CVC 8, Kingston, Ont. 1 June 2014

A phonological variable in a textual medium: (ing) in online chat

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"**Instant messaging**" (IM) is defined by the following properties (cf. Baron 2008):
- **text-based**, not spoken
- usually **one-to-one** communication
- **Internet-mediated** rather than e.g. transmitted by the telephone system
- expectation of **real-time** tempo of interaction

These make IM language a candidate for the **written** equivalent of **vernacular** speech—the **natural**, **unmonitored** style used with close acquaintances (cf. Labov 2006)—and therefore and ideal target for sociolinguistic analysis of written language.

Previous variationist analyses of IM language:
Squires (2012) on **apostrophes**: *don't* vs. *dont*, etc.
- As expected, men favor the **nonstandard** variant of **omitting** apostrophes.

Tagliamonte & Denis (2008) on a variety of variables:
- Lexical/morphosyntactic variables: quotatives, deontic modality, intensifiers, &c:
  - IM has a higher rate of **standard** and **conservative** variants than speech
  - IM also has a **greater diversity** among how many variants are frequently used
- Orthographic variables: lowercase *i* for *I*; single-letter *u* for *you*
  - Most users near-categorical one way or the other; little intra-user variation

Orthographic variables studied by Squires and T&D have **no spoken equivalent**.

The **(ing) variable** apparently exists in **both spoken and written form**—**/ɪŋ/ vs. /ɪn/** in speech; ***-ing* vs *-in*** in writing
(with some additional minor variants in each).

But **what is the relationship** between the spoken and written versions of the variable?
Is the written use of *-ing* vs. *-in* **controlled by the phonological process**?
Or is it handled like other purely orthographic variables, independent of phonology?

Examining variation in (ing) in IM language thus may illuminate the nature of the **relationship between speech and writing**.

Corpus:

Data was collected by 22 first-year undergrads at University of Toronto as an assignment for a "Language and the Internet" seminar:
each was assigned to collect at least 1,000 words of one-on-one IM conversations **between themselves and similarly-aged peers**, removing only identifying names.

Total size of corpus: about 22,000–23,000 words;
54 distinct **IM chat participants**:
- 30 male, 24 female
- mean age 18.5; age range 18–25; 34 aged 18
- variety of native languages: English (28), Mandarin (9), Hindi/Urdu (7); Cantonese, Gujarati, Spanish, Tagalog (2 each); Assyrian, Japanese (1 each)
- 34 grew up in Canada
  other countries include: India, China, US, Taiwan, Pakistan, Philippines, et al.

Each participant is labeled by a 1- or 2-letter code.

634 tokens of (ing) in corpus:
- Tokens with obvious typos were included where interpretable (e.g., *goibg* for *going*)
- Plurals of *-ing* nouns included (7 tokens, e.g. L: *so do u have a lot of readings to do?*)
- Futural *going to* included (27 tokens); *gonna* not included (55 tokens)
- One seeming hypercorrection included (RB: *its gonna be taking care of next week*)

All participants but one produced at least one (ing) token.

Overall results:
(ing) **is** variable in IM, but *-in* variant is **very infrequent**:
- Only 17 tokens of *-in* per se, e.g.:
  H: *I'M FREAKIN OUT*
  VC: *so we thinkin of reaching buffalo wild wings*
- 4 tokens of alternate variants with no *g*:
  O: *chilln like a villain,you??*
  O: *haha fucken [--]*[1] *fucken fuck i gotta get dressed msg me later have fun in class!*
  P: *how you doin' *wendy williams voice**

Total of 21 tokens of *-in* and *-in*-like variants[2]: **3.3%** of the whole.

This is **really low**! …isn't it?

Compare with **speech** data from Wagner (2012): 1st-year undergrads from Philadelphia.
lowest rate of /ɪn/ use in any subgroup of Wagner's data is **over 30%**.
So yes, 3.3% *-in* does seem **really low compared to speech**.

Tagliamonte & Denis (2008) find rate of nonstandard variants **lower in IM than speech**, this data is consistent with that finding, but still seems **unexpectedly low**.
E.g., they find *be like* about **one third as common** in IM as in speech, but it's far from being as **marginal** in IM as *-in* seems to be.

[1] Personal name redacted.
[2] Except where otherwise noted, from here on "*-in*" will include *-in*-like variants as well.

Out of 53 IM participants,

- 42 **never** produced *-in*
- 8 produced **exactly one token** of *-in*
- 3 produced 4–5 tokens of *-in* each (participants O, V, and ZB)

(V is the **only** one to use *-in* **more than half** the time: 5 out of 7 tokens.)

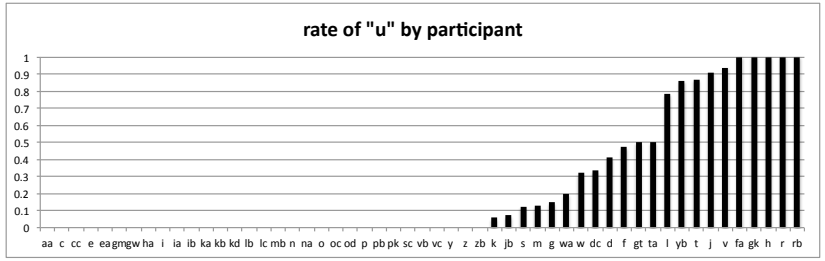
This is consistent with Tagliamonte & Denis's finding of more **inter-user** variation than **intra-user** orthographic variation: the **majority** of participants are **categorical**.

Their analysis: most individuals use orthographic features to establish a **consistent personal style**, rather than as active sociolinguistic variables in their own usage.

That seems to be the case with (ing) as well, but *-in* is so marginal that **no one** uses it categorically.

The per-user **distribution of *u* vs. *you*** in this corpus is **very similar** to T&D's (despite an overall **higher total rate** of *u*[3]: 26% here vs. 9% in their data).

So the low rate of *-in* seems more likely to be a **fact about *-in*** in particular than about nonstandard orthographic variants in this corpus overall.



-in is found in **multiple grammatical contexts**:

- **most frequent** in progressive verbs (e.g., H: *I'M FREAKIN OUT*): 15/307 tokens (5%)
  - Anyone who used *-in* **at all** used it for a progressive.
- Other grammatical contexts: 6 *-in* tokens out of 327 non-progressives (1.8%):
  - gerund (ZB: *Solving for the sake of solvin*)
  - monomorphemic noun (ZB: *I won't be out till evenin then that ok?*)
  - *something* (ZB: *Probably by the end of the week or somethin*)
  - misc.: *fucking* (O: see above); TV show title (V: *u finish breakin bad?*)

Per χ^2 test, difference between progressives and everything-else is significant ($p < 0.05$).

[3] This includes *u*, *ur*, and *urself* vs. *you*, *your*, *you're*, and *yourself*.

Logistic regression on writer gender, recipient gender, writer native language and grammatical context finds all but writer gender significant[4]:

recipient gender		native language		grammatical	
male	.707	misc.	.935	progressive	.625
female	.278	English	.606	misc.	.382
		Indic	.310		
		Chinese	.236		

Input probability: .014

Chinese speakers **disfavor** *-in*; **Spanish** speakers (in the "misc" category) **favor** *-in*.

Walker (2013) found parallel results in **speech** for **heritage** speakers of Chinese and Romance languages, due to the substratal role of [ŋ] in those languages' phonologies.

The fact that similar patterns are found for (ing) in speech and IM suggests that spoken and written (ing) **are** the same variable after all.

Why then is the rate of *-in* in IM so low?

Possible explanation: (ing) **really is a phonological variable**, not an orthographic one.

I.e., perhaps in **typing**, the phonological grammar can simply be (partly?) **bypassed**, since no phonetic/phonological implementation is actually going to take place.

It's **possible** to phonologically process things as you type, but not **necessary**.

In that case, the (ing) variable usually **doesn't even get activated** in IM messaging.

So morphosyntactic and lexical variables show robust variation in both IM and speech; **natively orthographic** variables are actively available for IM users to construct style;

but a **phonological** variable like (ing) remains **primarily a feature of speech**, even though it has a conventional orthographic representation.

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[4] Grammatical category does not remain significant when coded other than progressive vs. everything else, however.