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Asymmetry, but where? Terms of address in pet-, infant-, and child-directed speech in Turkish

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Abstract. Terms of address in Turkish spontaneous pet-, infant-, and child-directed speech were compared in terms of the proportion of diminutive and hypocoristic morphemes attached to various types of bases. The goal of the study was to see whether there was any difference in their distribution in different addressee groups that could be attributed to the asymmetrical communication in pet-directed speech. The results showed that, in Turkish, a language poor in diminutives and hypocoristics, the asymmetry is not observed in the distribution of diminutive and hypocoristic forms. It is observed, however, in the morphopragmatic expression of endearment in general that included the possessive morphology, which seemed to be an alternative form used instead of diminutives and hypocoristics or along with them.

Key terms: *pet-directed speech, diminutive, hypocoristics, terms of address, Turkish*

Ką lemia asimetrija: turkų kalbos kreipiniai bendraujant su naminiais gyvūnais, kūdikiais ir vaikais

Santrauka. Šiame tyrime turkų kalbos kreipiniai, vartojami spontaniškai kalbant su augintiniais, kūdikiais ir vaikais, buvo lyginami pagal mažybinių ir hipokoristinių morfemų, pridedamų prie įvairių tipų kamienų, dažnumą. Tyrimo tikslas buvo išsiaiškinti, ar skirtingų kreipinių formų pasiskirstymą lemia adresatų grupė bei asimetriškas bendravimas, būdingas kalbant ir su naminiais gyvūnais. Rezultatai parodė, kad turkų kalboje, kurioje yra itin ribota deminutyvų ir hipokoristikos raiška, asimetrija neturi įtakos mažybinių ir hipokoristinių formų pasiskirstymui. Tačiau ji lemia bendrąją morfopragmatinę malonybinę raišką, kuri apima posesyvines morfologines konstrukcijas, vartojamas vietoj deminutyvų ir hipokoristikos arba kartu su jais.

Raktažodžiai: *turkų kalba, kreipiniai, naminiams gyvūnams skirta kalba, deminutyvai, hipokoristinės morfemos*

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Introduction

Pet-directed speech, just like speech directed to infants and children, has special characteristics. Pet-owners, just like parents, speak with a greater prosodic variation and a higher pitch, form shorter and grammatically less complex sentences and repeat more (Hirsh-Pasek & Treiman 1982; Burnham et al. 1998; Burnham et al. 2002; Michell 2001; Mitchell & Edmonson 1999; Xu et al. 2013, among others). It has also been observed that both varieties of language have special vocabulary (e.g. *choo-choo* or *tummy*) and morphology. An abundance of words marked with diminutive and hypocoristic morphology is reported as special morphological characteristics of pet-directed speech. This is attributed to the need to express endearment in emotionally loaded asymmetrical speech situations (Dressler & Merlini Barbaresi 1994; Mattiello et al. 2021). Pet-directed speech is considered asymmetrical, when compared to adult- (peer or lover) and also partly child-directed speech, due to the lack of (human-like) language abilities of pet-animals (Mattiello et al. 2021).

In this study, we look at Turkish pet-directed speech (Pet-DS), in particular the use of terms of address, and compare it to the speech directed to nonverbal infants (Infant-DS) and verbal children (Child-DS) to see whether they are different in terms of the use of diminutive (DIM) and hypocoristic (HYP) morphology and whether asymmetry in communication can explain the distribution pattern of these markers. The hypothesis is that if Pet-DS is asymmetrical because pets are nonverbal and if this asymmetry is marked through morphology, it must be similar to Infant-DS and less similar to Child-DS.

Turkish is interesting for this study, because in contrast to languages such as Dutch, Lithuanian or Russian, it is poor in terms of DIM and HYP in child and child-directed speech (Savickienė & Dressler 2007). Ketrez and Aksu-Koç (2007) report only four diminutive examples between 1;3-2;0 in Turkish child speech (1% of nouns and adjectives). Only 2% of tokens and 3.2% of lemmas have DIM or HYP morphology in child-directed speech. Ketrez and Aksu-Koç (2021) further observe that 10%–20% of the nominal derivations are realized in the form of diminutives in child and child- directed speech. Despite the scarcity of DIMs in spontaneous interactions, Turkish has a variety of productive DIM and HYP morphological forms. DIMs are marked with various suffixes including *–CIK, –CAğIz, –CIğIm, –CA* in the language[1]. In addition to DIM, there is a distinct set of HYP suffixes, *–oş, –Iş, –Işko, –o, –I,* which are borrowings from Balkan languages (Walter 2016). They derive pet names when they are typically attached to proper names (e.g. *Fatma* > *Fatoş* or *Fato* or *Fatı*) but they can be attached to common nouns as well (e.g. *anne* 'mother' > *anniş*, or *annişko*, *bebek* 'baby' > *bebiş*). Those suffixes that are categorized as HYP are relatively less productive and more variable when compared to DIM markers (Ketrez & Aksu-Koç 2007; Sarı 2020). While *–CIK* and its variants can be attached to almost any noun to express endearment, sympathy or empathy, *–Iş, –oş* or variants are limited in their use. As it is the case in other languages, the distinction between DIM and HYP is not always clear, especially when their semantics and pragmatics are concerned, and the set of HYP markers listed above are included in the DIM lists in the literature (see, for example, Sarı 2020). For this study, *–CIK* and its variant forms were coded as DIM and all *–Iş/–oş* examples and their variants were coded as HYP, regardless of their base words (proper names vs. common nouns). So the distinction between DIM and HYP was made on the basis of their morphology.

Among the terms of address or vocatives, we see *–CIK* and its variant *–CIğIm*, where *–CIK* is followed by the first person singular possessive marker *–(I)m*. The suffix *–CIK* can be attached to proper nouns,

[1] Upper case characters in suffixes show vowels and consonants that alternate due to vowel harmony or consonant assimilation.

common nouns, adjectives and the numeral 'one'. In addition to decreasing the size or the quality of the noun or the adjective, it may add a meaning of sympathy, empathy or endearment (Ketrez & Aksu-Koç 2007). In address terms, it is more common to use the DIM with the possessive (Bayyurt 1992; Özcan 2016). The first person singular possessive marker *–(I)m* (POSS) can be used alone, without the DIM, as well (e.g. *kız-ım* 'my daughter'), and express a similar kind of endearment in address forms (Dimitriyev 1956; Balabekova et al. 2019). POSS can appear in proper names as well as common nouns, and it is one of the most frequent morphemes that appears in address forms across different dialects of Turkish (Yıldırım 2022).

The phenomenon called "address inversion" (Renzi 1968; Braun 1988) is also quite common in informal speech situations, especially in child- and infant-directed speech, as reported in Kartal (2019), the first study that documented and discussed such examples in detail. In address inversion, the speaker uses the term that refers to him/herself (e.g. the term *mother*) when addressing his/her child to express endearment. In address inversion, the kinship terms always have the POSS. They may carry POSS alone (e.g. *anne-m* 'mother-POSS'), or DIM or HYP followed by POSS (e.g. *anne-ciğ-im* 'mother-DIM-POSS' or *ann(e)-iş-im* 'mother-HYP-POSS'). In the present study, such inverse address forms are included in the kinship terms category.

Method

The participants in this study included 25 adult pet owners (7 male, 18 female), 14 parents or primary caretakers of infants (3 male, 11 female), and 20 parents or primary caretakers of verbal children (6 male, 14 female). All participants were monolingual high school or university graduates, and all lived in metropolitan cities in Turkey. The pets included 13 cats, eight dogs, one turtle, one fish and two birds. 16 of the pets were female, and eight of them were male. The sex of the turtle was unknown. Their ages ranged between one year to 16 years. All pets lived with their owners and other members of the family at their apartments. Infants included four boys and nine girls with ages ranging between three months to 11 months, and children included seven boys and 13 girls with the age range of 14 months to 36 months. Infants (and pets) were non-verbal, although they interacted with their owners or caretakers in various gestures, babbling, and other sounds. All the children were verbal, and their mean length of utterance in words ranged between 1.00–4.46 (mean: 1.17).

The data included video or audio recordings of spontaneous adult speech directed to pets, infants, and children. The pet and infant owners were instructed to record their speech directed to their pets or infants and behave as naturally as possible in their interactions. They were told that the goal of the study was to observe how parents or pet-owners interacted with their infants/children or pets. They were also told to record their speech wherever and whenever they found comfortable and typical. All recordings were done at their apartments where the pet or the infant and the pet owner or the parent lived. The speakers interacted with the pets or infants naturally in the sense that no special materials or methods were used to elicit language. The duration of the recordings ranged from 20 to 118 seconds, and this was reported to be the natural and typical duration of interaction at a time. All the recordings were transcribed according to the conventions of CHILDES (MacWhinney 2000). The child-directed speech data were taken from Boğaziçi University Baby Corpora (Ketrez 1999) and İstanbul Twin Study Database (ITS) at İstanbul Bilgi University. These recordings included comparable spontaneous adult-child interactions transcribed in the CHILDES format. The duration of each recording ranged from 13 to 34 minutes. Table 1 presents the total duration of recordings for each group, the total number of utterances and words, as well as the Mean Length of Utterance (MLU) in words.

Table 1. Participant information, recording duration, number of utterances, word tokens and the mean length of utterance (MLU) in words

	No (Male, Female)	Total duration	Utterances	Word tokens	MLU in words (range)
Pet-DS	25 (7 M, 18 F)	00:24:23	650	1522	2.39 (1.26–3.84)
Infant-DS	13 (3 M, 10 F)	00:45:06	800	2088	2.51 (1.54–3.68)
Child-DS	20 (6 M, 14 F)	05:00:00	5389	16229	2.95 (2.12–3.67)

The terms of address, which were the main object of analysis, were coded according to their morphological structure as (1) names and other nouns in the bare form, (2) those that had DIM morphology, including those that are followed by POSS (e.g. *Lokum-cuk* 'Lokum-DIM' or *Lokum-cuğ-um* 'Lokum-DIM-POSS'), (3) those that had HYP morphology, including those that are followed by POSS, (e.g, *Kuki-ş* 'Kuki-HYP'*, Kuki-ş-im* 'Kuki-HYP-POSS'), and (4) those that had POSS only (e.g. *Badem-im* 'Badem-POSS'). They were further categorized in terms of their bases as (1) names, (2) other names or nouns, such as *can-ım* 'heart-POSS', *aşk-ım* 'love-POSS', and (3) kinship terms, such as 'son' or 'daughter', including self-reference (inverse address forms). There were 15 different forms of address terms recorded in the data. Examples of each category are presented in Table 2.

Table 2. Terms of address, their morphological structures, base types, and examples

Form category	Base forms and morphological structure of terms of address	Examples with glosses
Bare form	Name	*Kuki* 'Kuki'
	Other name	*kuzu* 'lamb'
DIM	Name-DIM	*Kuki-cik* 'little/dear Kuki'
	Other name-DIM	*kuzu-cuk* 'little/dear lamb'
DIM-POSS	Name-DIM-POSS	*Kuki-ciğ-im* 'my little/dear Kuki'
	Other name-DIM-POSS	*kuzu-cuğ-um* 'my little/dear lamb',
	Kinship-DIM-POSS	*anne-ciğ-im* 'my little/dear mother' (inverse)
HYP	Name-HYP	*Kuki-ş* 'little/dear Kuki'
	Other name-HYP	*beb(ek)-iş/-işko* 'little/dear baby'
HYP-POSS	Name-HYP-POSS	*Kuki-ş-im* 'my little/dear Kuki'
	Other name-HYP-POSS	*beb(ek)-iş-im* 'my little/dear baby'
	Kinship-HYP-POSS	*oğ(u)l-uş-um* 'my little/dear son' *ann(e)-iş-im* 'my little/dear mother' (inverse)
POSS alone	Name-POSS	*Kuki-m* 'my Kuki'
	Other name-POSS	*kuzu-m, aşk-ım* 'my lamb, my love'
	Kinship-POSS	*kız-ım* 'my daughter,' *anne-m* 'my mother' (inverse)

Speech directed to three addressee groups (pets, infants and children) were compared in terms of the proportion of DIM, HYP and POSS morphology.

Results and Discussion

As seen in Table 3, in Pet-DS, 210 tokens of address terms, in Infant-DS, 187 terms, and in Child-DS, 381 terms were identified. These comprised 13.79%, 8.95% and 2.34% of the total tokens of words produced during the recordings, corresponding to 8.75, 4.15 and 1.27 terms of address per minute,

respectively. Pet-owners used an explicit form of address more frequently than both groups of parents ($\chi^2(1, N=3610)=21.084$, $p<.001$, *Cramer's V*=.076, $\chi^2(1, N=17{,}751)=566{,}806$, $p<.001$, *Cramer's V*=.179, parents of infants and children, respectively). Parents of infants, meanwhile, produced more address terms than parents of verbal children ($\chi^2(1, N=18{,}317)=268.864$, $p<.001$, *Cramer's V*=.121). In terms of this overall frequency pattern, Pet-DS is closer to the infant-DS, as predicted by the asymmetry hypothesis.

Table 3. Frequency of terms of address (in % of word tokens and per minute)

	Total duration	Word tokens	Terms of address (tokens)	% of word tokens	Terms of address per minute
Pet-DS	00:24:23	1522	210	13.79	8.75
Infant-DS	00:45:06	2088	187	8.95	4.15
Child-DS	05:00:00	16229	381	2.34	1.27

Table 4 presents the total token production of each morphological form in pet-, infant- and child-DS. In the table, DIM forms and DIM-POSS forms are shown separately, and their total scores are reported in each subsection. Similarly, those terms of address that have HYP and those that have both HYP and POSS are given in different rows, followed by their merged scores and proportions. These two subsections are followed by a subsection that reports the forms that have POSS alone. At the end of the table, a summary of those uses that have either of the morphemes (either DIM or HYP or POSS) is presented.

Table 4. Terms of address, their morphological structures, base types, and examples

Form category	Base forms and morphological structure of terms of address	Pet-DS	Infant-DS	Child-DS
TOTAL		**210**	**187**	**381**
Bare form	Name	67	65	194
	Other name	13	6	10
Total bare form		**80 (38.1%)**	**71 (37.96%)**	**204 (53.54%)**
DIM	Name-DIM	6	0	0
	Other name-DIM	3	0	0
DIM-POSS	Name-DIM-POSS	2	3	24
	Other name-DIM-POSS	1	0	0
	Kinship-DIM-POSS	5	5	39
Total DIM(-POSS)		**17 (8.1%)**	**8 (4.27%)**	**63 (16.53%)**
HYP	Name-HYP	8	0	2
	Other name-HYP	0	0	0
HYP-POSS	Name-HYP-POSS	4	0	0
	Other name-HYP-POSS	1	1	4
	Kinship-HYP-POSS	7	0	0
Total HYP(-POSS)		**20 (9.5%)**	**1 (0.53%)**	**6 (1.57%)**
POSS alone	Name-POSS	4	2	0
	Other name-POSS	39	71	50
	Kinship-POSS	50	35	58
Total POSS alone		**93 (44.3%)**	**107 (57.21%)**	**108 (28.34%)**
Total DIM, HYP and POSS		**130 (61.9%)**	**116 (62.03%)**	**177 (46.45%)**

As seen in Table 4, DIM and HYP were usually used with POSS in Turkish in all groups. DIM was attached to the name of the pet or another name without POSS alone in the pet-DS in nine instances. Six of these tokens came from the same dog owner (*Lokum-cuk* 'Lokum-DIM'), and the other tokens (*pisi-cik* 'cat-DIM') were attached to the onomotopoeic word for 'cat', produced by the same cat owner. In both Infant-DS and Child-DS, DIM is produced only with POSS. In all three groups, the most frequent morphologically complex form that had DIM was the Kinship-DIM-POSS, which mostly included the inverse address forms (e.g. *anne-ciğ-im* 'mother-DIM-POSS'). If we look at the distribution of DIM across different adressee groups, we see that pet-DS was different from both of the other groups in the case of the DIM only structures. However, it is similar to the infant-DS and different from the child-DS, as predicted, when the DIM-POSS structures are considered ($\chi^2(1, N=397)=2.4426$, $p=.1180$, *Cramer's V*=.078, $\chi^2(1, N=591)=8.24$, $p<.004$, *Cramer's V*=.118). Infant-DS and child-DS were different as well ($\chi^2(1, N=568)=17.230$, $p<.001$, *Cramer's V*=.174).

HYP appeared almost as frequently as DIM in pet-DS (8.1% vs. 9.5 of tokens) comprising 20 tokens in total. In pet-DS, we observe HYP not only in a variety of morphological forms, but also in different pet owners' speech. It was attached to names of the pets with or without a POSS (e.g. *Sumo-ş* 'Sumo-HYP', *Maf(in)-oş* 'Mafin-HYP', *Elm(a)-oş-um* 'Elma-HYP-POSS') or kinship terms which included inverse address forms (e.g, *oğ(u)l-uş-um* 'son-HYP-POSS', *anni-ş-im* 'mother-HYP-POSS'). In Infant-DS, however, there was only one HYP example (*beb(ek)-iş-im* 'baby-HYP-POSS'). In child-DS, one parent attached HYP to the name of her child (*Den(iz)-o* 'Deniz-HYP') and used it twice, and another parent attached HYP to a common noun and used it four times (*can-iko-m* 'heart-HYP-POSS'). Thus, in terms of the frequency of the HYP, pet-DS was different not only from child-DS but also from infant-DS ($\chi^2(1, N=591)=20.339$, $p<.001$, *Cramer's V*=.186, $\chi^2(1, N=397)=15.954$, $p<.001$, *Cramer's V*=.200, child-DS and infant-DS, respectively).

If we merge all DIM and all HYP forms and compare them to other terms of address, we see that pet-DS was similar to child-DS, and less similar to infant-DS, contrary to the expectations. As seen in Table 4, about 17.6% of the terms of address bear either DIM (8.1%) or HYP (9.5%) in pet-DS. This was very similar to the pattern in child-DS which had DIM (16.53%) and HYP (1.57%) attached to 18.1% of the address terms in total. In Infant-DS, however, terms of address were less likely to have either DIM or HYP (4.84%). Thus, as seen in Figure 1 as well, we see that pet-DS was similar to child-DS, not to infant-DS when DIM and HYP were merged ($\chi^2(1, N=591)=.022$ $p=.882$ (n.s), *Cramer's V*=.006, $\chi^2(1, N=397)=15.835$. $p<.001$, *Cramer's V*=.200, child-DS and infant-DS, respectively).

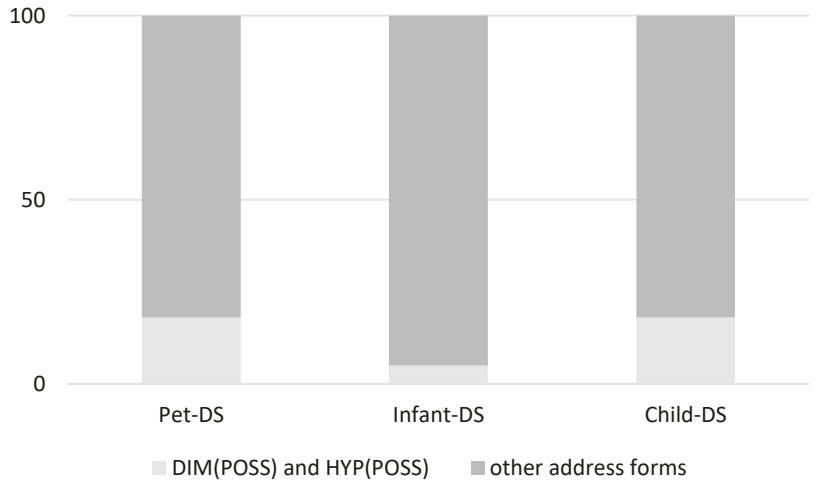

Figure 1. Terms of address with DIM(POSS) and HYP(POSS) versus other forms

As discussed above, DIM and HYP are rare in Turkish, and POSS is used as an alternative form of endearment marking. In addition to its use with DIM and HYP, there are also those terms of address that bear POSS alone. Such forms were very common, and they were the most frequent morphologically complex forms in the data. 44.3% of the address forms in pet-DS, 57.21% and 28.34% of forms in infant-DS and child-DS bear POSS alone. In pet- and infant-DS, POSS was attached to the names of pets (e.g. *Badem-im* 'Badem-POSS') or infants (e.g. *Zeren-im* 'Zeren-POSS'), but this was not observed in child-DS. In all addressee groups, POSS alone was mostly observed on common nouns (e.g. *can-ım* 'heart-POSS', *kuzu-m* 'lamb-POSS') or kinship terms (e.g. *kız-ım* 'daughter-POSS', *oğ(u)l-um* 'son-POSS') or inverse address forms (e.g. *anne-m* 'mother-POSS' *dede-m* 'granpa-POSS'). Pet-DS is observed to have less POSS than infant-DS and more POSS than child-DS (χ^2(*1*, *N*=397)= 6.619, *p*<.01, *Cramer's V*: .129, χ^2(*1*, *N*=591)=15.325, *p*<.001, *Cramer's V*=.161). Infant-DS have more POSS than the child-DS as well (χ^2(*1*, *N*=568)=44.451, *p*<.001, *Cramer's V*= .280).

Finally, we merged all the morphemes, POSS, DIM and HYP, that marked endearment, and looked at their distribution vs. the bare forms of address. Those address forms that bear either DIM or HYP or POSS constituted 62% of the address terms in both pet- and infant-directed speech. As seen in Figure 2, pet-DS and infant-DS were alike in terms of the use of total endearment morphology (χ^2(*1*, *N*=397)=.001, *p*=.979, *Cramer's V*=.001). They were significantly different from the child-DS, where DIM, HYP or POSS occurred in 47% of the terms of address (χ^2(*1*, *N*=591)=12.943, *p*<.001, *Cramer's V*=.148, χ^2(*1, N*=568)=12.184, *p*<.001, *Cramer's V*=.182, pet-DS and infant-DS, respectively).

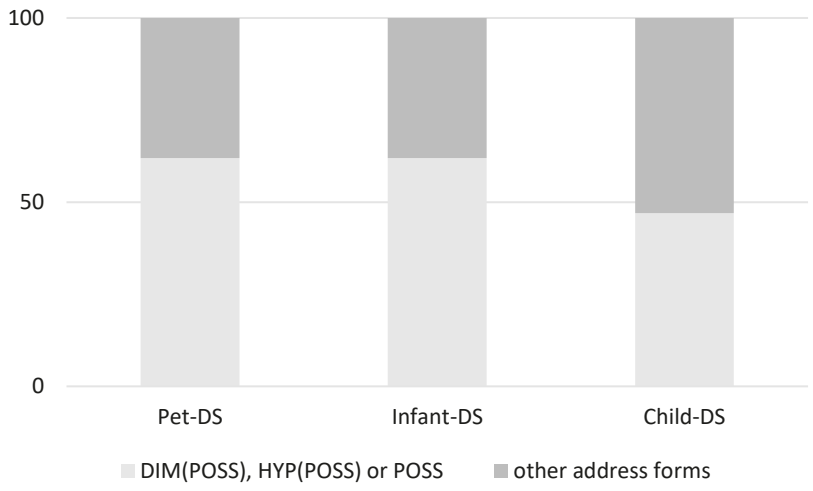

Figure 2. Proportion of address forms with DIM, HYP and POSS versus others (bare forms)

Conclusion

In this study, we examined pet-DS in Turkish and compared it to infant- and child-DS. We focused on the morphological structure of the terms of address with the goal of investigating whether the asymmetrical communication between pets and their owners was reflected in the distribution of various grammatical morphemes that mark endearment, namely, DIM, HYP and POSS. We compared pet-DS to infant-DS, another venue for such asymmetrical speech situations. Following Mattiello et al. (2021) and Dressler et al. (2022), Pet-DS was hypothesized to be similar to the infant-DS and less similar to the speech directed to children who verbally interact with their parents.

We observed that, if only DIM and HYP were considered and compared to other terms of address, pet-DS is similar to child-DS rather than infant-DS. We can attribute this finding to the relative scarcity of DIM and HYP in Turkish and the availability of an alternative, morphopragmatically similar, option. We showed that when POSS-marked terms of address were included in the counts, pet-DS and infant-DS looked very similar if not alike, and they were different from child-DS, as predicted. Turkish POSS, the first person singular possessive marker to be more specific, is an alternative marker that has similar pragmatic functions that diminutives have in other languages such as Dutch, Italian and Lithuanian. By marking a term of address with POSS, speakers create a sense of belonging and relatedness, and this is a way of expressing endearment. According to Zeyrek (2001), relatedness and belonging to a family are important concepts in Turkish culture. Turkish speakers very often use kinship terms, such as *aunt* or *uncle*, when addressing others, including strangers, to express solidarity. The use of possessives along with the kinship terms complements this pragmatic function. Thus Turkish parents and pet owners express their love and affection with address terms, such as *my daughter* or *my son*, or *my heart*, with the possessive marker instead of diminutives or hypocoristics. In this respect, it is clear that the possessive is a morphopragmatic marker that is comparable to the diminutives and hypocoristics in languages such as Italian or Dutch (Dressler & Merlini Barbaresi 1994). It does not have, however, some properties of the diminutives such as playfulness and sarcasm. In such contexts, diminutive and hypocoristic forms come in. As Mattiello et al. (2021) suggest, cultural norms play a significant role in the use of language and in particular in the selection of morphopragmatic markers. The use of POSS along with DIM and HYP in Turkish could be a good example for this kind of interaction of language and culture.

We can conclude that the present study shows that there is asymmetry in pet-DS, and it is marked with morphology in the predicted way. It is not marked with DIM and HYP morphology alone, however, and becomes evident only when DIM and HYP are considered together with POSS morphology. We can suggest that the asymmetry is revealed in the expression of endearment marking as a whole that includes POSS in Turkish.

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