

When good-enough production is not good-enough

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The Convergence Hypothesis

“Grammar and common sense are **acquired by virtually everyone**, effortlessly, rapidly, in a uniform manner... To a very good first approximation, **individuals are indistinguishable** in their ability to acquire grammar ... individuals in a given community each acquire a cognitive structure that is ... **essentially the same as the system acquired by others.**” (Chomsky 1976: 144)

“different learners exposed to the same target will **converge on systems of striking uniformity**” (Bley-Vroman 2009: 179)

“A related fact is that every child in a linguistic community succeeds in converging on a **grammatical system that is equivalent to everyone else’s**, despite considerable variety in linguistic experience.” (Crain 1991: 597)

“... children are exposed to different samples of utterances but **converge on the same grammar.**” (Seidenberg 1997: 1600)

Mere assertions: NO EVIDENCE

Evidence for individual differences in grammatical knowledge

- For reviews, see Dąbrowska 2012, 2015, Kidd et al. 2018, Hulstijn 2015
- Even large differences observed when we add illiterate speakers and heritage language speakers into the picture (Dąbrowska et al. 2022, 2023; Gedik in prep., Prela et al. 2024)
- Many (though not all) of these differences are related to literacy

Why should literacy influence grammatical knowledge?

- Based on these discussions, one hypothesis is: Acquisition of a writing system supports the development of complex syntax (Dabrowska 2020)
- Written language is syntactically more complex than spoken language (i.e., Roland et al. 2007)
- Texts can be edited in the written medium
- Written medium requires being explicit: authors aren't present to jointly negotiate meaning
- Learning to read enhances many aspects of cognition (see Huettig & Mishra 2014)
- Written representations also ease working memory load while processing complex structures

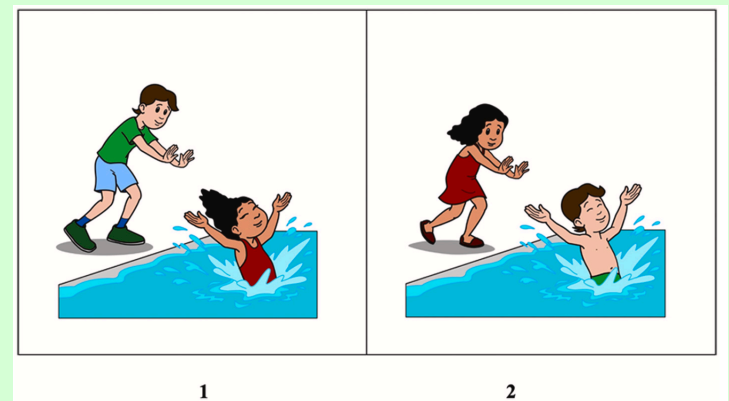
Literacy & Complex Syntax Comprehension

- Illiterate speakers struggle comprehending object and object relatives
- Dabrowska and colleagues (2022):

	SRC	ORC
Semi-literate	95%	51.25%
Literate	99%	84.37%

- Gedik (in prep):

	SRC	ORC
Semi-literate	66%	71%
Literate	98.5%	98.5%



Literacy and Communication

Good-enough processing

- So we ask:
- do gaps in grammatical knowledge in literate and illiterate speakers have tangible consequences for communication?
- Because we don't always comprehend messages optimally (passives being interpreted as actives, Ferreira 2003).
- & We don't always produce the most optimal structures due to cognitive (i.e., memory limitations) or other reasons (i.e., frequency) (see Goldberg & Ferreira 2022)
- Nevertheless, we **successfully communicate** after all
- So literacy may or may not be an important factor in this
- There are surprisingly no studies investigating this

Methods

Procedure

- Setting: experimenter cannot see participant's display, and vice versa, participants are aware of the seating
- Same random order of stimuli for all participants, first show the picture, then prompt, pictures remain on the display, repetition of stimuli if need be
- Individually tested in familiar and quiet settings
- Audio recorded

Methods

Participants

- 30 illiterate (mean age= 45.70) and 27 literate (mean age= 39.38) native speakers of Turkish (all female)
- Illiterates: enrolled in an adult education program for illiterates
80 teaching units (40 minutes each)
Literacy, history and basic math
- Literates: at least a BA degree or beyond



9 Special thanks to Yaşar Demirtaş for providing these photos

Methods

The Picture Based Sentence Elicitation Task



- Modeled on Gennari et al. 2012
- 6 trials x 3 constructions: 18 trials, 18 controls (Subject & object relatives)
- SRC/ORC, acquired relatively late, more frequent in writing, spoken language has stereotypical instances
- Conversational in style, does not feel like a test
- Often used with children in production tasks.

Eliciting subject relatives

Bir kadın bir kızı öpüyor. Bir kadın ise ödülü öpüyor. Hangi kadın olmak isterdiniz?

A woman is kissing a girl. Another woman is kissing the trophy. Which woman would you rather be?

Target: *Ödülü/Kızı öpen kadın (isterim)*

(I would like to be) the woman that is kissing the trophy/girl

Control question

Arkadaki adam ne yapıyor?

What is the man in the background doing?

Target: *Duruyor/Gülümsüyor/Bakıyor/Mutlu...*

(he is) standing, smiling, staring, happy..

Methods

Classification scheme: Good-enough

Three-way distinction:

1. **Target**: most appropriate given the context
2. **Good-enough**: adequate to convey the intended message in conjunction with the informational needs of the addressee, but are not optimal: there is a better way of saying it
3. **Not-good-enough**: not informative enough, not a response to the question or ungrammatical

Results: Subject Relatives, target



*Bir kadın bir kızı öpüyor. Bir kadın ise ödülü öpüyor. Hangi kadın olmak isterdiniz?
(Experimental stimulus)*

A woman is kissing a girl. Another woman is kissing the trophy. Which woman would you rather be?

Target: *Kadını/Ödülü öpen kız (olmak isterim)*

(I would like to be) the woman who is kissing the girl/the trophy

	Illiterate	Literate
Target	27%	92%

Results: Subject Relatives, good-enough



No good-enough responses observed in this condition

	Illiterate	Literate
Good-enough	0%	0%

Results: Subject Relatives, not-good-enough

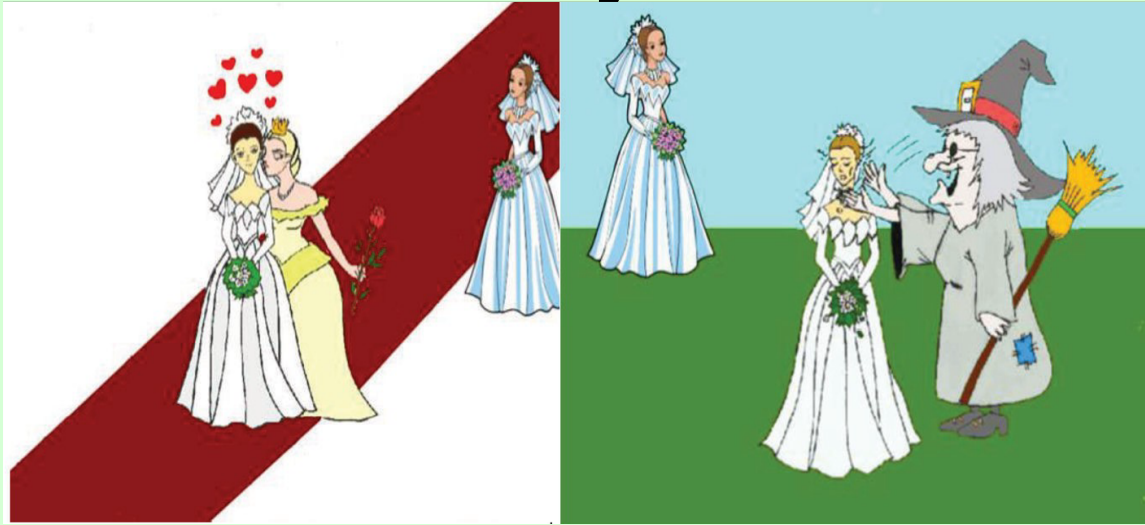


	Illiterate	Literate
Not-good-enough	73%	7%

Not-good-enough responses include:

- demonstratives: *bu/şu kadın* 'this/that girl'
ILLIT: 56%// LIT: 3%
- actives: *şu kadın öpüyor ya* 'this woman is kissing'
(25% vs 2%)
- locatives: *sağdaki* 'the one on the right'
ILLIT: 0%// LIT: 1%

Results: Object Relatives, target



Burada bir kraliçe bir gelini öpüyor, burada da bir cadı bir gelini tokatlıyor. Hangi gelin olmak isterdiniz? (Experimental stimulus)

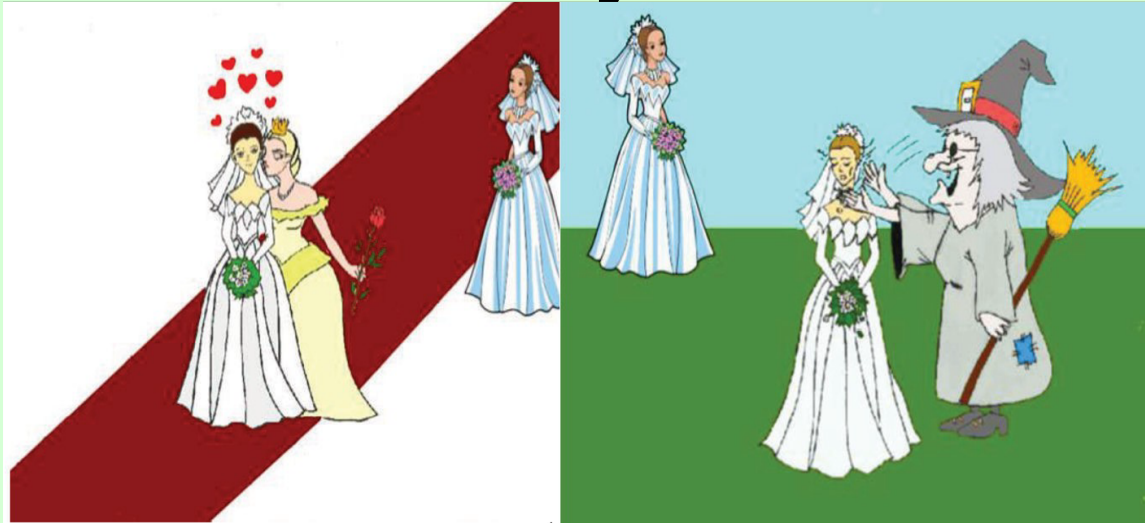
There a queen is kissing a bride, there a witch is slapping a bride. Which bride would you rather be?

Target: *cadının tokatladığı/kraliçenin öptüğü gelin (olmak isterdim)*

(I would like to be) the bride that the queen kisses/the bride the witch slaps

	Illiterate	Literate
Target	10%	52%

Results: Object Relatives, good-enough



Good-enough responses:

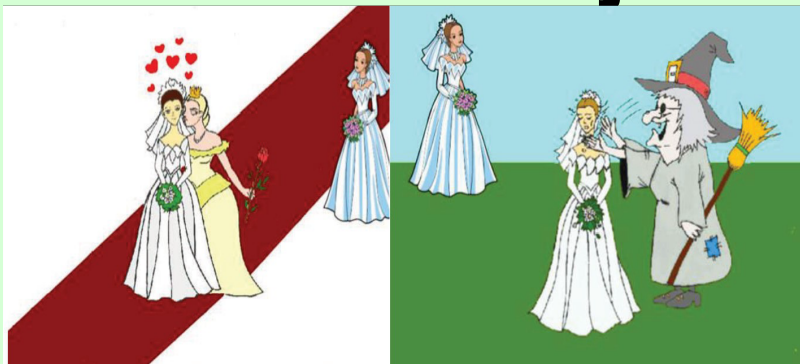
- Subject relative with passive:

öpülen gelin (olmak isterim)

'(I would like to be) the bride that is being kissed'

	Illiterate	Literate
Good-enough	0%	4%

Results: Object Relatives, not-good-enough



Not-good-enough responses include:

- SRC instead of ORC: *Gelini open kraliçe* 'the queen that's kissing the bride', ILLIT: 0% // LIT: 4%
- Actives: *Kraliçe gelini öpüyor* 'the queen is kissing the bride', ILLIT: 26% // LIT: 6%
- Demonstratives: *bu gelin* 'this bride', ILLIT: 73% // LIT: 4%
- Locatives: *soldaki/sağdaki* 'the one on the left/right', ILLIT: 0% // LIT: 31%
- Ungrammatical: *Hemşirenin adamı ittiği adam* '**the man that the man the nurse pushes', ILLIT: 7% // LIT: 0%

	Illiterate	Literate
Not-good-enough	89%	43%

Results: Overall

	Illiterate			Literate		
	Target	Good-enough	Not-good-enough	Target	Good-enough	Not-good-enough
SRC	27%	0%	73%	92%	0%	7%
ORC	10%	0%	89%	52%	4%	43%
Control	97%		3%	100%		0%

Discussion

Consequences for communication

- Interesting results: memory or engagement-related reasons can't explain the low number of target structures
- Because a) participants provided an answer, b) ceiling effects on control stimuli
- But, on average, literate speakers were more likely to provide the target structures, and much less likely to provide not-good-enough structures

Discussion

Health warning

- Under different circumstances, the responses of both groups would be perfectly acceptable
- Using a simple demonstrative instead of a subject or an object relative: efficient and optimal IF AND ONLY IF the interlocutors are on an equal referential communication level (i.e., they can see the object under question).
- But in an experimental setting like ours, it is not good enough because of limited visibility

Discussion

Four proposals why literacy may influence communication

1. input
2. the need to be explicit
3. referential communication & illiteracy as a lived experience
4. miscommunication + theory of mind

Discussion

1. Input

- Complex syntactic structures are more frequent in written language (e.g., Roland et al. 2007), so literate speakers have more opportunities for learning them

Discussion

2. The need to be explicit

- Speakers of oral languages rely more on the shared context than speakers of written language
- Hess & Shipman (1965): mothers from lower SES backgrounds give more context-dependent directions than mother from higher SES backgrounds

High SES mother: *Put things that are all the same color you put in one section, in the second section you put another group of colors, and in the third section you put the last group of colors*

Low SES mother: *All right, just put them right here; put the other one right here; all right, put the other one here*

Discussion

3. Illiteracy as a lived experience

- Illiterate speakers have less experience w/ situations where there's little shared knowledge because most illiterates in Turkey live in the peripheries of urban areas and do not visit urban centers (Yıldız 2006)
- Illiterates were reported to avoid interacting with literate speakers out of shame or fear of being shamed (Fingeret 1983)
- Illiterate women aren't allowed to do their own errands outside the house on their own, usually husbands or others accompany them, which reduces the opportunities to communicate with strangers
- In many ways their life circumstances resemble that of people living in esoteric communities (Wray & Grace 2007, cf. Fingeret 1983)
- Conversing with strangers helps to realize we don't share much knowledge with them, and helps us to be more explicit, because the author is not there to jointly negotiate the meaning
- This increases the need to acknowledge the communicative needs of the addressee

Discussion

4. Miscommunication & Reading Others' Minds

In conjunction with the need to be explicit...

- Speakers often communicate egocentrically (e.g., Keysar 2007); adults communicate better than children because they are more likely to consider others' beliefs
- Furthermore, speakers who know each other well were less successful in conveying new information (Wu & Keysar 2007); possibly because they assume their friends knew as much as they did, but when there is more shared context, communication is easier
- Recognizing the need to be explicit in communication may be a skill that develops throughout life (see Yule 1997)
- However, this is an effortful and learned process requiring theory of mind skills (Sidera et al. 2017)
- Illiterate speakers' theory of mind skills resemble that of 4/5 year-old-children, and reading abilities account for 57% of the variation (Gedik et al. in prep), which may have partially resulted in the figures we present today

Discussion

One final note

- One final possibility: a combination of all these factors (literacy + communication with strangers + SES + theory of mind + education)
- These factors intertwine seamlessly:
- Literacy improves cognition, linguistic knowledge, helps to communicate w strangers, and potentially improves theory of mind, which helps to communicate more successfully
- Low SES (usually associated w illiteracy) => low or no schooling => low theory of mind => low comm w strangers => reduced need to be explicit => problems with precise communication?

Discussion

Implications for communication

- Individual differences in grammatical knowledge have implications for communication:
- Their language skills may suffice for daily tasks
- But, they may falter in high-stakes communication settings, requiring complex syntax (e.g., interactions w/ doctors, government officials, during legal proceedings)
- Indeed, illiterate speakers feel ashamed in hospitals due to mocking when illiterates ask for repetition of the information (Gökçe & Yıldız 2018)

Discussion

Implications in the long run

- This lack of communication, or failure to communicate results in a spiraling feeling of shame and lacking self confidence (Roman 2010, Ülger personal communication, 2024)
- Leads to chronic diseases and health complications (Baker et al. 1997)
- Their communication or other problems may go unnoticed or just unresolved, especially because they have native pronunciation

Take-home messages

- Literacy-related individual differences in grammar have consequences for communication
- Illiterate speakers cannot produce the target (complex) structures most of the time
- Producing optimal structures requires reading the communicative needs of the situation/addressee
- And literacy seems to improve this, albeit not exactly clear how, we need further studies
- Especially for health, and high-stakes situations
- Therefore, education and literacy are vital for the well-being of speakers

Outlook

- Future studies:
- does literacy influence referential communication?
- does literacy influence narrative skills?
- does literacy influence theory of mind skills?
- (Longitudinal): how long does literacy take to impact grammatical knowledge?

Thank you all very much

talk and PPT will be available at tangedik.bilkent.edu.tr

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Questions or comments?

To those who prevail even under the worst circumstances, and to women who emancipated themselves from the patriarchy, one letter at a time.

A few words from these (anonymous) women (in response to “*what has changed in your life since you finished the literacy course?*”):

*It changed everything in my life, my self-confidence increased and I am no longer afraid of doing things,
~Çiçek, 50*

I feel very happy, for example, I go to the hospital on my own and do all my chores myself, I don't feel dependent on anyone anymore., ~Fehriye, 32

Now I can reply to the messages from my husband, and I can read my name at the health center and understand that it is my turn. I read many books and I get very excited. ~Sıla, 41