the examples is as follows: Turkish utterance – ‘English translation’ – Explanation of the context if necessary – Child number – Whether the utterance comes from CS or CDS – Age of the child when the utterance was recorded.
inference category is used when talking about a process inferred from an observation (e.g. bu arabanınmış ‘this belongs to the car’ (after finding out where an unidentified piece belonged to), Child 4, CS, 31 months). The hearsay category is comprised of utterances that convey information gained from another person’s verbal report (e.g. bunu da Burcu seviyormuş ‘(reportedly) Burcu likes this one’, Child 2, CS, 33 months). Finally, nonfactual utterances contained parts of stories, children’s songs, and other nonfactual statements (e.g. ne yapıyormuş Hanselle Gratel? ‘what are Hansel and Gretel doing?’, Child 6, CDS, 34 months). Although previous work classified some nonfactual utterances under the hearsay category (e.g. Matsui & Yamamoto 2013), we formed a separate nonfactual category because (a) some nonfactual utterances could not be classified under hearsay (see Table 4 for examples), and (b) our goal was to assess the proportion of nonfactual usage among all usages of the -miş particle.

However, speakers sometimes presented nonfactual information as if they heard it from someone else although they did not. For this type of usage, we used an additional category of source of information, namely (e) nonfactual-hearsay (e.g. gidecekmiş abla onu kapatmazsan ‘(reportedly) she (=research assistant) is going to leave if you don’t turn that off’, Child 1, CDS, 32 months). We chose to introduce another category for these imaginary hearsays because most of the time these were uttered by caregivers to regulate their children’s behavior. We think that these should be treated differently than the hearsay category, and we will present more detail in the next section.

3.2 Pragmatic function

In the cases where the source of information was categorized as nonfactual, we coded each such utterance as to the purpose of the speaker in producing that utterance. To that end, our initial coding scheme had two categories, namely narrative and pretend play, based on former reports by Aksu-Koç (e.g., Aksu-Koç & Slobin 1986). We coded the pragmatic function as narrative if the utterance contained story-telling or belonged to a children’s song. The pragmatic function was coded as pretend play if the utterance contained a reference to a nonfactual event in the play environment.

In addition to those two categories, we used another category that we named behavior regulation of the addressee, since during the coding we discovered another purpose of using -miş in the nonfactual sense. This usage was mainly employed by caregivers with the goal of regulating children’s behavior. Therefore, we classified an utterance under this category if the utterance had the purpose of diverting the addressee’s attention, giving examples of desirable behavior from other people, and mentioning positive or negative outcomes of the addressee’s behavior. Hence,
subcategories of the behavior regulation category included (a) attention-getters, (b) behavior change instigator with positive consequence, and (c) behavior change instigator with negative consequence. An utterance was coded as an attention-getter if it was used to divert the addressee’s attention to a person, place, object, idea or event mainly to stop the addressee from engaging in undesired behavior (see Example 6). The behavior change instigator with positive consequence category was used whenever the speaker mentions a potential positive outcome of the addressee’s desired behavior (see Example 7). On the contrary, the behavior change instigator with negative consequence category was used when the speaker mentions negative consequences of undesired behavior (see Example 8).

(6) *birak onu bozulmuş* (Child 1, CDS, 32 months)  
‘leave it (=dvd player), it does not work’ (to make the child stop playing with the dvd player)

(7) *ablasi oyuncaklarla oynatacakmış bebeğimi* (Child 3, CDS, 25 months)  
‘she (=research assistant) is going to let my baby play with toys’ (to stop the child from crying)

(8) *abla sıkılmış senden gidecekmiş* (Child 5, CDS, 9 months)  
‘she (=research assistant) is bored of you, so she is going to leave’ (to make the child let go of the camera stand and eat yoghurt)

4. Findings

4.1 Nonfactual uses

4.1.1 Frequency  
As seen in Table 1, the frequency of nonfactual uses within CDS and CS for each child is fairly high. In fact, nonfactual uses comprise the most common category of source of information for five out of six children and their caregivers.

In general, perceptual uses followed nonfactual ones in frequency, and for most of the children, the order of frequencies of different categories were the same for CS and CDS. C1 and C3 are exceptions, where they have the least and most amount of nonfactuals in CS respectively.

4.1.2 Purpose of nonfactual uses  
Table 2 shows the distribution of different pragmatic functions of nonfactual usage within CDS and CS for each child.
Table 1. Percent occurrence of each type of source of information out of all utterances containing the particle -miş within CDS and CS for each child

<table>
<thead>
<tr>
<th>Child</th>
<th>Source of information</th>
<th>Nonfactual uses %</th>
<th>Perceptual %</th>
<th>Inference %</th>
<th>Hearsay %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td></td>
<td>32.0 (12.0)*</td>
<td>32.5</td>
<td>16.0</td>
<td>19.5</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>17.7 (0.3)</td>
<td>25.3</td>
<td>12.5</td>
<td>24.8</td>
</tr>
<tr>
<td>C2</td>
<td></td>
<td>48.9 (11.1)</td>
<td>23.3</td>
<td>19.4</td>
<td>8.4</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>46.18 (0.4)</td>
<td>26.6</td>
<td>14.6</td>
<td>11.2</td>
</tr>
<tr>
<td>C3</td>
<td></td>
<td>41.1 (9.1)</td>
<td>28.2</td>
<td>17.0</td>
<td>10.8</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>69.7 (3.0)</td>
<td>9.1</td>
<td>3.8</td>
<td>14.4</td>
</tr>
<tr>
<td>C4</td>
<td></td>
<td>53.7 (4.4)</td>
<td>18.5</td>
<td>17.7</td>
<td>9.9</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>52.3 (1.8)</td>
<td>23.3</td>
<td>18.0</td>
<td>4.6</td>
</tr>
<tr>
<td>C5</td>
<td></td>
<td>57.2 (5.6)</td>
<td>22.6</td>
<td>13.4</td>
<td>6.6</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>54.1 (5.4)</td>
<td>28.4</td>
<td>8.9</td>
<td>6.2</td>
</tr>
<tr>
<td>C6</td>
<td></td>
<td>64.3 (4.1)</td>
<td>20.2</td>
<td>11.3</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>44.8 (0)</td>
<td>26.6</td>
<td>19.9</td>
<td>8.1</td>
</tr>
</tbody>
</table>

* Values in parentheses show the percentage of nonfactual-hearsay uses among all uses

We further examined the purpose of nonfactual uses under two main headings: ‘activities’ and ‘behavior regulation of the addressee’. As previously mentioned, utterances that were coded as attention-getters, positive consequence, or negative consequence were categorized under the main category ‘behavior regulation of the addressee’.

Table 2. Percent occurrence of each purpose of the nonfactual usage out of all utterances with nonfactual usage, within CDS and CS for each child

<table>
<thead>
<tr>
<th>Child</th>
<th>Activities</th>
<th>Behavior regulation of the addressee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Narrative</td>
<td>Pretend play %</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>C1</td>
<td>CDS</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>12.3</td>
</tr>
<tr>
<td>C2</td>
<td>CDS</td>
<td>40.9</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>90.2</td>
</tr>
<tr>
<td>C3</td>
<td>CDS</td>
<td>7.7</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>38.0</td>
</tr>
<tr>
<td>C4</td>
<td>CDS</td>
<td>56.1</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>63.7</td>
</tr>
<tr>
<td>C5</td>
<td>CDS</td>
<td>32.6</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>30.6</td>
</tr>
<tr>
<td>C6</td>
<td>CDS</td>
<td>21.0</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>33.6</td>
</tr>
</tbody>
</table>
Then, we classified narrative and pretend play under a new category called ‘activ-

ities’, since utterances in these two categories were mainly produced in situations
such as book reading, singing, describing pictures, watching cartoons, talking while
looking out the window, and playing.

We observed a difference between low and high SES families in terms of the us-
age of behavior regulation. Previous findings showed that low SES mothers produce
more utterances to direct their children’s behavior than high SES mothers (Hoff,
Laursen & Tardif 2002). Our findings are in a similar direction. We observed that
low SES families used -mlə more frequently than high SES families with the purpose
of regulating their children’s behavior. Although we have a very small sample of
children, differences between SES groups are significant if compared statistically,
t(4) = 3.9, p = .018, d = 3.2. This difference mainly stems from the fact that low SES
families use -mlə in nonfactual-hearsay contexts more often than high SES families
(see Table 1), and nonfactual-hearsay is often used for behavior regulation (~80%
of the time). Additionally, there are differences between SES groups in terms of the
frequency of nonfactual usage within evidentials, t(4) = 3.0, p = .039, d = 2.5. High
SES families tend to use nonfactuals more frequently.

4.1.3 Age of emergence
In order to determine when children are capable of using each category of source of
information in their speech, we examined the first productive usage in each cat-
egory for each child. By the term ‘productive usage’, we mean the ability to use -mlə
productively without imitating the adult usage. For this purpose, we first found the
first use in each category of source of information by the child, and then excluded
an utterance as unproductive if the verb root is the same as in adult usage within
the previous context of fifteen utterances (e.g. unproductive usage: adult-to-child:
corba almış mı?, ‘did (s/he) buy soup?’; child-to-adult: almış, ‘(s/he) did not buy
(soup)’, Child 3, 32 months). As a result of this examination we reached the months
of age of first usage of each category as shown in Table 3. As can be seen in Table 3,
nonfactual usage emerged as first or second among the four different functions for
five out of six children.

Contrary to the proposals of previous studies, children did not acquire different
evidential functions in a typical order (e.g. such as perceptual-hearsay-inference or
perceptual-inference-hearsay). Although the order of emergence does not provide
information about when children start comprehending different types of source of
information, it can give us some clues about which categories are easier to produce.
The nonfactual usage, particularly narrative and pretend play, seems an accessible
function early on in the language productions of young Turkish learners.
Table 3. Age of emergence of each category of source of information for each child

<table>
<thead>
<tr>
<th>Child</th>
<th>Age of emergence (in months)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nonfactual uses</td>
</tr>
<tr>
<td>C1</td>
<td>27</td>
</tr>
<tr>
<td>C2</td>
<td>28</td>
</tr>
<tr>
<td>C3</td>
<td>29</td>
</tr>
<tr>
<td>C4</td>
<td>25</td>
</tr>
<tr>
<td>C5</td>
<td>24</td>
</tr>
<tr>
<td>C6</td>
<td>25</td>
</tr>
</tbody>
</table>

Table 4 lists the first productive utterance recorded for each participant and which subcategory of nonfactual usage these belong to, in other words their purpose of usage.

Table 4. First productive nonfactual utterance recorded by each child and the purpose of usage

<table>
<thead>
<tr>
<th>Child</th>
<th>Utterance</th>
<th>Purpose of usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>bu yüzmüş ‘this one swam’ (referring to an object)</td>
<td>Pretend play</td>
</tr>
<tr>
<td>C2</td>
<td>damdan aşağı düşmüş ‘(she) fell off the rooftop’ (narrating an event in a tv series)</td>
<td>Narrative</td>
</tr>
<tr>
<td>C3</td>
<td>uyumuş bak ‘look, (it) fell asleep’ (referring to a toy horse)</td>
<td>Pretend play</td>
</tr>
<tr>
<td>C4</td>
<td>yemek yemiş ‘(s/he) has eaten’ (looking at a book)</td>
<td>Narrative</td>
</tr>
<tr>
<td>C5</td>
<td>bitirmiş ‘(s/he) has finished’ (referring to a doll that the child feeds with crackers)</td>
<td>Pretend play</td>
</tr>
<tr>
<td>C6</td>
<td>evine gitmiş ‘(it) went home’ (referring to a toy plane)</td>
<td>Pretend play</td>
</tr>
</tbody>
</table>

5. Discussion and conclusion

In this chapter we focused on the nonfactual function of the Turkish evidential marker -mIş in relatively dense corpus data by examining its acquisition and its role in child-caregiver interaction. This particle in its nonfactual sense can be used to convey stories, tales, dreams, jokes, and other nonfactual events. Previous and current observational and experimental studies conducted on Turkish evidentials mainly focus on reportative and inferential uses of the -mIş particle (Aksu-Koç 1988; Ozturk & Papafragou 2015; Ögel 2007; Ögel-Balaban, Aksu-Koç & Alp 2012; Ünal & Papafragou 2016). However, as we showed in our study, its nonfactual function is very frequent in child-caregiver interaction among its other uses. Nonfactual utterances are often found in both child and caregiver speech, and the nonfactual
category is the most frequently used one among other types of source of information for five out of six children whose data we examined. In the data of C1, who is the only child that does not fit this pattern, the predominant use is the perceptual use, which might be deemed the simplest one. At the same time, this child's data diverge from other children in that C1 receives the least amount of input, where child speech exceeds caregiver speech on average, and errors in child speech while using -mIş are extremely high with respect to other children.

As we observed in our corpus, the nonfactual -mIş is used with the following purposes: in a pretend play environment; narrating a story, a tale, or imaginary events about people in the environment; singing children's songs; and aiming to direct the addressee's behavior. The function of behavioral control is obviously not exclusively fulfilled by the evidential. Various other utterances without -mIş can be used for behavior regulation purposes. Nevertheless, as a marker that has been usually mentioned with its epistemic modality, our new findings about behavior regulation expand the possible deontic connotations of -mIş previously cited in the literature. Our findings showed that -mIş is used with the purpose of behavior regulation mainly by the caregivers, who aim to direct the children's behavior by diverting their attention, and mentioning the consequences of desired or undesired behavior. Our finding that this type of usage is more common in lower SES families compared to higher SES families fits with previous findings across cultures about lower SES mothers producing speech to direct their children's behavior more frequently (Hart & Risley 1992; Hoff-Ginsberg 1998; Reger 1990; Tardif 1993).

To be able to use the -mIş particle in a nonfactual behavior-regulating sense, one must have formed an understanding of what could distract the addressee from the behavior she is willing to engage in. Therefore, a question for future research might be the development of this type of usage – very rare in child speech before the age of three according to our data – and its potential relation to perspective-taking and theory of mind abilities. Nonfactual usage of the evidential marker may be related to the ability of counterfactual thinking, which may also underlie the ability to use inference properly where in some cases the speaker has to entertain several possible reasons for an observed state/event. Another research question would be whether in other evidential languages an evidential marker possesses such a behavior regulating role.

When we look at the acquisition of the nonfactual -mIş in child speech, we see that it emerges early on with respect to reportative and inferential uses (and in some cases also perceptual uses), which may be due to the fact that children and caregivers often engage in activities that are supposed to boost imagination. In conclusion, the nonfactual usage constitutes a considerable portion of child-directed speech and presents many new research directions besides the source-information related usages of the evidential.
Finally, this first corpus study of the evidential particle -miş in Turkish investigating child-caregiver interaction underlines the importance of analyzing data from different children since we observed individual differences among children − in terms of both usage frequencies and age of emergence − that were not solely due to input-based factors.

References


Küntay, A. C., Koçbaş, D., & Taşçı, S. S. 2015. Koç University Longitudinal Language Development Database on language acquisition of 8 children from 8- to 36-months of age (approx. 1,000,000 words transcribed out of which 250,000 are glossed).


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