

# Differential Object Marking in Levantine Arabic: Exploring the role of noun type

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Background

# Differential Object Marking (DOM)

- A crosslinguistic phenomenon
- Whereby the direct object is differentially marked for case
- Marking depends on factors such as:
  - Animacy
  - Specificity
  - Topicality
  - Definiteness
  - ...

(Silverstein 1976; Comrie 1989; Bossong 1991; Aissen 2003; López 2012; Kagan 2020; among others)

# Levantine Arabic (LA)



- Spoken by Druze from the Upper Galilee, Israel
- The dialect is closely related to and mutually intelligible with the Druze in southern Lebanon, southwestern Syria

# DOM in Levantine Arabic: basic facts

- Direct objects alternate between no case marking (accusative) and overt marking (dative)

(1) a. **šof-et**      **s-sabeyy-e**  
saw-1sg the-young lady-f.sg  
'I saw the young lady.'

NON-DOM

b. **šof-t-a**                      **la-s-sabeyy-e**  
saw-1sg-3f.sg.obj dat-the-young lady-f.sg  
'I saw the young lady.'

DOM: DAT

 DOM in LA is optional

# DOM in Levantine Arabic: basic facts

- DOM obligatorily involves clitic doubling

(2) dalia    šaf-at-\*(a)                    la-s-sabeyy-e  
Dalia   saw-3F.SG-3F.SG.OBJ   DOM-the-young lady-F.SG  
'Dalia saw the young lady.'

# DOM in Levantine Arabic: basic facts

- DOM is licit only with **definite objects**

(e.g., Abu-Haidar 1979, Levin 1987, Aoun 1999, Brustad 2000)

(3) **aḥmad** **ṭaʕma-ha** **la-\*(I)-bess-e**  
Ahmad fed-3F.SG.OBJ **DOM**-the-cat-F.SG  
'Ahmad fed the cat.'

- Beyond definiteness, **individuation** has been argued to be the key factor for licensing DOM in Arabic

(e.g., Brustad 2000, 2008; Zarka 2021; cf. Khan 1984)

# Individuation: countability vs. atomicity

- Individuation has both syntactic and semantic properties
- Morphosyntactically, individuated nouns are **countable**:  
pluralization, direct combination with numerals
- Semantically, individuation parallels **atomicity**:  
denotation of individuated nouns is atomic, they contain minimal parts



## Zarka (2021): DOM in LA and individuation

- In LA, only **countable** nouns are licit with DOM

- (4) a. **sara šara-at-a**                      **la-š-šant-a**                      **+SINGULAR ✓ DOM**  
Sara bought-3F.SG-F.SG.OBJ **DOM**-the-bag-F.SG  
'Sara bought the bag.'
- b. **sara šara-at-on**                      **la-š-šant-ein/-āt**                      **+DUAL/SOUND PLURAL ✓ DOM**  
Sara bought-3F.SG-3PL.OBJ **DOM**-the-bag-DUAL/-SP<sub>F</sub>  
'Sara bought the two bags/the bags.'
- c. **sara šara-at-on**                      **la-l-kraasi**                      **+BROKEN PLURAL ✓ DOM**  
Sara bought-3F.SG-3PL.OBJ **DOM**-the-chairs.BP  
'Sara bought the chairs.'

## Zarka (2021): DOM in LA and individuation

- In LA, **non-countable** nouns are incompatible with DOM

(5)    **\*aḥmad**   **baʕ-a**                      **la-z-zeft-e**                      **+SUBSTANCE MASS \*DOM**  
Ahmad sold.3M.SG-F.SG.OBJ   DOM-the-asphalt.SM-F  
(‘Ahmad sold the asphalt.’)



But is countability really the key factor?  
Or is it atomicity?

# Current study

# Goals

- To experimentally test the role of individuation in the distribution of LA DOM
- To test whether **countability** or **atomicity** are the key factor in LA DOM

# Methods

# Design and material

| Condition | Example |
|-----------|---------|
|           |         |
|           |         |
|           |         |
|           |         |
|           |         |

- ❖ 6 items/condition
- ❖ 10 non-DOM  
fillers/distractors

# Procedure

- ❖ Gradable acceptability judgment task
- ❖ Online via Qualtrics
- ❖ 6-point forced-choice scale
- ❖ Only the extreme ends of the scale explicitly labeled:
  - 1= *btnḥkaš* 'cannot be uttered'
  - 6= *akid btnḥka* 'can absolutely be uttered'



# Participants

- 48 adult speakers of LA
- Recruited via social media

# Hypotheses & predictions

# Hypothesis I Countability is the key factor in licensing DOM in LA

## Predictions:

Count [+countable] → high acceptability scores

Substance mass [−countable] → low acceptability scores

Object mass [−countable] → low acceptability scores

Collectives [−countable] → low acceptability scores

## Hypothesis II Atomicity is the key factor in licensing DOM in LA

### Predictions:

Count [+atomic] → high acceptability scores

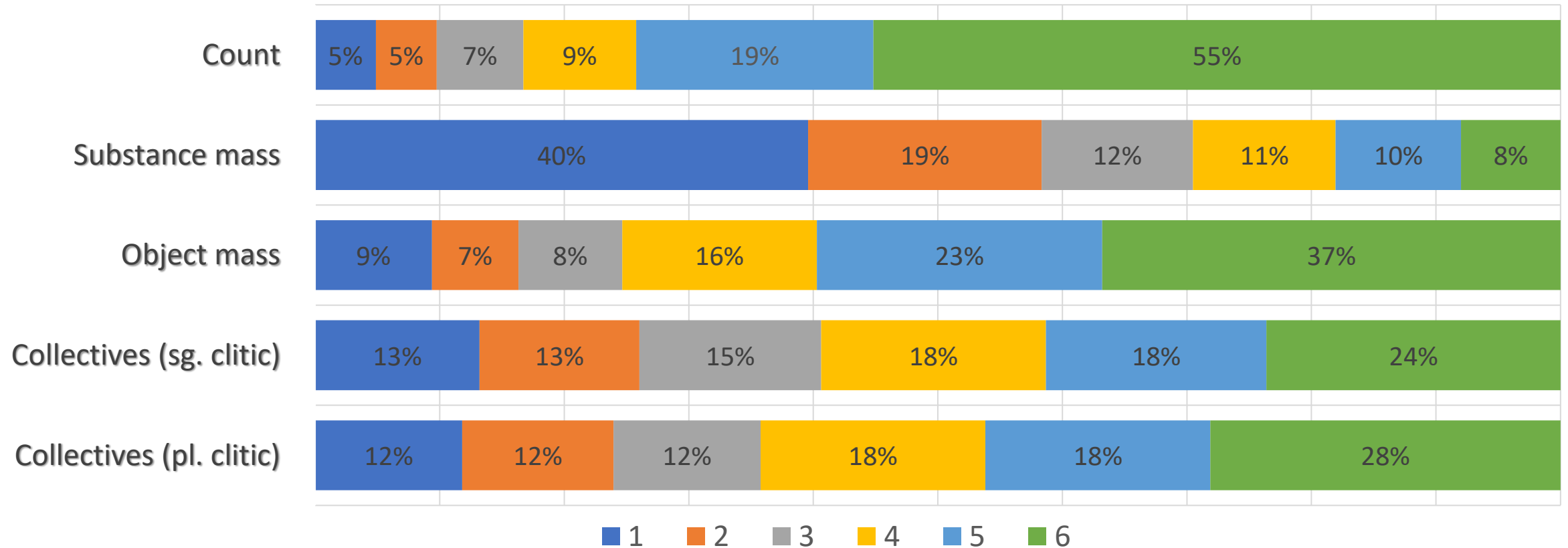
Substance mass [−atomic] → low acceptability scores

Object mass [+atomic] → high acceptability scores

Collectives [??] → ?? acceptability scores

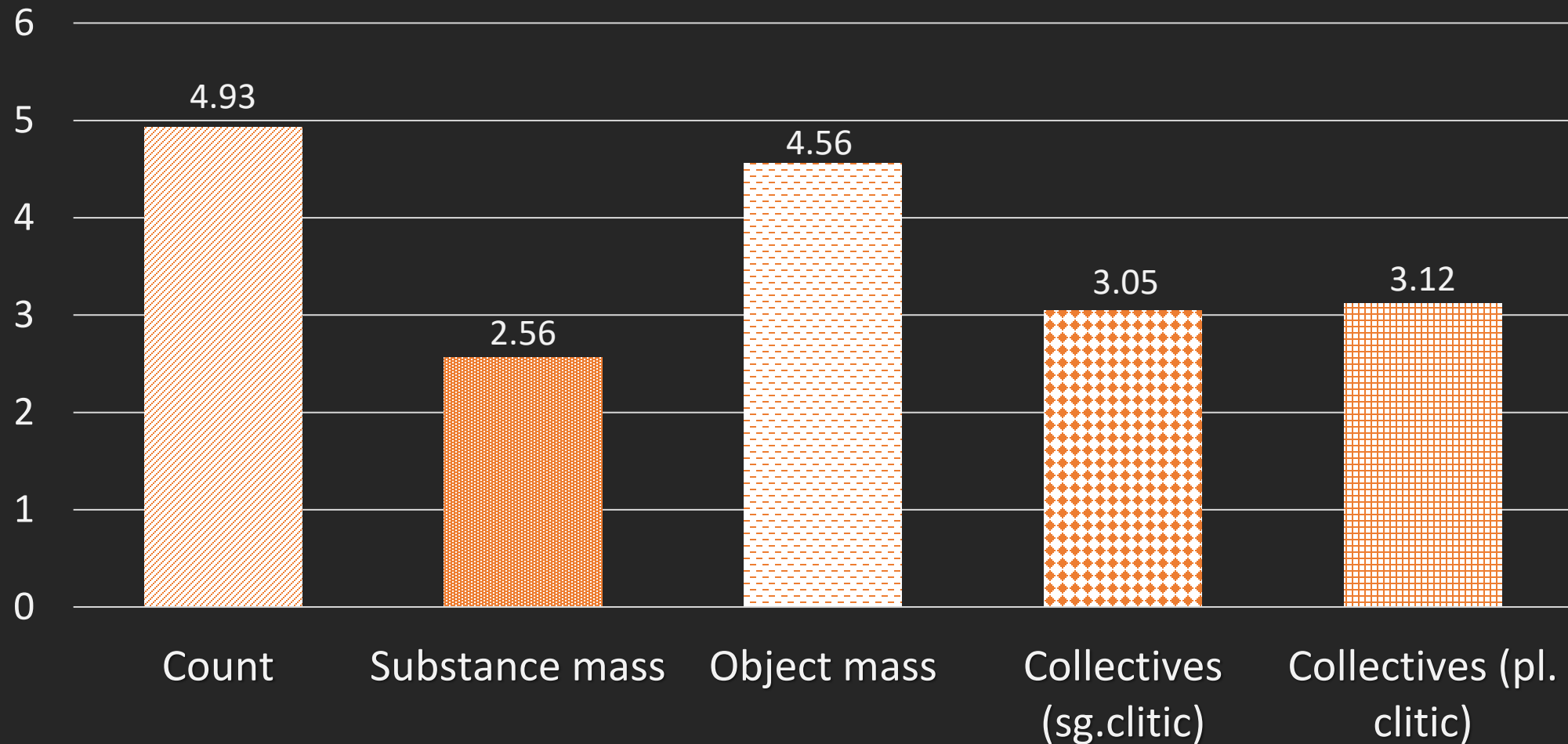
# Results & analysis

# Mean acceptability ratings across conditions



- **Friedman's Chi-Square:** main effect of noun type ( $p < 0.001$ )
- **Ordinal regression:** effect due to significantly different distributions in each condition (mass, object mass and count nouns, collectives(sg) and substance mass, and collectives(pl) and substance mass were all significant ( $p < 0.0001$ ))

## Total average ratings per condition



- Mean ratings across conditions all significantly different from each other (all  $p < 0.0001$ )

# Discussion



# Countability?

- Count [+countable] → high acceptability scores → borne out
- Substance mass [−countable] → low acceptability scores → borne out
- Collectives [−countable] → low acceptability scores → borne out
- Object mass [−countable] → low acceptability scores → not borne out
  - 👉 DOM sentences with object mass: high acceptability ratings (M = 4.56)

# Countability?

If countability were the relevant factor for DOM

→ Acceptability scores for DOM + object mass would have been low

👉 However: high acceptability, therefore...

→ Countability *cannot* be the right dimension for characterizing the distribution of nominals with DOM

# Atomicity?

- Count [+atomic] → high acceptability scores
  - Substance mass [−atomic] → low acceptability scores
  - Object mass [+atomic] → high acceptability scores
- Atomicity predictions are borne out by these data

→ Atomicity is the right dimension for characterizing the distribution of DOM  
in LA



However, data on collectives challenge the atomicity conclusion...

# Collectives

- Arabic collectives: ambiguous between atomic and non-atomic reference (Dali 2020)
- To control for the this, we manipulated the clitic form (singular/plural)
  - ❖ **Singular** clitic → group reading
  - ❖ **Plural** clitic → atomic reading (individual entities)

|  |
|--|
|  |
|  |

# Collectives

**Hypothesis II** Atomicity is the key factor in licensing DOM in LA

**Predictions:**

- Collective + plural clitic: **atomic** reference → **high** acceptability scores
- Collective + singular clitic: **non-atomic** reference → **low** acceptability scores




# Collectives

## Results

|                               | Atomicity | Ratings |
|-------------------------------|-----------|---------|
| <b>Collective + SG clitic</b> | X         | M=3.05  |
| <b>Collective + PL clitic</b> | ✓         | M=3.12  |

- Ordinal regression: Difference in ratings is not significant ( $p=0.22$ )

 Results on collectives challenge **atomicity** hypothesis

 How can we account for the non-uniform effect of atomicity across noun-types?

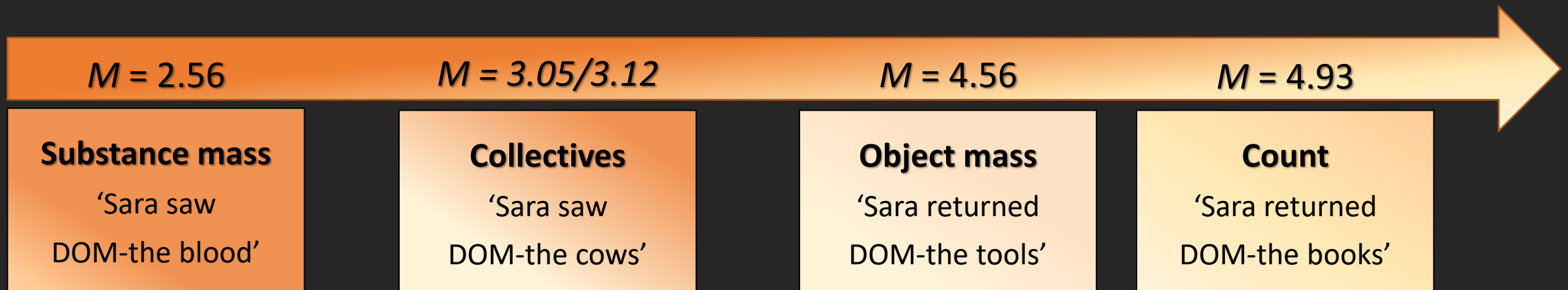
# Atomicity: a scalar property (Grimm 2012, 2018)

- Atomicity is not a binary distinction (atomic vs. non-atomic)
- But rather a scalar distinction
- Scale of atomicity  
Substance < Collectives < Individuals
- The scale is derived via a *connection*-relation
- The connection relation: strongly connected, proximate, or separated

# Scalar atomicity and DOM

- Count, object mass: **high** on atomicity scale → DOM: **most likely**
- Substance mass: **lowest** on atomicity scale → DOM: **least likely**
- Collectives: **lower** than count and **higher** than mass on atomicity scale → DOM: **less likely** than count, object mass; **more likely** than substance mass

👉 This is what our data show:



# Conclusion

- Our study provides novel experimental evidence for the role of individuation in the distribution of DOM in LA
- Contra Zarka (2021): countability is not the relevant property in the distribution of DOM in LA
- Instead, our data show that atomicity is the relevant parameter in LA DOM
- Crucially, atomicity is gradable
- And hence, so is the relative gradable acceptability of DOM with the different nominal categories tested

THANK YOU!