PERCEPTION OF A DOT AT THE END OF SENTENCES IN SOCIAL MEDIA MESSAGING

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LING 461

Research team

Assemgul - idea, stimuli, some coding, raw data calculations

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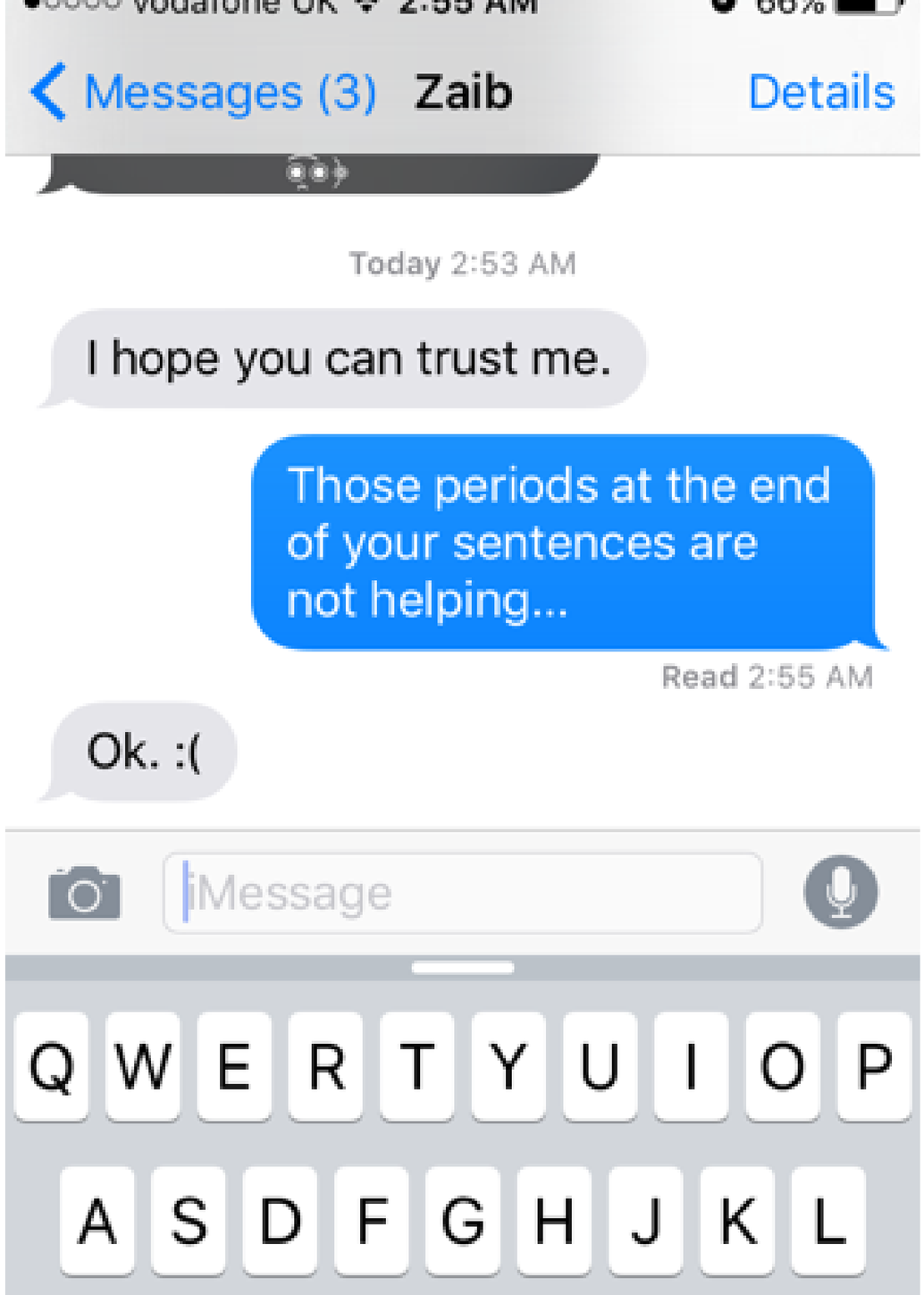
Interest in the Topic and its Relevance

with the rise of social media messaging platforms, there is a debate regarding the ethics of communication. Some people believe that a dot at the end of sentences is rude, while others think it is polite.



Are you angry?

No.

Really?

No.

Delivered

What is known about the topic

Kulish (2020) states that “a full stop at the end of the message in texting is often referred to as a “dot of hate”

The period does not only end a message, but it is the message itself. Millennials use periods to express anger, while Generation X doesn't see any meaning in the punctuation (Corazan, 2021).

What is known about the topic

Gunraj et al (2016) conducted a similar experiment using a Likert scale on teenagers. As a result, text messages that ended with a period were rated as less sincere.

Gunraj et al (2016) state that punctuation marks replaced verbal clues that are present in face-to-face conversation.

Research Gap

So far, previous studies did not research perception of a dot at the end of a text message in Russian speakers.

Also, limited data is present regarding how age and social distance affect the perception.

Research Question

How do Russian-speaking people perceive a dot at the end of the sentences in the social media messaging context?

Hypothesis

The perception of the dot at the end of the text messages is influenced by the social distance between the sender/receiver and the age of the receiver.

Methods

Online anonymous surveys via Qualtrics

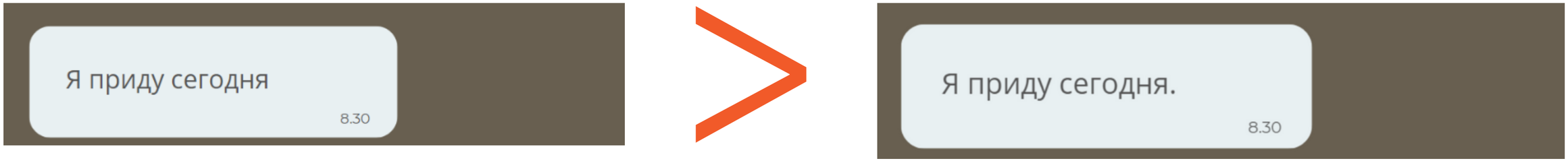
Likert scale: rating social media messages for politeness and/or friendliness on a scale from 1 to 5

Analysing results using RStudio

Predictions

Prediction #1

Messages without dots are perceived as more polite than messages with dots.

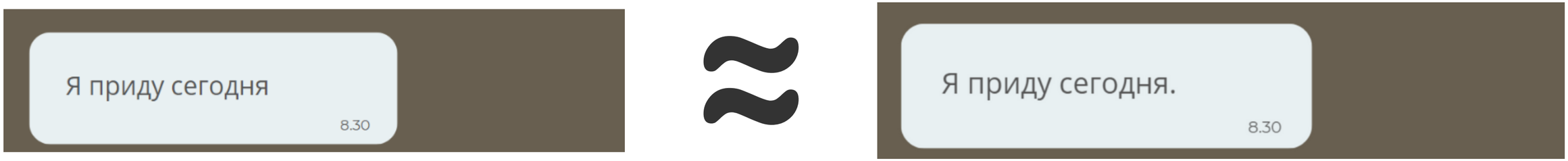


Prediction #2

People above 30 will be less sensitive to dot, and their average score of politeness level will be higher than that of people younger than 30.

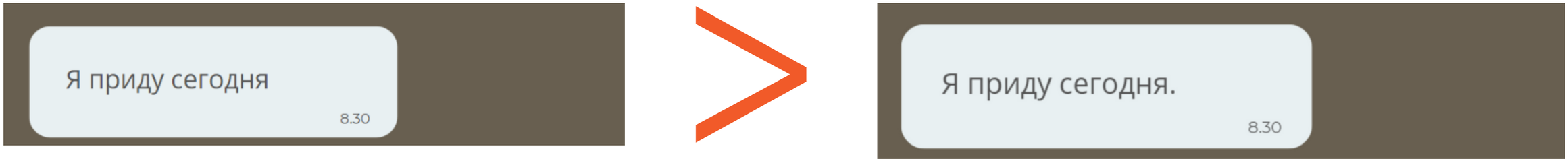
Prediction #3

People above 30 will not have a significant difference in scores for messages with dots and for messages without dots.



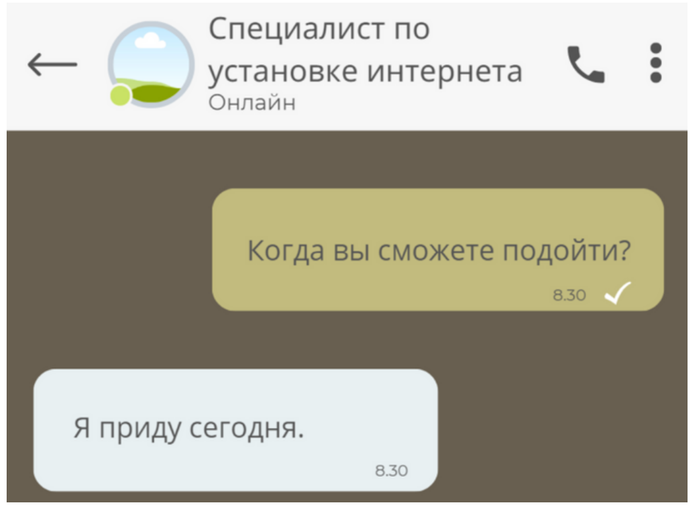
Prediction #4

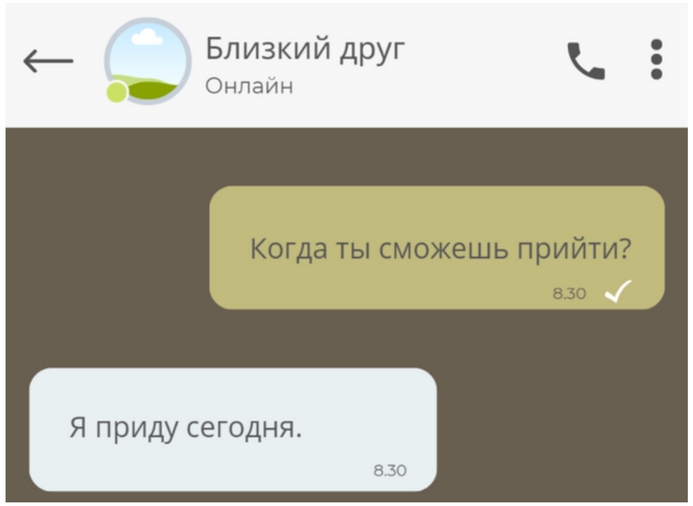
For younger people, the average score will be higher for messages without dots than for messages with dots.



Prediction #5

For younger people, messages with dots from close people will be perceived as less polite than messages with dots from strangers.





Experiment design

Independent variables: age category (above 30 or under 30), dot (presence or absence), social distance between the sender and receiver of the message (close or remote);

Dependent variable: perception of politeness (from 1 to 5);

In the beginning, participants were asked to indicate their age, and then were shown screenshots of social media messages where they could see the sender and context of the messages. They were asked to answer the following message:

Оцените насколько полученный ответ дружелюбный/вежливый по шкале от 1 до 5 (1 - очень грубый/недружелюбный, 5 - очень вежливый/дружелюбный)

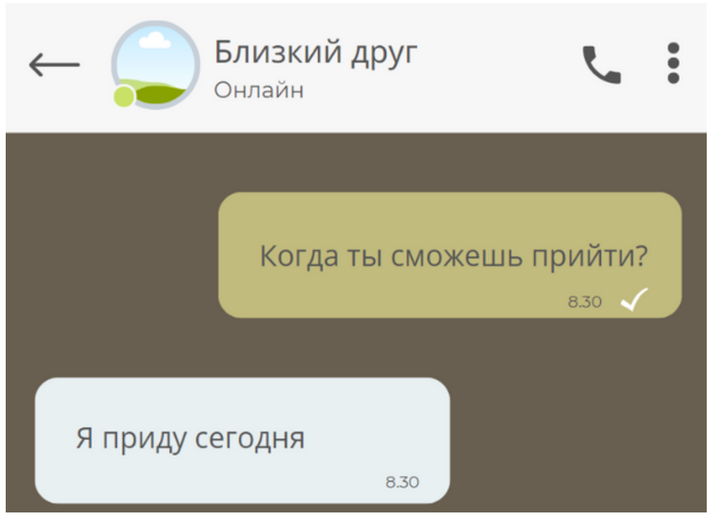
Experiment

There were 4 stimuli sets: each participant saw 24 questions:

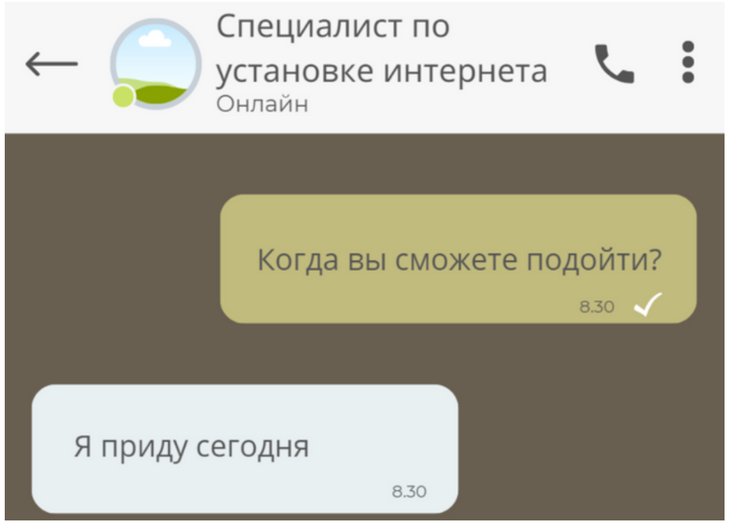
- 16 stimuli
  - 4 with dot - close;
  - 4 with dot - remote;
  - 4 without dot - close;
  - 4 without dot - remote;
- 8 fillers

Sample Stumuli

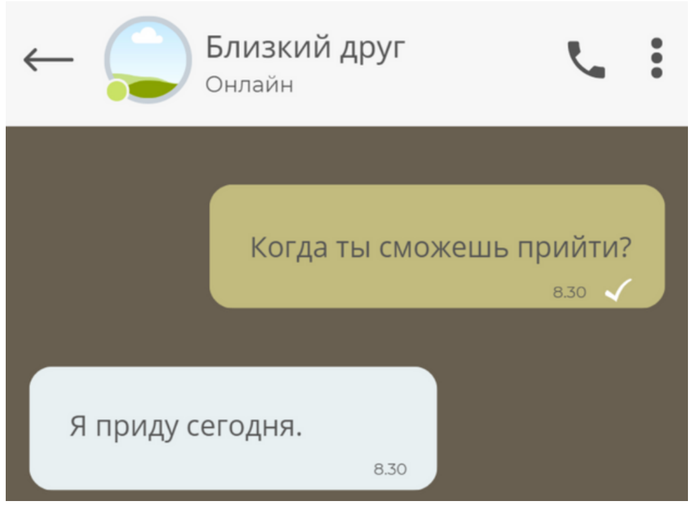
Condition 1: no dot-close social distance



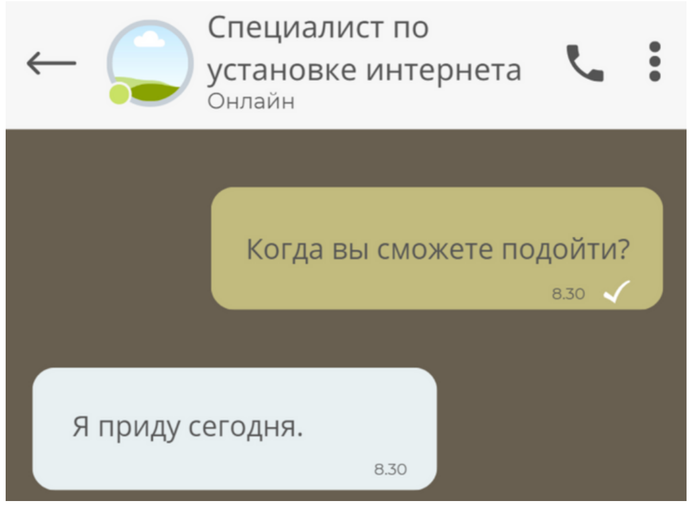
Condition 2: no dot-remote social distance



Condition 3: with dot-close social distance



Condition 4: with dot-remote social distance

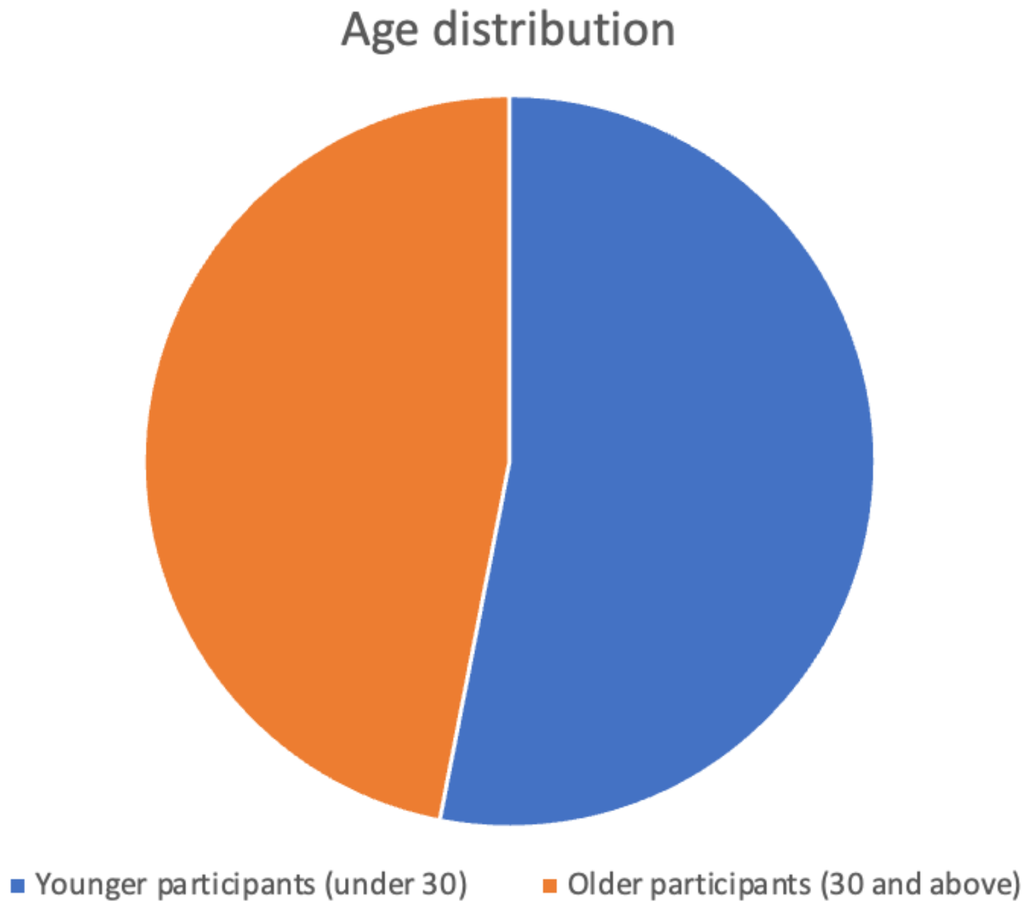


Participants

Our study recruited 53 potential participants, with 49 included in the analysis, divided into under-30s and those 30 and older.

Recruitment targeted younger individuals via Telegram chats and older participants through personal networks. Key selection criteria included Russian language fluency and frequent use.

Participants



Raw Data

StartDate	EndDate	Status	IPAddress	Progress	Duration (in seconds)	Finished	RecordedDate	ResponseId		LocationLongitude		
Start Date	End Date	Response Type	IP Address	Progress	Duration (in seconds)	Finished	Recorded Date	Response ID	LocationLatitude	Location Longitude	age	distr
{"ImportId":"startDate","timeZone":"Asia/Yekaterinburg"}	{"ImportId":"endDate","timeZone":"Asia/Yekaterinburg"}	{"ImportId":"status"}	{"ImportId":"ipAddress"}	{"ImportId":"progress"}	{"ImportId":"duration"}	{"ImportId":"finished"}	{"ImportId":"recordedDate","timeZone":"Asia/Yekaterinburg"}	{"ImportId":"_recordId"}	Location Latitude	{"ImportId":"locationLongitude"}	{"ImportId":"QID180_TEXT"}	{"ImportId":"QID34"}
2024-04-03 23:28:49	2024-04-03 23:32:30	0	185.48.148.172	100	221	1	2024-04-03 23:32:31	R_3DYWGifuvL5fI12	{"ImportId":"locationLatitude"}	71.4491	20	4
2024-04-03 23:34:51	2024-04-03 23:38:36	0	185.48.148.173	100	224	1	2024-04-03 23:38:37	R_40lT4ou2iyqk0v6	51.1876	71.4491	23	3
2024-04-03 23:51:28	2024-04-03 23:55:42	0	37.150.191.242	100	254	1	2024-04-03 23:55:43	R_8XhW6eGzhkWL3Ov	51.1876	71.4491	21	4
2024-04-04 00:28:49	2024-04-04 00:32:24	0	185.48.148.184	100	215	1	2024-04-04 00:32:25	R_3AFqXtzplx5MlQN	51.1876	71.4491	21	4
2024-04-04 03:12:06	2024-04-04 03:16:38	0	87.255.216.84	100	271	1	2024-04-04 03:16:39	R_6O3ugSVaEijQ1hf	51.1876	71.4491	21	3
2024-04-04 23:00:33	2024-04-04 23:02:55	0	87.255.216.73	100	142	1	2024-04-04 23:02:56	R_83lS0qnzWu2X1Nn	51.1876	71.4491	22	3
2024-04-08 20:48:39	2024-04-08 20:55:10	0	89.218.59.148	100	391	1	2024-04-08 20:55:11	R_2mW51cWv6hlQx1L	51.1876	71.4491	30	1
2024-04-08 20:56:12	2024-04-08 21:01:44	0	92.47.225.247	100	332	1	2024-04-08 21:01:45	R_4ttDgD9YLS4mpBM	51.1876	71.3575	47	4
2024-04-08 21:05:49	2024-04-08 21:10:01	0	95.82.69.240	100	251	1	2024-04-08 21:10:02	R_24TnGqQqiz9CLhD	42.8967	71.4491	18	2
2024-04-08 21:06:29	2024-04-08 21:11:12	0	176.222.167.125	100	283	1	2024-04-08 21:11:12	R_3g6i7kJ2vWAlevp	51.1876	69.3922	20	2
2024-04-08 21:03:43	2024-04-08 21:12:41	0	95.57.232.141	100	538	1	2024-04-08 21:12:42	R_4rwkKGDJKak04rS	53.2852	73.0994	42	4
2024-04-08 21:16:02	2024-04-08 21:26:08	0	5.34.125.92	100	605	1	2024-04-08 21:26:08	R_5C9dsc5zpAfAKwe	49.7989	71.4491		1
2024-04-08 21:22:51	2024-04-08 21:27:01	0	185.48.148.203	100	250	1	2024-04-08 21:27:02	R_4rlGlSythzgWb8l	51.1876	71.4491	22	3
2024-04-08 21:16:16	2024-04-08 21:27:25	0	5.34.125.92	100	669	1	2024-04-08 21:27:26	R_3U88hGlJXb5kvHb	51.1876	71.4491	45	2
2024-04-08 21:31:09	2024-04-08 21:35:03	0	87.255.216.75	100	233	1	2024-04-08 21:35:03	R_1GNeMdAFTRhAgE1	51.1876	71.4491	22	3
2024-04-08 21:21:45	2024-04-08 21:39:48	0	2.134.53.32	100	1082	1	2024-04-08 21:39:49	R_4nln6h6pbte3TAT	42.8967	71.3575	27	4
2024-04-08 21:38:54	2024-04-08 21:44:10	0	213.211.99.8	100	316	1	2024-04-08 21:44:11	R_4B96pvFjmL41ImB	43.2433	76.8646	18	1
2024-04-08 21:45:57	2024-04-08 21:50:00	0	185.48.148.203	100	242	1	2024-04-08 21:50:00	R_6friZsPaUWfhnxB	51.1876	71.4491	19	3
2024-04-08 21:50:28	2024-04-08 21:54:03	0	5.34.1.0	100	215	1	2024-04-08 21:54:04	R_3pX1aRVzXGtQEnA	51.1876	71.4491	20	4
2024-04-08 21:53:06	2024-04-08 22:01:33	0	95.58.190.5	100	506	1	2024-04-08 22:01:34	R_2jo4oFe1KLPi037	53.2852	69.3922		3
2024-04-08 21:50:23	2024-04-08 22:09:17	0	185.48.148.203	100	1133	1	2024-04-08 22:09:18	R_1cnYXOduivuMrp7	51.1876	71.4491	20	2
2024-04-08 22:04:51	2024-04-08 22:12:06	0	31.132.91.208	100	434	1	2024-04-08 22:12:06	R_8KKiZfxuOX99bRn	42.8967	71.3575	37	3
2024-04-08 22:10:36	2024-04-08 22:14:49	0	185.48.148.172	100	252	1	2024-04-08 22:14:50	R_7Yyp4Y45eALX1kd	51.1876	71.4491	20	3
2024-04-08 22:08:17	2024-04-08 22:22:27	0	79.137.178.104	100	850	1	2024-04-08 22:22:28	R_8BsTK2rUjlFbhgA	42.8967	71.3575	43	2
2024-04-08 22:04:07	2024-04-08 22:25:50	0	79.137.178.104	100	1303	1	2024-04-08 22:25:51	R_3yJKf6E7UZXmlu9	42.8967	71.3575	43	2
2024-04-08 22:27:50	2024-04-08 22:31:36	0	178.89.151.219	100	225	1	2024-04-08 22:31:36	R_4TcQg7XYWfQ6ZVf	51.1876	71.4491	18	3
2024-04-08 21:51:31	2024-04-08 22:34:44	0	87.255.216.84	100	2593	1	2024-04-08 22:34:45	R_1UlW95AWQWqgYE1	51.1876	71.4491	20	3
2024-04-08 22:40:28	2024-04-08 22:44:48	0	37.150.186.45	100	259	1	2024-04-08 22:44:49	R_4lmivGixZawWJnZ	51.1876	71.4491	19	2
2024-04-08 22:42:31	2024-04-08 22:47:25	0	79.133.189.244	100	294	1	2024-04-08 22:47:26	R_2e4iQ2UGwO9DU2d	42.8967	71.3575	45	3
2024-04-08 23:32:01	2024-04-08 23:35:20	0	212.96.82.19	100	198	1	2024-04-08 23:35:20	R_4sbAUi24NiQIfrO	51.1876	71.4491	20	1
2024-04-09 07:48:39	2024-04-09 07:52:04	0	87.255.216.104	100	204	1	2024-04-09 07:52:04	R_2rwc0aGnzyearY2	51.1876	71.4491	18	2
2024-04-09 10:50:07	2024-04-09 10:54:11	0	87.255.216.86	100	243	1	2024-04-09 10:54:11	R_5gIsO3DRojSUcwE	51.1876	71.4491	19	3
2024-04-09 18:22:21	2024-04-09 18:25:53	0	87.255.216.74	100	211	1	2024-04-09 18:25:54	R_2EYCfowL9jpa7UR	51.1876	71.4491	20	1
2024-04-09 01:10:43	2024-04-09 19:29:00	0	79.133.187.5	100	65897	1	2024-04-09 19:29:01	R_382gVwL48hx2Xtj	42.8967	71.3575	42	2
2024-04-02 23:08:07	2024-04-02 23:53:33	0	185.48.148.172	18	2726	0	2024-04-09 23:53:36	R_4FJxSgw3JSeyg6a			22	3
2024-04-10 00:16:52	2024-04-10 00:21:02	0	87.255.216.72	100	249	1	2024-04-10 00:21:03	R_8RmX1kXZvyuSHAa	51.1876	71.4491	23	4
2024-04-02 23:45:37	2024-04-02 23:50:45	0	87.255.216.75	84	308	0	2024-04-10 00:32:20	R_28ZJ8Qg6p6VlvX7			21	2
2024-04-10 00:39:24	2024-04-10 00:43:01	0	87.255.216.73	100	217	1	2024-04-10 00:43:01	R_5mlQuZFOZ2cQFDe	51.1876	71.4491	19	1
2024-04-10 13:12:03	2024-04-10 13:33:04	0	178.90.195.76	100	1260	1	2024-04-10 13:33:05	R_5JJxWxL7uxKTEu5	51.1876	71.4491	24	2
2024-04-10 18:40:08	2024-04-10 18:46:41	0	212.96.74.113	100	393	1	2024-04-10 18:46:42	R_6LC1TaErxwlm9wV	51.1876	71.4491	47	4
2024-04-08 20:47:41	2024-04-10 18:48:00	0	95.82.71.97	100	165618	1	2024-04-10 18:48:01	R_2OvgrO5H2OvsT3w	51.1876	71.4491	36	1
2024-04-10 18:52:14	2024-04-10 18:56:00	0	95.59.92.76	100	226	1	2024-04-10 18:56:01	R_4LX8Z3Ge96cImJS	51.1876	71.4491	52	4
2024-04-10 19:02:10	2024-04-10 19:03:29	0	95.59.191.232	100	79	1	2024-04-10 19:03:29	R_42yrRdgfygCIf3G	53.2852	69.3922	41	1
2024-04-10 18:56:11	2024-04-10 19:05:02	0	85.193.120.91	100	530	1	2024-04-10 19:05:03	R_2fpxDwywr8phdhp	42.2994	69.606	38	4
2024-04-10 19:06:11	2024-04-10 19:09:23	0	89.218.59.147	100	191	1	2024-04-10 19:09:23	R_85HH2FQEC3EG6mc	51.1876	71.4491	43	1
2024-04-10 18:56:28	2024-04-10 19:11:58	0	90.131.39.55	100	930	1	2024-04-10 19:11:59	R_1OkRuABVlumPQf8	54.6912	25.2816	39	1
2024-04-10 19:10:56	2024-04-10 19:15:30	0	79.137.178.104	100	274	1	2024-04-10 19:15:32	R_2fiPpG3MxMuUQoX	42.8967	71.3575	67	1
2024-04-10 19:13:45	2024-04-10 19:18:04	0	95.59.191.232	100	259	1	2024-04-10 19:18:05	R_4zzN3WgLF5yxBzX	53.2852	69.3922	41	1
2024-04-10 19:25:23	2024-04-10 19:27:35	0	87.255.216.75	100	131	1	2024-04-10 19:27:36	R_42TLf4KJOjpWLTj	51.1876	71.4491	31	2
2024-04-10 19:22:41	2024-04-10 19:32:20	0	5.34.52.102	100	579	1	2024-04-10 19:32:21	R_47CbnoiPoyaLWlr	42.8967	71.3575	63	1
2024-04-10 19:33:23	2024-04-10 19:38:14	0	5.34.52.102	100	290	1	2024-04-10 19:38:14	R_2L5tTdJnDai9NOw	42.8967	71.3575	34	4
2024-04-10 19:48:22	2024-04-10 19:53:25	0	95.58.190.5	100	303	1	2024-04-10 19:53:26	R_4fAKziRoM5ZA7pP	52.3564	71.8622	59	1
2024-04-10 19:50:09	2024-04-10 19:53:30	0	79.137.178.104	100	200	1	2024-04-10 19:53:30	R_1KU8ShenRlUIJn	42.8967	71.3575	32	2

Clean Data

response	age	Question ID	Answer	with_dot	no_dot	remote	close	age_category
0	20	remote_wdot_q1 - .	3	1	0	1	0	0
1	21	remote_wdot_q1 - .	3	1	0	1	0	0
2	21	remote_wdot_q1 - .	3	1	0	1	0	0
3	47	remote_wdot_q1 - .	5	1	0	1	0	1
4	42	remote_wdot_q1 - .	4	1	0	1	0	1
5	27	remote_wdot_q1 - .	5	1	0	1	0	0
6	20	remote_wdot_q1 - .	3	1	0	1	0	0
7	23	remote_wdot_q1 - .	3	1	0	1	0	0
8	47	remote_wdot_q1 - .	3	1	0	1	0	1
9	52	remote_wdot_q1 - .	3	1	0	1	0	1
10	38	remote_wdot_q1 - .	4	1	0	1	0	1
11	34	remote_wdot_q1 - .	2	1	0	1	0	1
0	20	close_nodot_q2 - .	3	0	1	0	1	0
1	21	close_nodot_q2 - .	3	0	1	0	1	0
2	21	close_nodot_q2 - .	3	0	1	0	1	0
3	47	close_nodot_q2 - .	4	0	1	0	1	1
4	42	close_nodot_q2 - .	4	0	1	0	1	1
5	27	close_nodot_q2 - .	4	0	1	0	1	0
6	20	close_nodot_q2 - .	5	0	1	0	1	0
7	23	close_nodot_q2 - .	3	0	1	0	1	0
8	47	close_nodot_q2 - .	3	0	1	0	1	1
9	52	close_nodot_q2 - .	3	0	1	0	1	1
10	38	close_nodot_q2 - .	3	0	1	0	1	1
11	34	close_nodot_q2 - .	3	0	1	0	1	1
0	20	remote_nodot_q3 - .	2	0	1	1	0	0
1	21	remote_nodot_q3 - .	3	0	1	1	0	0
2	21	remote_nodot_q3 - .	4	0	1	1	0	0
3	47	remote_nodot_q3 - .	5	0	1	1	0	1
4	42	remote_nodot_q3 - .	4	0	1	1	0	1
5	27	remote_nodot_q3 - .	4	0	1	1	0	0
6	20	remote_nodot_q3 - .	5	0	1	1	0	0
7	23	remote_nodot_q3 - .	4	0	1	1	0	0
8	47	remote_nodot_q3 - .	3	0	1	1	0	1
9	52	remote_nodot_q3 - .	3	0	1	1	0	1
10	38	remote_nodot_q3 - .	3	0	1	1	0	1
11	34	remote_nodot_q3 - .	4	0	1	1	0	1
0	20	close_wdot_q4 - .	2	1	0	0	1	0
1	21	close_wdot_q4 - .	3	1	0	0	1	0
2	21	close_wdot_q4 - .	4	1	0	0	1	0
3	47	close_wdot_q4 - .	5	1	0	0	1	1
4	42	close_wdot_q4 - .	4	1	0	0	1	1
5	27	close_wdot_q4 - .	4	1	0	0	1	0

Overall (Average)

Close	Remote	Younger participants (under 30)	Elder participants (30 and above)
3,39130435	3,32225064	3,195	3,553

No Dot (Average)

Close	Remote	Younger participants (under 30)	Elder participants (30 and above)
3,48979592	3,42346939	3,3657	3,568

With Dot (Average)

Close	Remote	Younger participants (under 30)	Elder participants (30 and above)
3,29230769	3,22051282	3,023	3,539

No Dot

	Younger participants (under 30)	Elder participants (30 and above)
Close	3,435	3,557
Remote	3,296	3,579

With Dot

	Younger participants (under 30)	Elder participants (30 and above)
Close	3,065	3,56
Remote	2,981	3,511

General Observations:

- Across all conditions, messages without a dot are rated as more friendly than those with a dot.
- Younger participants' scores vary more between the presence and absence of a dot than those of older participants, slight suggesting sensitivity to this cue.

Statistical analysis

13 models

	df	AIC
	<dbl>	<dbl>
model_1_ans_acndotc	8	3164.320
model_2_ans_acwdotc	8	3172.395
model_3_ans_acndotr	8	3165.997
model_4_ans_acwdotr	8	3175.527
model_5_ans_close	6	3173.823
model_6_ans_remote	6	3176.495
model_7_ans_age	6	3173.533
model_8_ans_nd	6	3165.067
model_9_ans_wd	6	3175.061
model_10_ans_wd_age	7	3173.853
model_11_ans_nd_age	7	3163.997
model_12_ans_close_age	7	3172.729
model_13_ans_remote_age	7	3175.357

Package: Ordinal Cumulative Link Mixed Models

Age and Dot

```
Coefficients:
             Estimate Std. Error z value Pr(>|z|)
no_dot         0.3833     0.1131   3.389 0.000701 ***
age_category   0.4774     0.2691   1.774 0.076039 .

             Estimate Std. Error z value Pr(>|z|)
with_dot      -0.1459     0.1126  -1.296   0.1950
age_category   0.4860     0.2678   1.815   0.0696 .
```

The baseline for ranking - 3 (neutral stimuli).

Age - statistically insignificant

No dot - the absence of a dot makes messages more polite

With dot - the presence of a dot does not make messages rude

Social Distance - Not Significant Factor

```
Coefficients:
             Estimate Std. Error z value Pr(>|z|)
age_category   0.4751     0.2696   1.762  0.07801 .
no_dot         0.3667     0.1139   3.220  0.00128 **
close          0.1466     0.1133   1.294  0.19552
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
              Estimate Std. Error z value Pr(>|z|)
age_category  0.477495   0.269142   1.774 0.076041 .
no_dot        0.383604   0.114040   3.364 0.000769 ***
remote       -0.002177   0.113558  -0.019 0.984702
```

Discussion

Hypothesis:

The perception of the dot at the end of the text messages is influenced by the social distance between the sender/receiver and the age of the receiver.

Canceled:

as the age category and the social distance do not significantly affect the dot perception.

Predictions:

Messages without dots are perceived as more polite than messages with dots for both age categories.

Partially approved:

as the presence of a dot does not make messages rude, but the absence of a dot makes them more polite

Limitations and suggestions for future research

Sample Size: Due to time constraints, the sample size (49 participants) was small, which might limit the generalizability of the findings. Future studies would benefit from a larger sample size to provide more robust and representative data.

Control and Variability in Stimuli: Our study controlled for the presence of a period, age, and social distance but did not account for other influential factors such as the participants' frequency and competence in using social media. Including these variables in future reserch could provide a deeper understanding of dot perception dynamics.

Realism of Stimuli:A potential flaw in our research that might have influenced the results is the participants' potential lack of attention to the sender, which could explain why social distance did not emerge as a significant factor. The stimuli used may have contributed to this oversight; they appeared somewhat artificial and did not mimic the interfaces of actual messaging platforms commonly used by the participants. To improve the ecological validity and relevance of future studies, it is crucial to utilize stimuli that accurately replicate the real-world interfaces and interaction patterns of popular messaging platforms.

References

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