

# Verb-bias in Persian light verb constructions

Presentation Research Group Lexical Constraints

November 2021

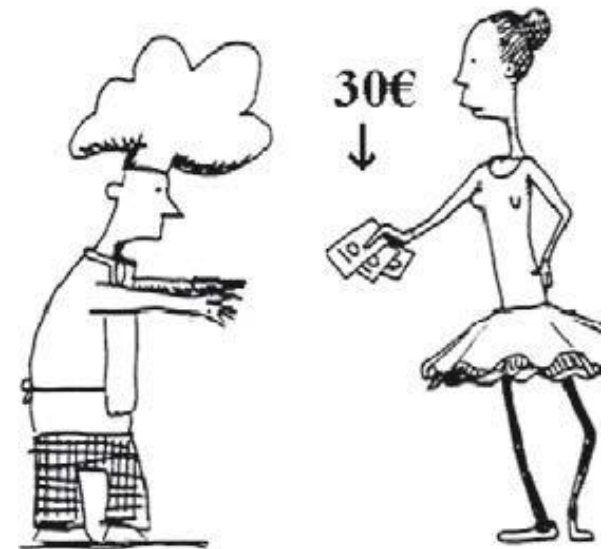
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# Overview

- Background
  - Construction alternation, verb-bias, and priming
  - Processing of light verb constructions (LVCs)
  - LVCs in Persian
- Priming Experiment

# Background: construction alternation & verb bias

- Classic example: ditransitive / dative alternation in Germanic:
  - A: *De ballerina geeft 30 euro aan de kok.*
  - B: *De ballerina geeft de kok 30 euro.*
- Verb bias: *geven* has statistical preference for construction **B**



## Background: verb bias & priming

- Structural priming = the increased probability of re-using recently processed grammatical structures
- Priming experiments on dative alternation:
  - Prime verb used in DIS-preferred construction → increased production of that construction with target picture (= *inverse priming effect*)
    - Previous example: stronger priming for  
*A: De ballerina geeft 30 euro aan de kok.*
    - Evidence that speakers ‘know’ about **lexical** bias
- But: little data on other constructions/languages

## Background: processing of LVCs

- LVCs as idioms or compositional constructions?
  - *X gives Y a present.*
  - *X gives Y a hug.*
  - *X gives Y the cold shoulder.*
- LVCs pattern with idioms:
  - processed as bivalent rather than trivalent
- But again: little evidence beyond Germanic

Ziegler et al. 2018

## Background: LVCs in Persian

- Only about 150-250 verbs
- Verbal lexicon mainly formed by LVCs (*aka* Complex predicates): combinations of a non-verbal element (noun, adjective, particle, PP) and a (light) verb
- LV *par* excellence: 'do' *kardan*
- Other productive LVs: *šodan* 'become', *zadan* 'hit', *xordan* 'collide', *dādan* 'give', *gereftan* 'take', *kešidan* 'pull'
- Examples:

• <i>āb šodan</i>	'melt'	(water become)
• <i>harekat kardan</i>	'move'	(move do)
• <i>harf zadan</i>	'talk'	(talk hit)
• <i>zamin xordan</i>	'fall down'	(ground collide)
• <i>guš dādan</i>	'listen'	(ear give)
• <i>tasmim gereftan</i>	'decide'	(decision take)
• <i>dard kešidan</i>	'suffer/be in pain'	(pain pull)

## Background: LVCs in Persian

- Same argument structure as simple verbs:

Ex. *dorost kardan* 'prepare' (preparation do) vs. *poxtan* 'cook'

(1)	Ali qazā=rā dorost kard	Ali qazā=rā poxt
	Ali meal=ACC preparation do.pst.3sg	Ali meal=ACC cook.PST.3SG
	'Ali prepared the meal.'	'Ali cooked the meal.'

- Same syntactic structure as in an ordinary combination of a lexical verb and its nominal object:

Ex. *dars dādan* 'teach' (lesson give) vs. *dādan* 'give (sth to so)'

(2)	Ali be Nima ketāb dād	Ali be Nima dars mi-dāh-ad
	Ali to Nima book give.PST.3SG	Ali to Nima lesson IPVF-give.PRES-3SG
	'Ali gave some books to Nima.'	'Ali teaches Nima.'

## Background: LVCs in Persian

- The noun in an LVC does not always remain bare and/or adjacent to the verb. Like an ordinary nominal object, it can be:

- modified and/or carry an indefinite determination

(3) Ali be Nima **dars=e**      **mohem=i**      dād  
Ali to Nima lesson=EZ      mportant=INDF      give.PST.3SG  
'Ali thought Nima an important lesson.'

- display word order variations

(4) Ali **dars=e**      **mohem=i**      be Nima      dād  
Ali lesson=EZ      important=INDF      to Nima      give.PST.3SG  
'Ali thought Nima an important lesson.'

- *rā*-marked

(5) Ali **in**      **dars=e**      **mohem=rā**      be Nima      dād  
Ali this lesson=EZ      important=ACC      to Nima      give.PST.3SG  
'Ali thought Nima this important lesson.'



## Background: LVCs in Persian

### LV alternations and lexical restrictions:

- Collocational association between the verb and the noun:

Ex. *harf zadan* (talk hit/\*do) vs. *sohbat kardan* (talk do/\*hit) 'talk, speak'

(6) Ali bā Nima harf zad/*kard	Ali bā Nima sohbat kard/*zad
Ali with Nima talk hit.PST.3SG	Ali with Nima talk do.PST.3SG
'Ali talked to Nima.'	'Ali talked to Nima.'

- LV alternations:

ex. *telefon kardan/zadan* 'to make a phone call (lit. phone do/hit)'

(7) Ali be Nima telefon zad	Ali be Nima telefon kard
Ali to Nima phone hit.PST.3SG	Ali to Nima phone do.PST.3SG
'Ali called Nima.'	'Ali called Nima.'

NB. LV alternations may entail a language register variation:

*taqdim kardan/dāštan* 'dedicate' (dedication do/have[+formal/-colloquial])

# Background: LVCs in Persian

## LV alternations and lexical restrictions:

- Collocational association between the verb and the noun:  
Ex. *harf zadan* (talk hit/\*do) vs. *sohbat kardan* (talk do/\*hit) 'talk, speak'
- LV alternations:  
Ex. *telefon kardan/zadan* 'to make a phone call' (phone do/hit)
- Lexical restrictions:

➤ comb:	<i>šāne</i> (comb)	<i>kardan</i> (do)/ <i>zadan</i> (hit)/ <i>kešidan</i> (pull)
➤ brush (teeth):	<i>mesvāk</i> (toothbrush)	<i>karda/zadan/*kešidan</i>
➤ brush (hair):	<i>boros</i> (hair-brush)	<i>*kardan/zadan/*kešidan</i>
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➤ shampoo:	<i>šāmpu</i> (shampoo)	<i>kardan/zadan</i>
➤ soap:	<i>sābun</i> (soap)	<i>*kardan/zadan</i>
➤ put cream:	<i>kerem</i> (cream)	<i>*kardan/zadan</i>
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➤ sweep:	<i>jāru</i> (broom)	<i>kardan/zadan/kešidan</i>
➤ vacuum-clean:	<i>jārubarqi</i> (vacuum cleaner)	<i>*kardan/zadan/kešidan</i>
➤ mop:	<i>tay</i> (mop)	<i>*kardan/*zadan/kešidan</i>

# LV alternations and lexical preferences

- Focus of our study do/hit LV alternation
- A list of about 60 alternating LVCs based on available databases and own intuitions:

• comb	(comb do/hit)	<i>šāne</i>	<i>kardan/zadan</i>
• brush (one's teeth)	(toothbrush do/hit)	<i>mesvāk</i>	<i>kardan/zadan</i>
• shampoo	(shampoo do/hit)	<i>šāmpu</i>	<i>kardan/zadan</i>
• file (one's nail)	(file do/hit)	<i>sohān</i>	<i>kardan/zadan</i>
• paint	(paint do/hit)	<i>rang</i>	<i>kardan/zadan</i>
• sweep	(broom do/hit)	<i>jāru</i>	<i>kardan/zadan</i>
• iron	(iron do/hit)	<i>otu</i>	<i>kardan/zadan</i>
• fold	(fold do/hit)	<i>tā</i>	<i>kardan/zadan</i>
• staple	(staple do/hit)	<i>mangane</i>	<i>kardan/zadan</i>
• stich	(stich do/hit)	<i>baxiye</i>	<i>kardan/zadan</i>
• sneeze	(sneeze do/hit)	<i>atse</i>	<i>kardan/zadan</i>
• freeze	(ice do/hit)	<i>yax</i>	<i>kardan/zadan</i>
• email	(email do/hit)	<i>imeyl</i>	<i>kardan/zadan</i>
• phone	(phone do/hit)	<i>telefon</i>	<i>kardan/zadan</i>
• fax	(fax do/hit)	<i>faks</i>	<i>kardan/zadan</i>
• call	(call do/hit)	<i>sedā</i>	<i>kardan/zadan</i>
• moan	(moan do/hit)	<i>zajje</i>	<i>kardan/zadan</i>
• saddle (a horse)	(saddle do/hit)	<i>zin</i>	<i>kardan/zadan</i>

*etc.*

# Priming experiment: Design

- On each trial, participants are asked to
  - 1) read aloud a sentence (**prime items**) and
  - 2) give an oral description of a picture (**target items**) using the word provided (the verb in Ziegler et al./ the noun of the LVC in ours)
- Cover memory task: indicate whether they have seen each item (sentence or picture) before (we will add fillers that are repeated in the list)



(Bock & Loebell 1990; Ziegler et al., 2018)

# Hypotheses

- Alternating LVCs have different preferences for each possible LV and priming effects should reflect these preferences.
- I.e., a prime sentence with a **dis-preferred** LV, *increases* the probability to use the given LV to produce the event in the target item (inverse priming effect)
- Priming conditions:
  - 1. Neutral/no prime
  - 2. do-prime: LVC in do, ex. email do 'email'
  - 3. hit-prime: LVC in hit, ex. email hit 'email'

# Materials

- 42 alternating (do/hit) LVCs: 21 primes and 21 targets.
  - Selection (partially) based on an acceptability rating pretest (as part of rMA tutorial by Maryam Torabi Isfahani)
- In order to obtain baseline LV preferences for prime and target items:
  - Experiment 1: Picture description experiment for **target** items
  - Experiment 2: Sentence completion experiment for **prime** items (fill in the blank with 'do' or 'hit')
- On the basis of these experiments, we will compute scores for 'do/hit' preference, for each prime and target item

# Experiment 1: Target items

Picture description production experiment to obtain do/hit preference scores for target items:

staple

منگنه



Somebody is .... a few sheets of paper

منگنه میکند/میزند

یک نفر دارد چند برگ کاغذ را بهم

validate

تایید

NB. Persian is an SOV language.

# Experiment 1: Target items

Picture description production experiment to obtain do/hit preference scores for target items:

sneeze

عطسه



This girl has a cold because she is constantly...

این دختر سرماخورده است چون مدام عطسه میکند/میزند

تایید

- In the priming experiment, we will use the same setting and cue. But the participants will be recorded.



## Experiment 2: Prime items

Cloze (sentence completion) experiment to obtain do/hit preference scores for prime items:

- Participants are asked to complete sentences with one word:

امین هر روز گزارش کار را به رییسش ایمیل  
.

Amin [emails -> email .....] the progress report to his boss everyday.

- In the priming experiment, we will use the same sentence in two versions for do/hit prime conditions:

امین هر روز گزارش کار را به رییسش ایمیل **میکنند**.

امین هر روز گزارش کار را به رییسش ایمیل **میزند**.

# What will we learn?

- Further support for inverse priming effects from an understudied construction and language
- Language users use statistical information on verb biases to inform their choices during language production
- Further support for lexical processing of LVCs

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