
CAN ENGLISH IDIOMS UNDERGO THE DATIVE ALTERNATION?

A PRIMING INVESTIGATION

Breanna Pratley and Philip J. Monahan
University of Toronto

OVERVIEW

NOVEL SYNTACTIC PRIMING TASK

DOUBLE OBJECT AND PREPOSITIONAL
DATIVES MIGHT NOT BE
DERIVATIONALLY RELATED

OUTLINE

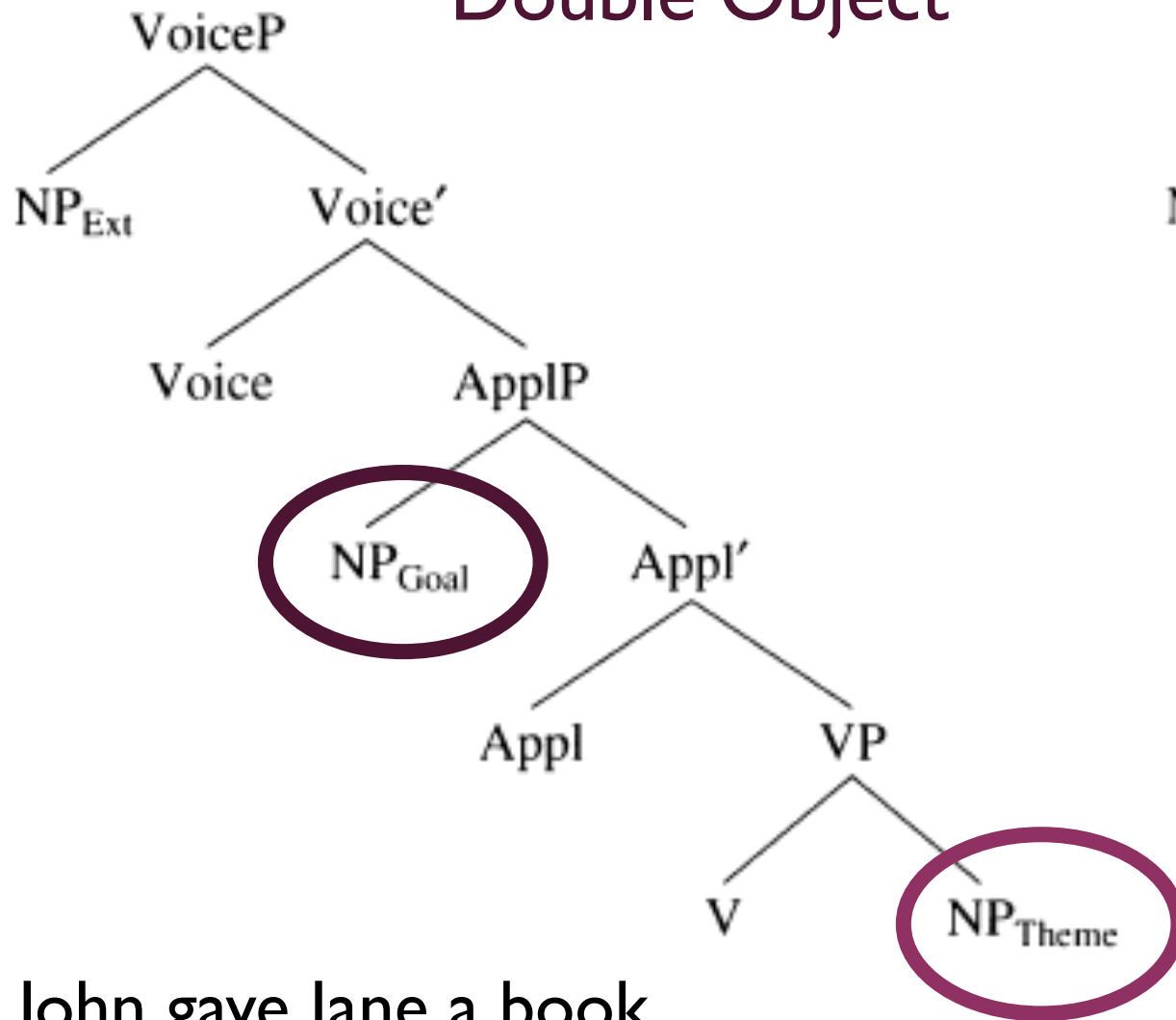
- Idioms and the dative alternation
- An alternate account
- Syntactic priming
- Our experiment
- Results
- Implications



THE DATIVE ALTERNATION (AND IDIOMS)

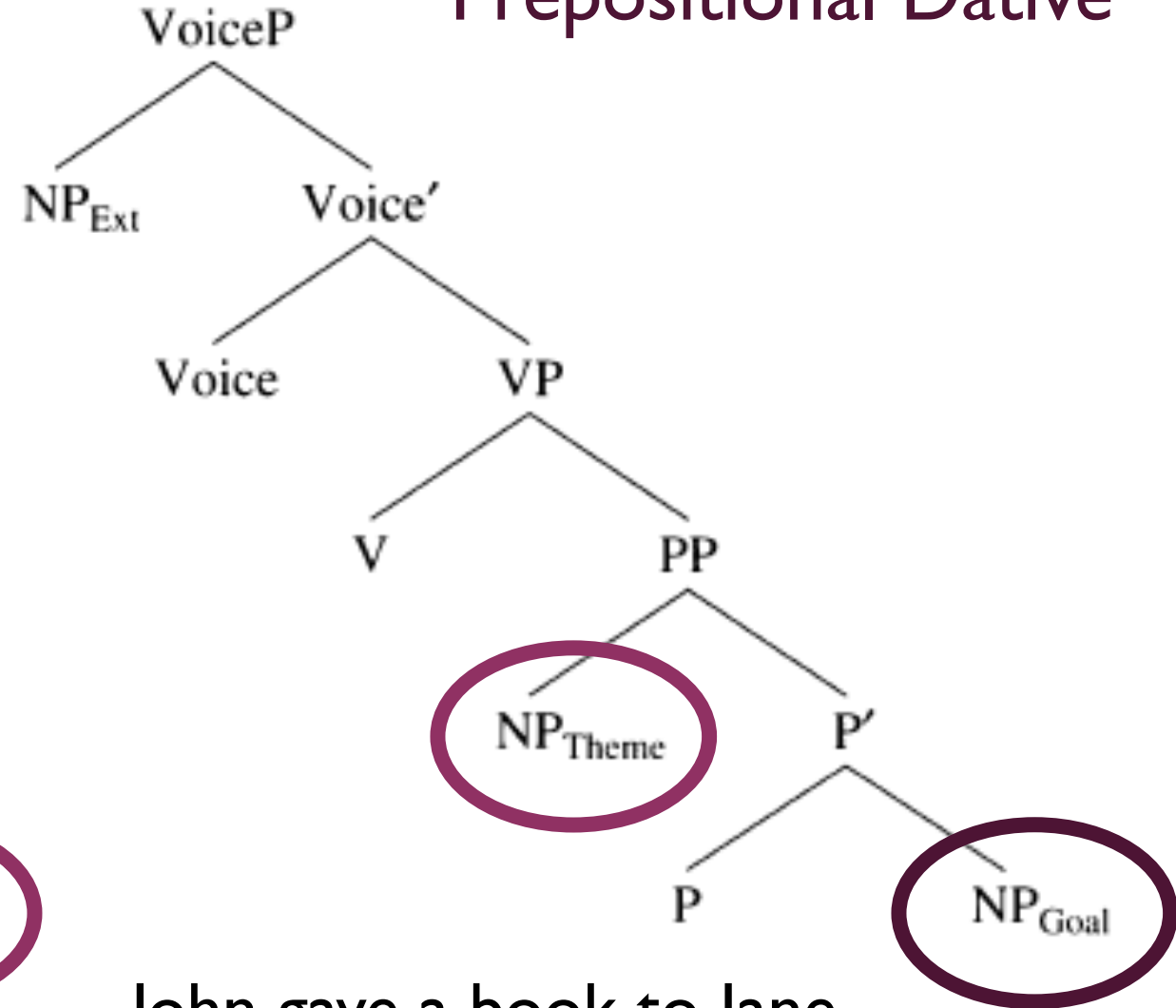


Double Object



John gave Jane a book

Prepositional Dative



John gave a book to Jane

-
- a. The lighting here gives Jane a headache.
 - b. *The lighting here gives a headache to Jane.
 - c. The lighting here gives a headache to everyone in the room.



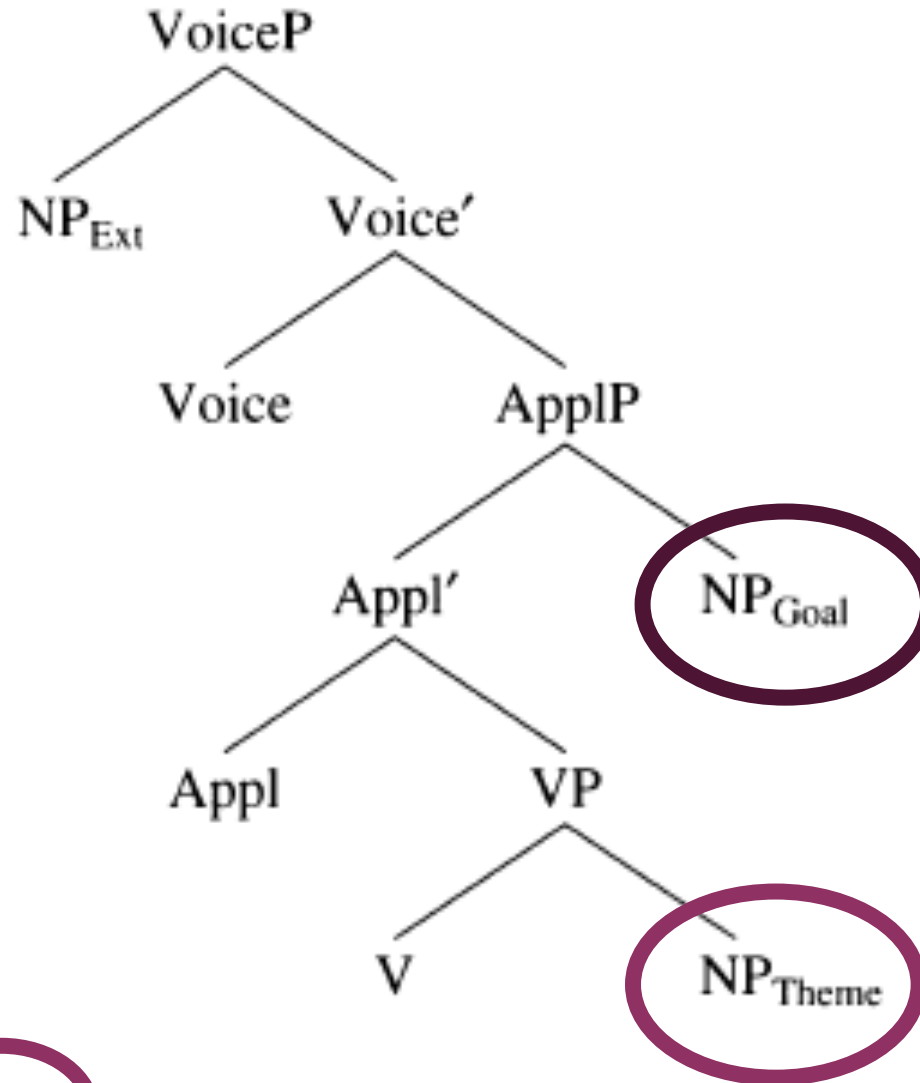
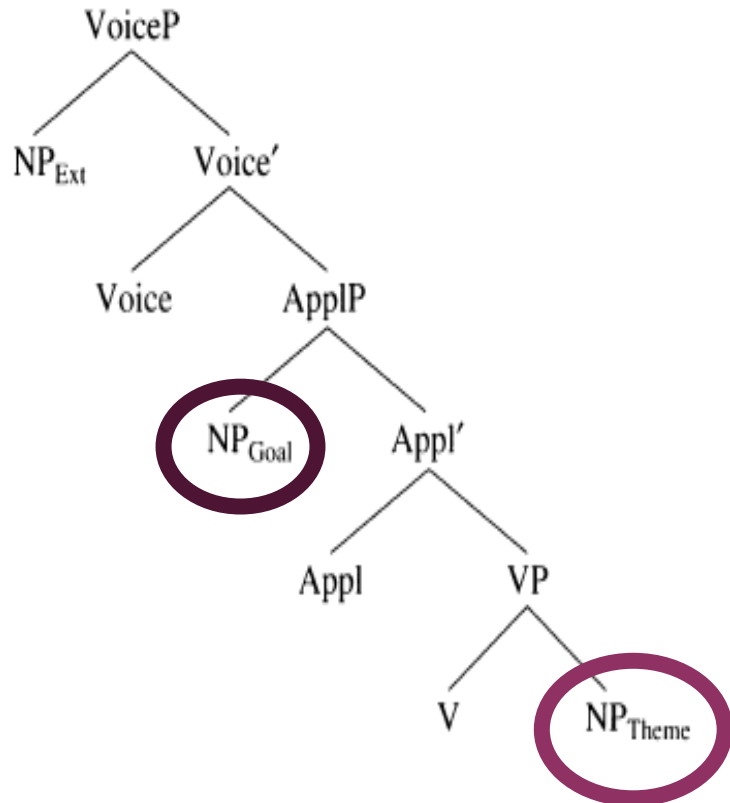
AN ALTERNATE ACCOUNT

RIGHTWARD DATIVE SHIFT



Rightward Dative Shift

Double Object



- Surface order of the Prepositional Dative
- Structure of the Double Object
- Licensed by \bar{A} -movement like heavy NP shift of the goal

RESEARCH QUESTION

Are idioms like

The lighting here gives a headache
to everyone in the room

structurally prepositional datives or a double objects?



THE EXPERIMENT



SYNTACTIC PRIMING

- Participants are exposed to a sentence of a particular structure – the prime sentence
- Participants describe a picture
- Participants have been shown to repeat the structure of their prime sentence

(A) Priming sentences (heard and repeated by the participant)

Active:
One of the fans punched the referee.
 or
 Passive:
The referee was punched by one of the fans.

Prepositional:
A rock star sold some cocaine to an undercover agent.
 or
 Double object:
A rock star sold an undercover agent some cocaine.

(B) Target pictures and speaker choices



Active choice:
Lightning hit the church.
 Passive choice:
The church was hit by lightning.



Prepositional choice:
The man is reading a book to the child.
 Double object choice:
The man is reading the child a book.

(C) Results

Priming structure	Percent speakers responding	
	Active	Passive
Active	73	12
Passive	65	20

Priming structure	Percent speakers responding	
	Prepositional	Double object
Prepositional	48	31
Double object	25	53

LANGUAGE IN MIND 1e, Figure 9.7
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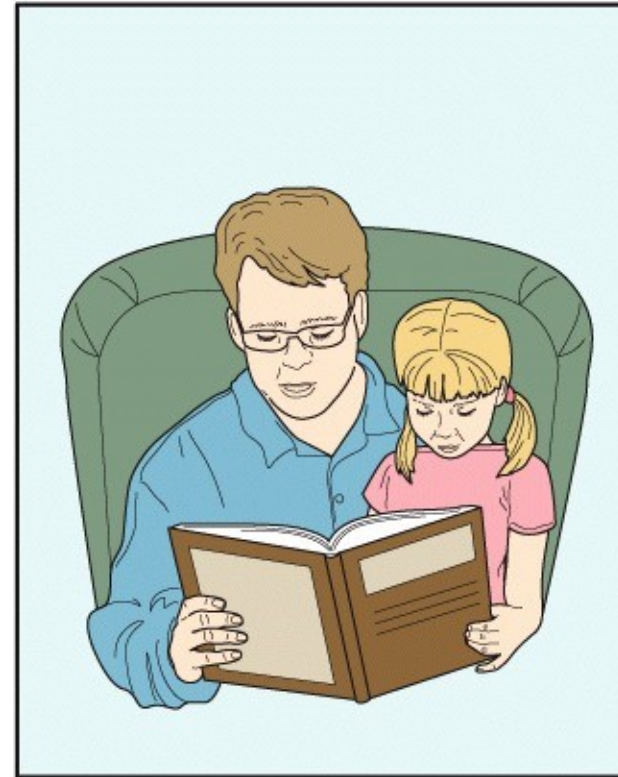


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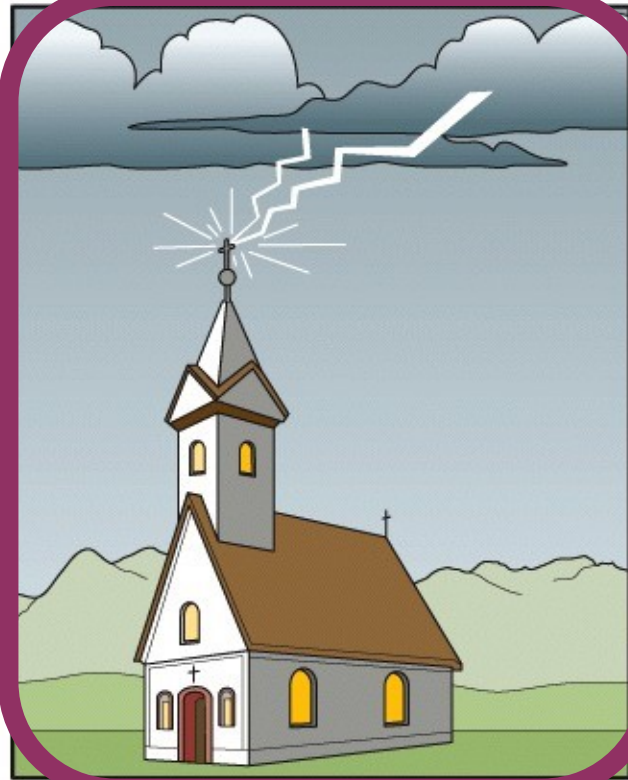
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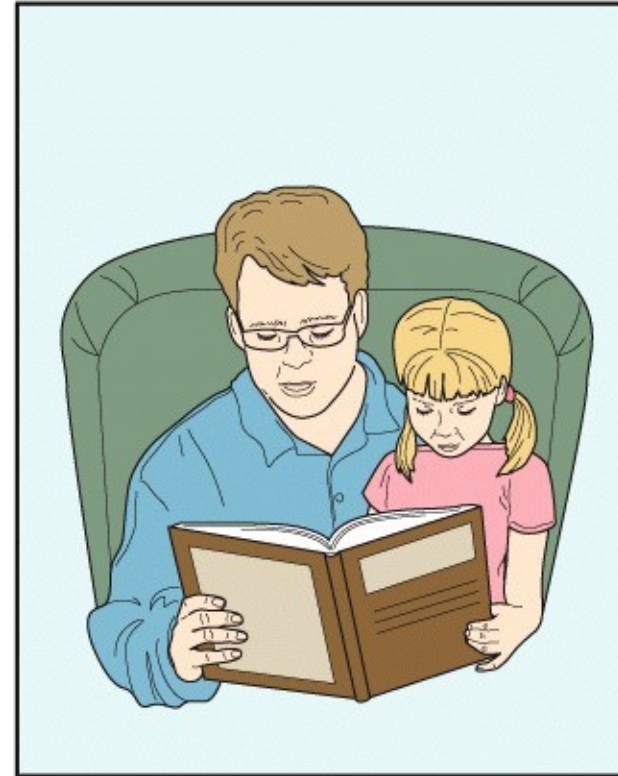


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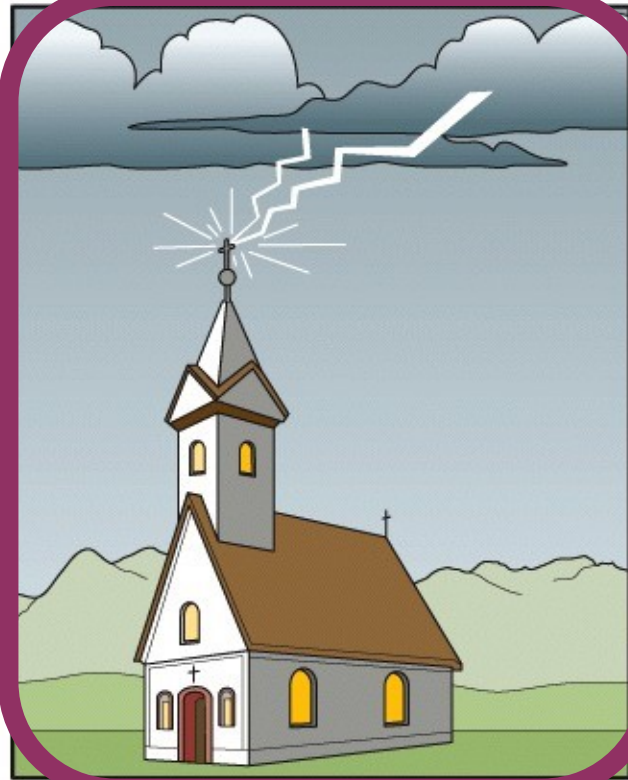
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SYNTACTIC PRIMING

- F
- F
- F

The lighting here gives a headache to everyone in the room

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PREDICTIONS

- If idioms like these are structurally similar to prepositional datives, then they should prime in a similar way
- If instead, idioms in this form retain their double object structure, then they should prime more similarly to double objects

PREVIOUS PRIMING EXPERIMENT DATA

	Experiment	PD	DO	Priming Magnitude	"Other" Production	Baseline
Dative Sentence Completion Experiments	Branigan et al 2000	42	23	19	32	--
	Pickering et al 2002	76	51	25	32	62
	Pickering and Branigan 1998 Experiment 1	47	29	18	34	--
	Pickering and Branigan 1998 Experiment 2	52	32	20	28	--
	Pickering and Branigan 1998 Experiment 3	50	34	16	33	--
	Pickering and Branigan 1998 Experiment 4	51	35	16	30	--
	Pickering and Branigan 1998 Experiment 5	54	31	23	37	--
	Branigan et al 2006	56	28	28	22	--
	Experiment	PD	DO	Priming Magnitude	"Other" Production	Baseline
Dative Picture Description Experiments	Bock 1986	48	25	23	21	--
	Bock and Loebell 1990 Experiment 1	32	25	7	34	--
	Bock and Loebell 1990 Experiment 3	47	32	15	45	--
	Bock and Griffin 2000 Experiment 1	48	43	5	20	--
	Bock and Griffin 2000 Experiment 2	50	38	12	20	45
	Experiment	Pass	Act	Priming Magnitude	"Other" Production	Baseline
Active Passive Picture Description Experiments	Bock 1986	20	12	8	15	--
	Bock and Loebell 1990 Experiment 2	79	74	5	39	--
	Bock and Griffin 2000 Experiment 1	55	49	6	29	--
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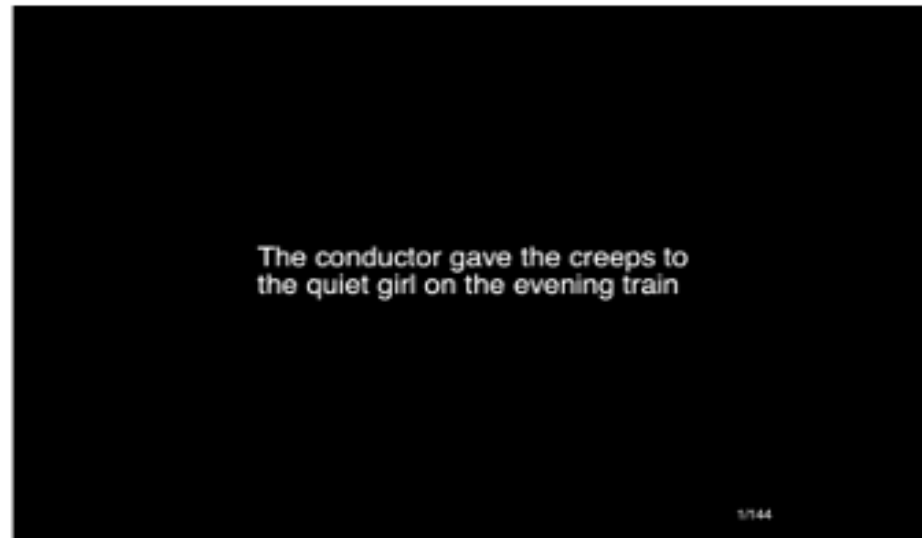
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NOVEL
METHODOLGOY

FORCED
CHOICE
SYNTACTIC
PRIMING

OUR FORCED CHOICE PRIMING EXPERIMENT

- Read a prime sentence out loud
- Proceed to test trial
- Choose between two sentence options
 - each type was equally likely to appear on each side per participant and across lists



response required:
press spacebar to proceed



response required:
press P or Q to choose

CONDITIONS

Active/Passive

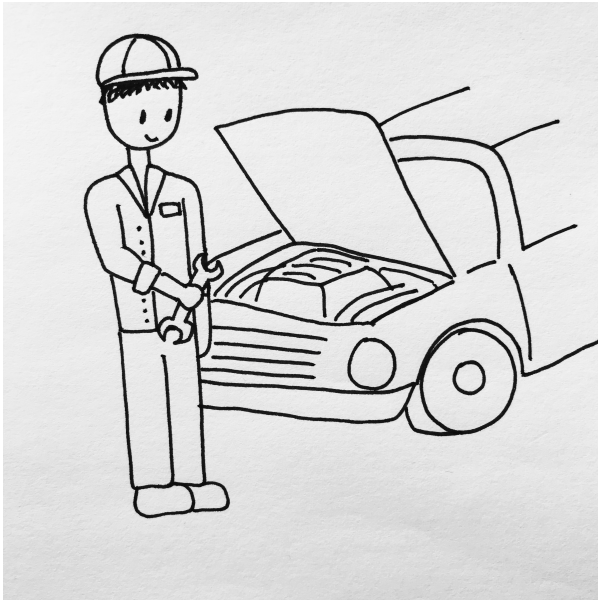
- **Active Prime:**
 - The shy girl embraced the lonely boy in untied shoes
- **Passive Prime:**
 - The lonely boy in untied shoes was embraced by the shy girl
- **Intransitive Prime:**
 - The lanky policeman with the shiny whistle laughed
- **Control Prime:**
 - Mysteriously colourful but possibly dangerous

Dative Alternation

- **Double Object Prime:**
 - The conductor gave the quiet girl on the evening train the ticket
- **Prepositional Dative Prime:**
 - The conductor gave the ticket to the quiet girl on the evening train
- **Rightward Dative Shift Prime:**
 - The conductor gave the creeps to the quiet girl on the evening train
- **Control Prime:**
 - Mysteriously colourful but possibly dangerous

TEST ITEMS

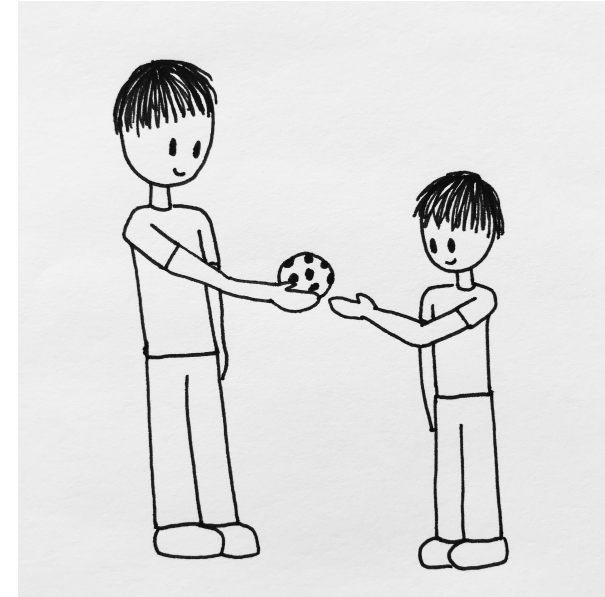
Active/Passive



The mechanic
repaired the car

The car was repaired
by the mechanic

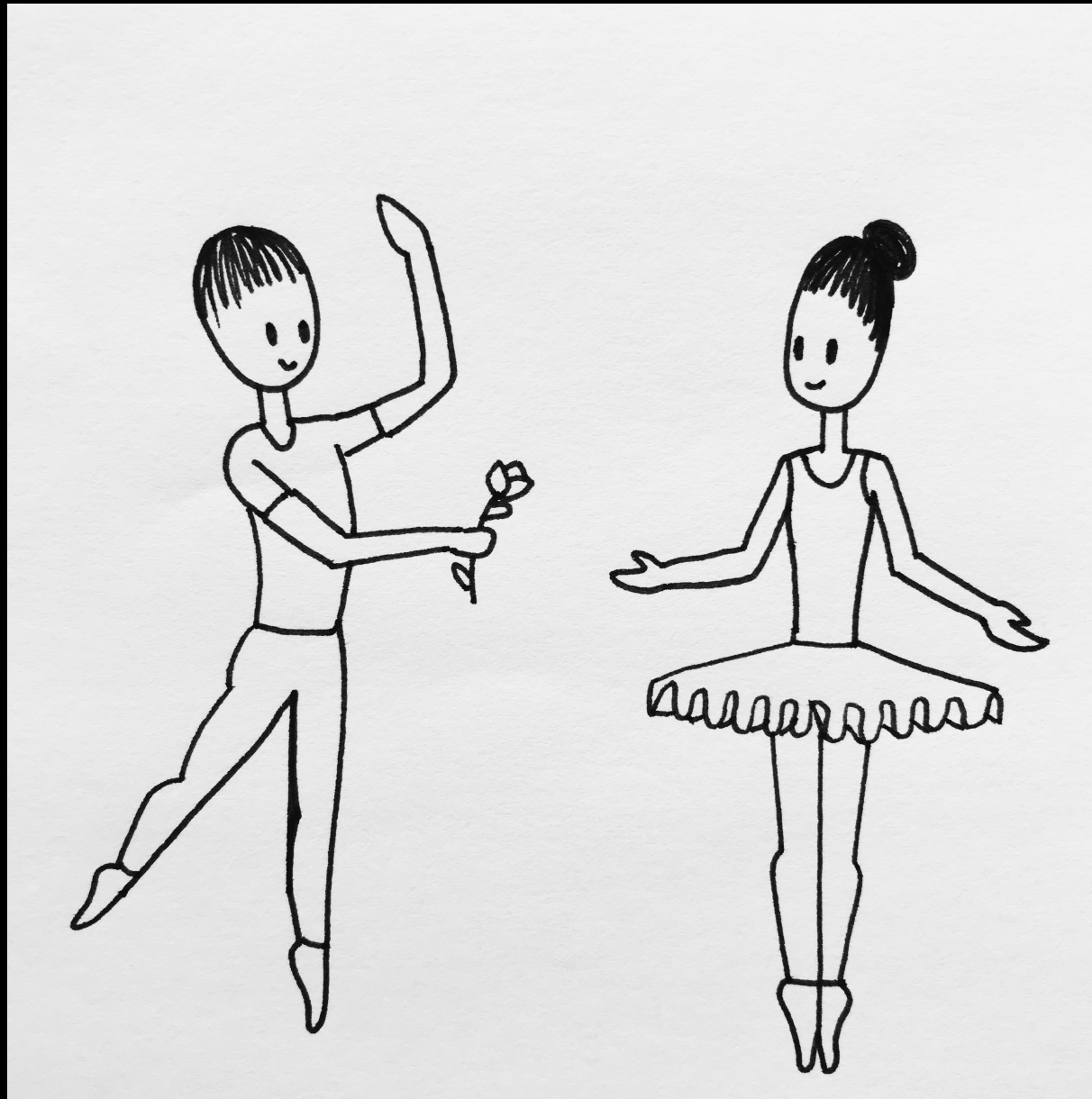
Dative Alternation



The man gave
the child a cookie

The man gave a cookie
to the child

The conductor gave the creeps to the quiet girl on the evening train



The dancer gave his partner a flower

The dancer gave a flower to his partner

EXPERIMENTAL DETAILS

40 participants

144 trials each: 48 dative alternation, 96 active/passive

4 lists, Latin square design

Trials randomized

	primes 1-36	primes 37-72	primes 73-108	primes 109-144
List A	DO	PD	RDS	C
List B	PD	RDS	C	DO
List C	RDS	C	DO	PD
List D	C	DO	PD	RDS

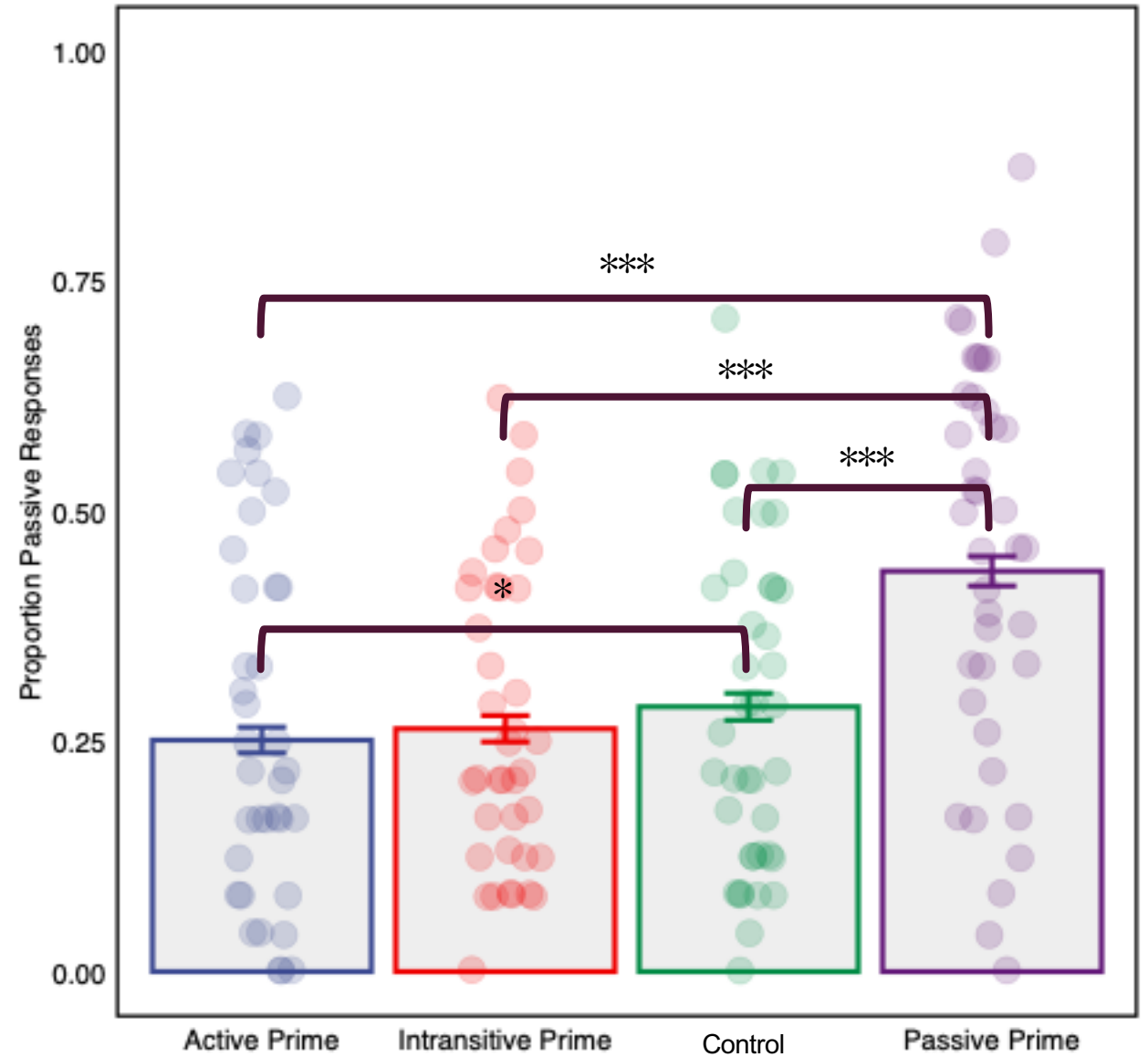


RESULTS



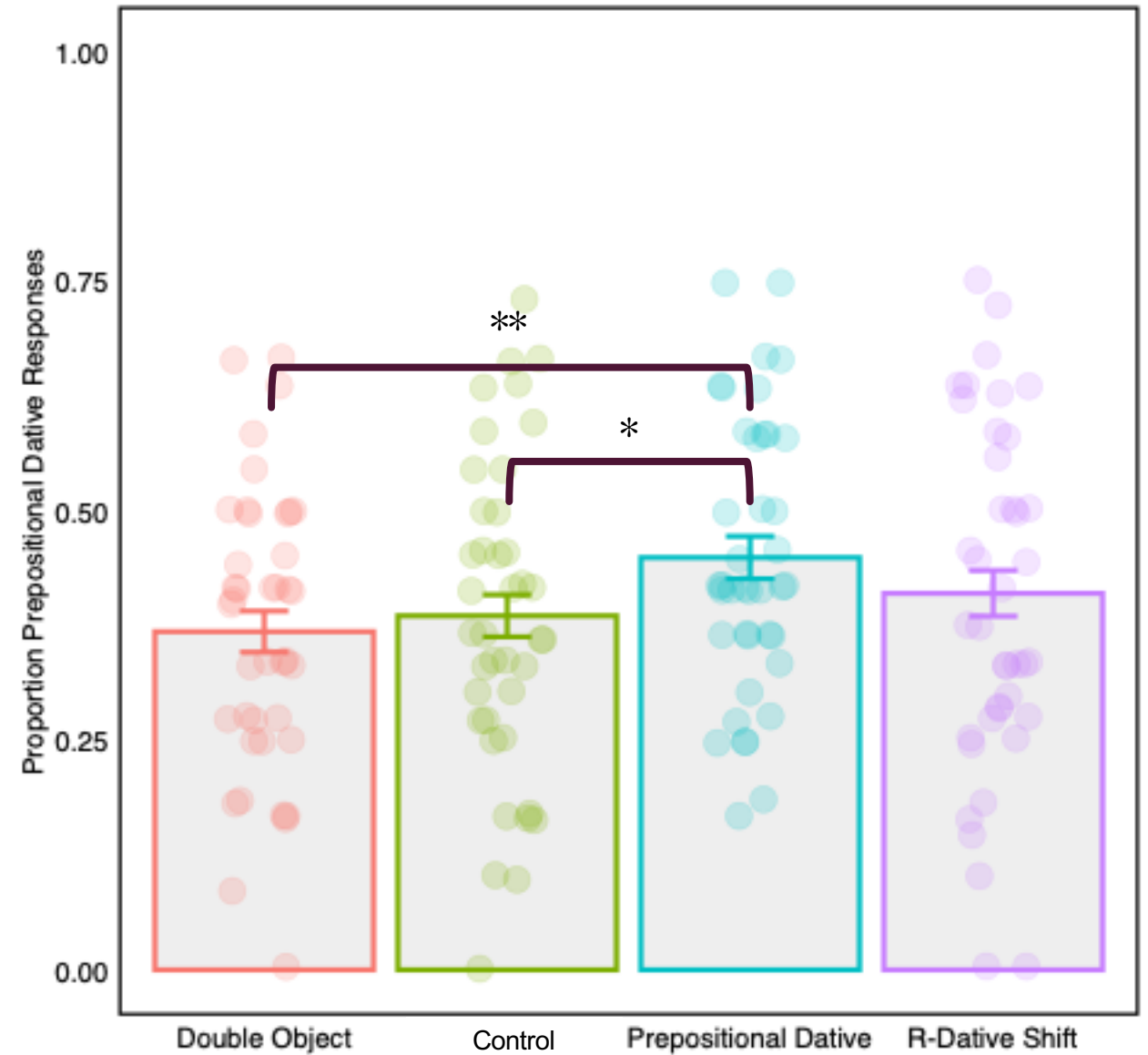
Active Passive Results

Condition	Rate Passive	Standard Deviation
Active	25%	0.434
Intransitive	26%	0.441
Control	28%	0.453
Passive	44%	0.496



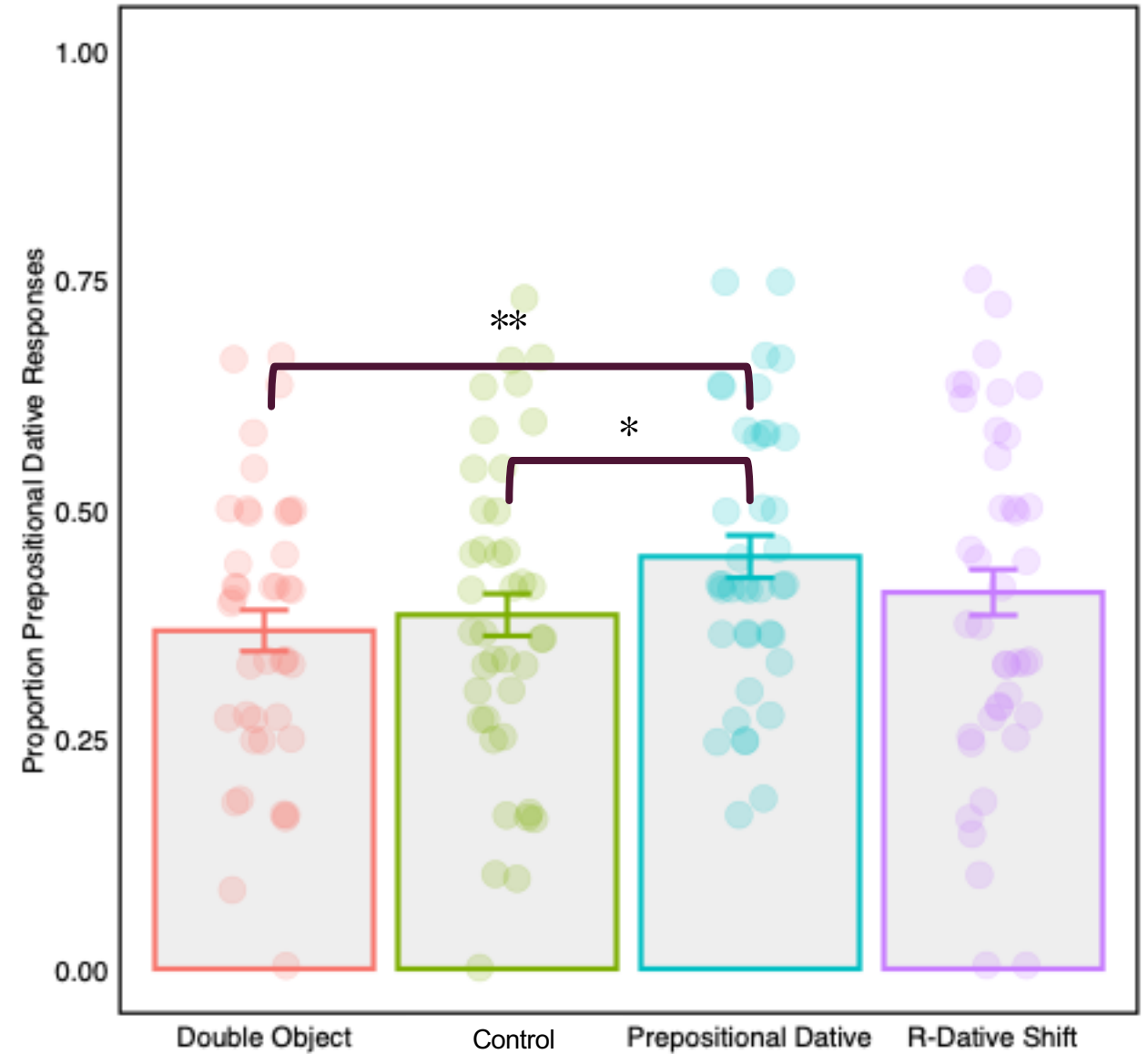
Dative Alternation Results

Condition	Rate PD	Standard Deviation
Double Object	37%	0.483
Control	39%	0.487
Prepositional Dative	45%	0.493
Rightward Dative Shift	41%	0.498



Dative Alternation Results

Condition	Rate PD	Standard Deviation
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RESEARCH QUESTION

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IMPLICATIONS

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- Many factors influence syntactic priming: perhaps lexical overlap of “to” drove RDS results toward PD
- Forced choice task is effective in eliciting priming
 - Enables us to analyze every trial
- RDS is not different from PD, but also not different from DO
 - Idioms are not true prepositional datives

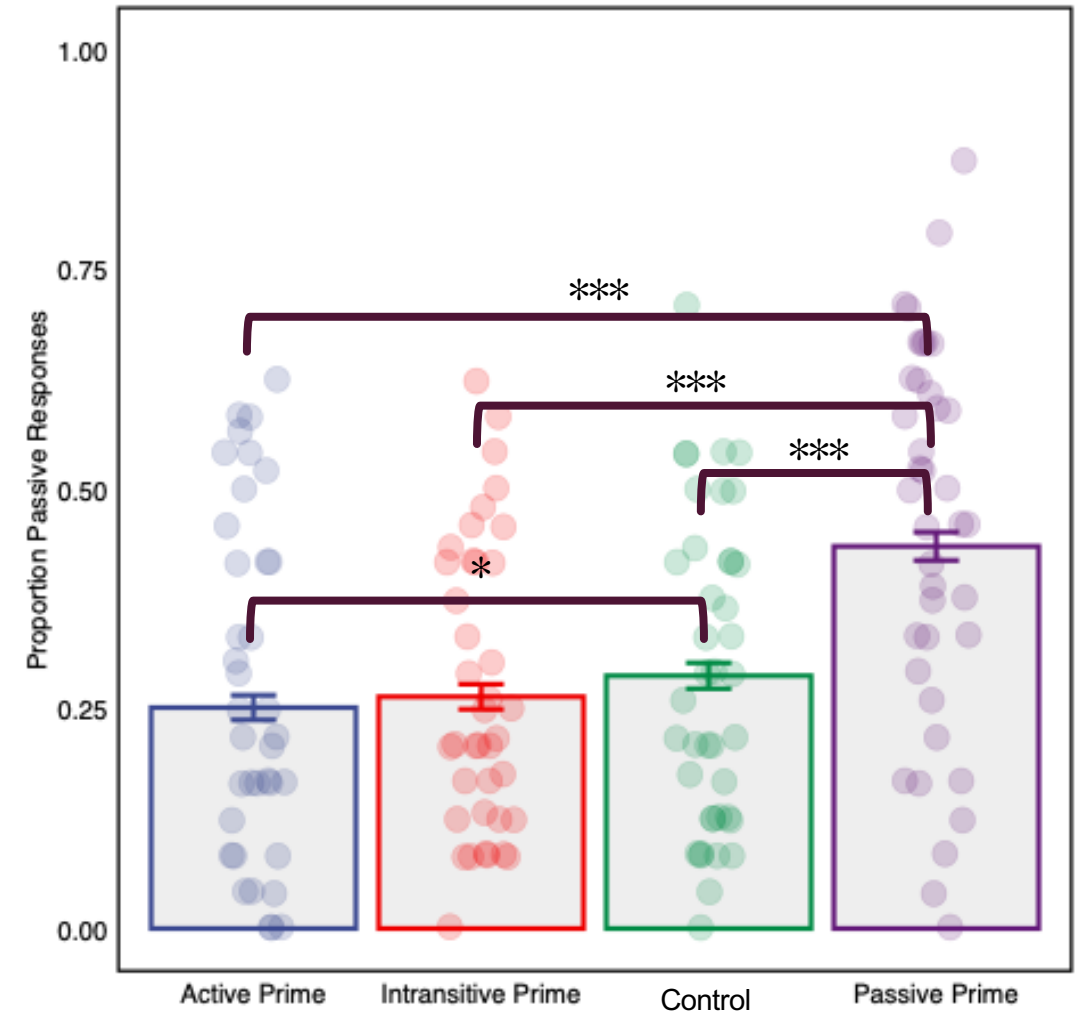
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Models for Active Passive Alternation

	Estimate	Standard Error	Z value	Pr(> z)	Significance
(Intercept)	-1.0579	0.1680	-6.298	> 0.001	***
I vs C	-0.1359	0.1207	-1.126	0.2602	
C vs A	0.3504	0.1414	2.479	0.0132	*
A vs P	-1.0841	0.1934	-5.605	> 0.001	***

	Estimate	Standard Error	Z value	Pr(> z)	Significance
(Intercept)	-1.0579	0.1680	-6.298	> 0.001	***
C vs P	-0.7337	0.1909	-3.844	0.000121	***
P vs I	0.8696	0.1822	4.772	> 0.001	***
I vs A	0.2145	0.1370	1.566	0.117448	



Models for Dative Alternation

	Estimate	Standard Error	Z value	Pr(> z)	Significance
(Intercept)	-0.42098	0.09224	-4.564	> 0.001	***
RDS vs C	0.09376	0.14961	0.627	0.53084	
C vs PD	-0.28623	0.14388	-1.989	0.04666	*
PP vs DO	0.36010	0.13965	2.579	0.00992	**

	Estimate	Standard Error	Z value	Pr(> z)	Significance
(Intercept)	-0.42098	0.09224	-4.564	> 0.001	***
C vs DO	0.07387	0.14250	0.518	0.604	
DO vs RDS	-0.16764	0.15036	-1.115	0.265	
RDS vs PD	-0.19246	0.15302	-1.258	0.208	

