The effect of aesthetic appeal on words' memorability

Presenting author: David Košić
Mag. Theresa Matzinger, PhD

appreciation of aesthetics

Tedesco 2007

800BC
Sumer

600BC
Egypt

1000
Easter Island

1500
Italy

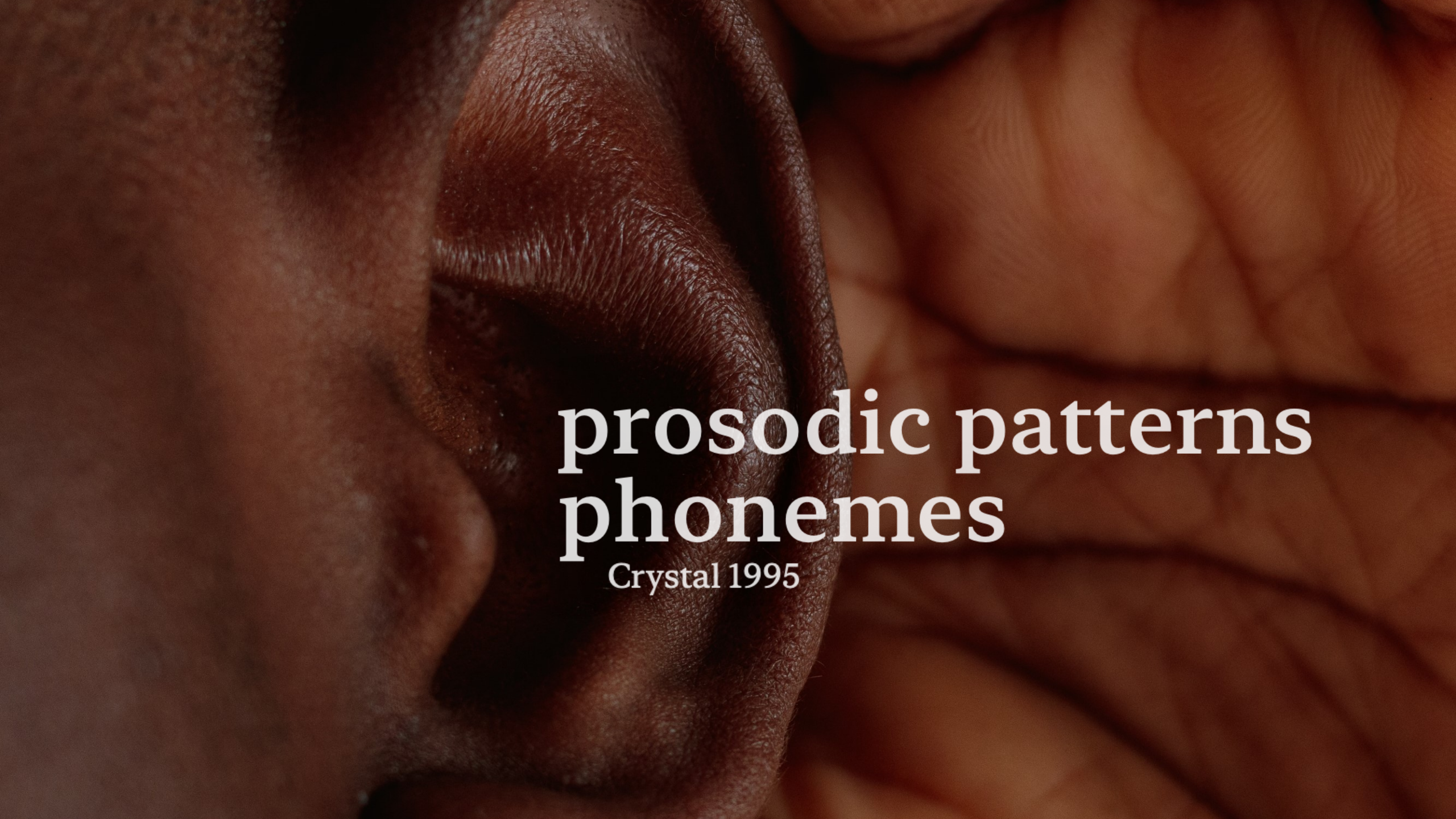
recent studies:

recent studies:

aesthetic appeal in everyday experiences

landscapes
Ilkay Isik & Vessel 2021

prosodic patterns
Matzinger et al. 2021


prosodic patterns
phonemes
Crystal 1995

recent studies:

aesthetic appeal in everyday experiences

recent studies:

aesthetic appeal in everyday experiences

positive effect on memory

Ilkay Isik & Vessel 2021

Aesthetic appeal as a potential influencing factor in language learning?

prediction and hypotheses

prediction and hypotheses

If **words containing appealing phonemes**
are indeed **more appealing**

prediction and hypotheses

If words containing appealing phonemes
are indeed more appealing

they will be rated higher

prediction and hypotheses

If words containing appealing phonemes
are memorized better

prediction and hypotheses

If words containing appealing phonemes are memorized better

they will be recalled more frequently

methods

methods

stimulus design

X - X - X

CC - V – C – ious

Crystal 1995 “Phonaesthetically Speaking”. *English Today*.

Crystal 1995 “Phonaesthetically Speaking”. *English Today*.

autumn caress peace velvet dawn whisper peril crystal mist

Phonetic symbols

1a

Conversation	*% of all segments*	*Phonaesthetic words*	*N/% of all segments (625)*	*% of all consonants (377)*
Consonants				
n	7.58	l	59/9.44	15.65
t	6.42	m	40/6.40	10.61
d	5.14	s	35/5.60	9.28
s	4.81	n	33/5.28	8.75
l	3.66	r	29/4.64	7.69
ð	3.56	k	28/4.48	7.43
r	3.51	t	26/4.16	6.90
m	3.22	d	24/3.84	6.37
k	3.09	f	12/1.92	3.18
w	2.81	b	11/1.76	2.92
z	2.46	p	10/1.60	2.65
v	2.00	v	8/1.28	2.12
b	1.97	ŋ	8/1.28	2.12
f	1.79	w	8/1.28	2.12
p	1.78	g	7/1.12	1.86
h	1.46	z	7/1.12	1.86
ŋ	1.15	ʃ	7/1.12	1.86
g	1.05	h	6/0.96	1.59
ʃ	0.96	ʧ	5/0.80	1.33
j	0.88	ʤ	5/0.80	1.33
ʤ	0.60	j	5/0.80	1.33
ʧ	0.41	θ	3/0.48	0.80
θ	0.37	ʒ	1/0.16	0.26
ʒ	0.10	ð	0	0

CL - I – S – ious

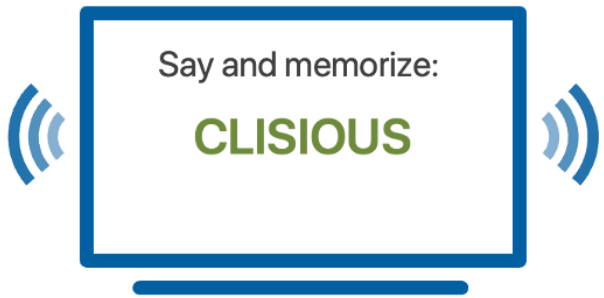
CR - I – D – ious

TW - U – H – ious

clisious	creetious	krauious
snelious	drutious	twuhious
sleemious	kridious	dwougious
smanious	drikious	gruhious

methods

experimental procedure

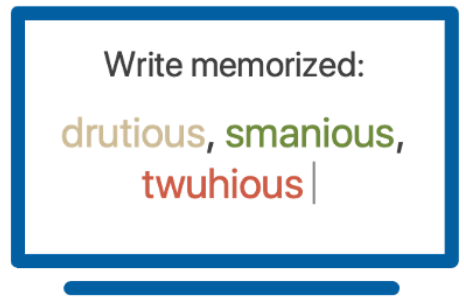


stimulus exposure

visual and acoustic

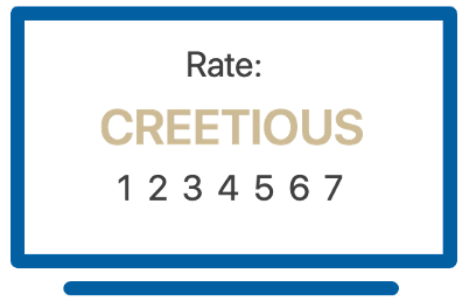
6 x 3 seconds

speaking out loud



stimulus recall

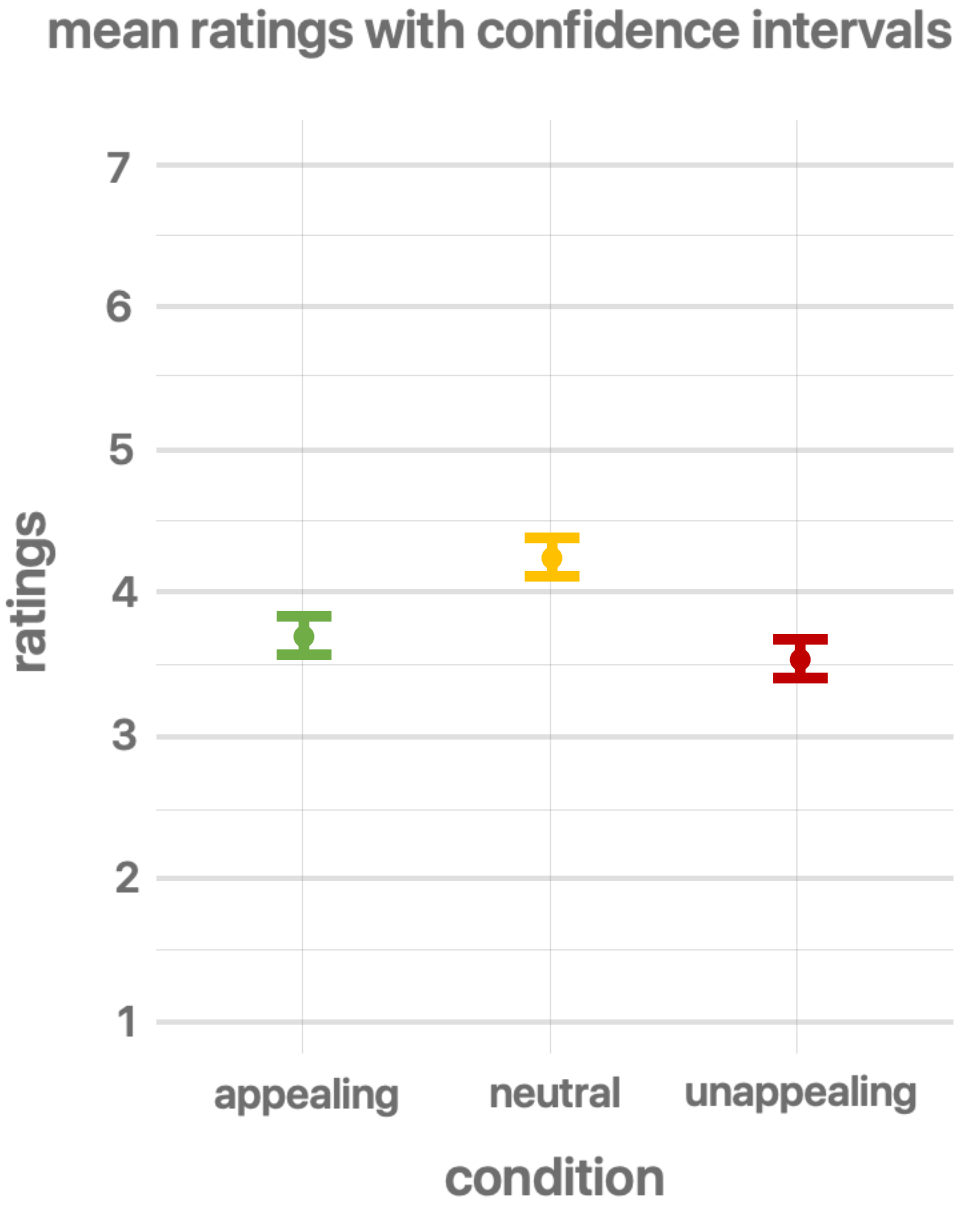
written

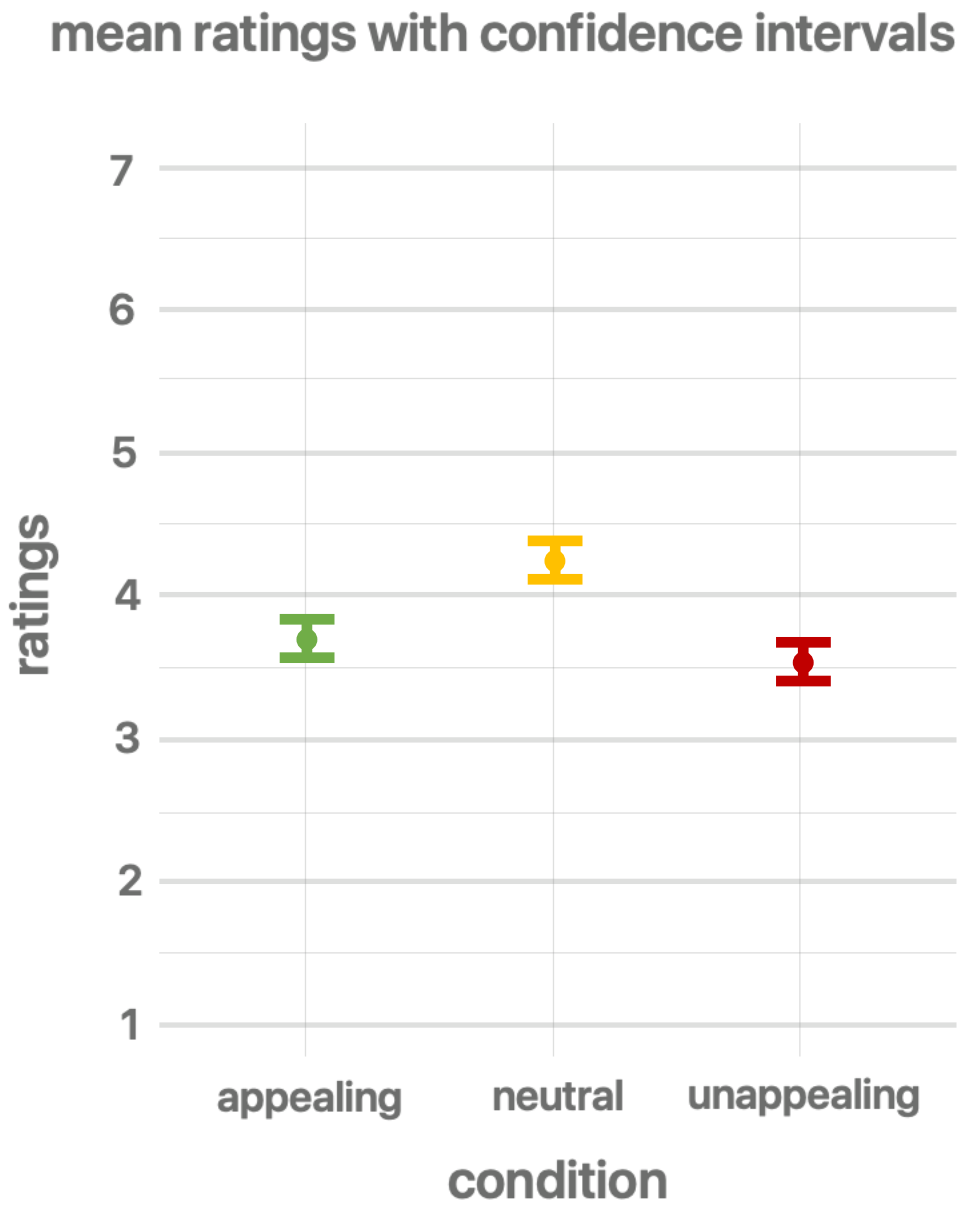


stimulus rating

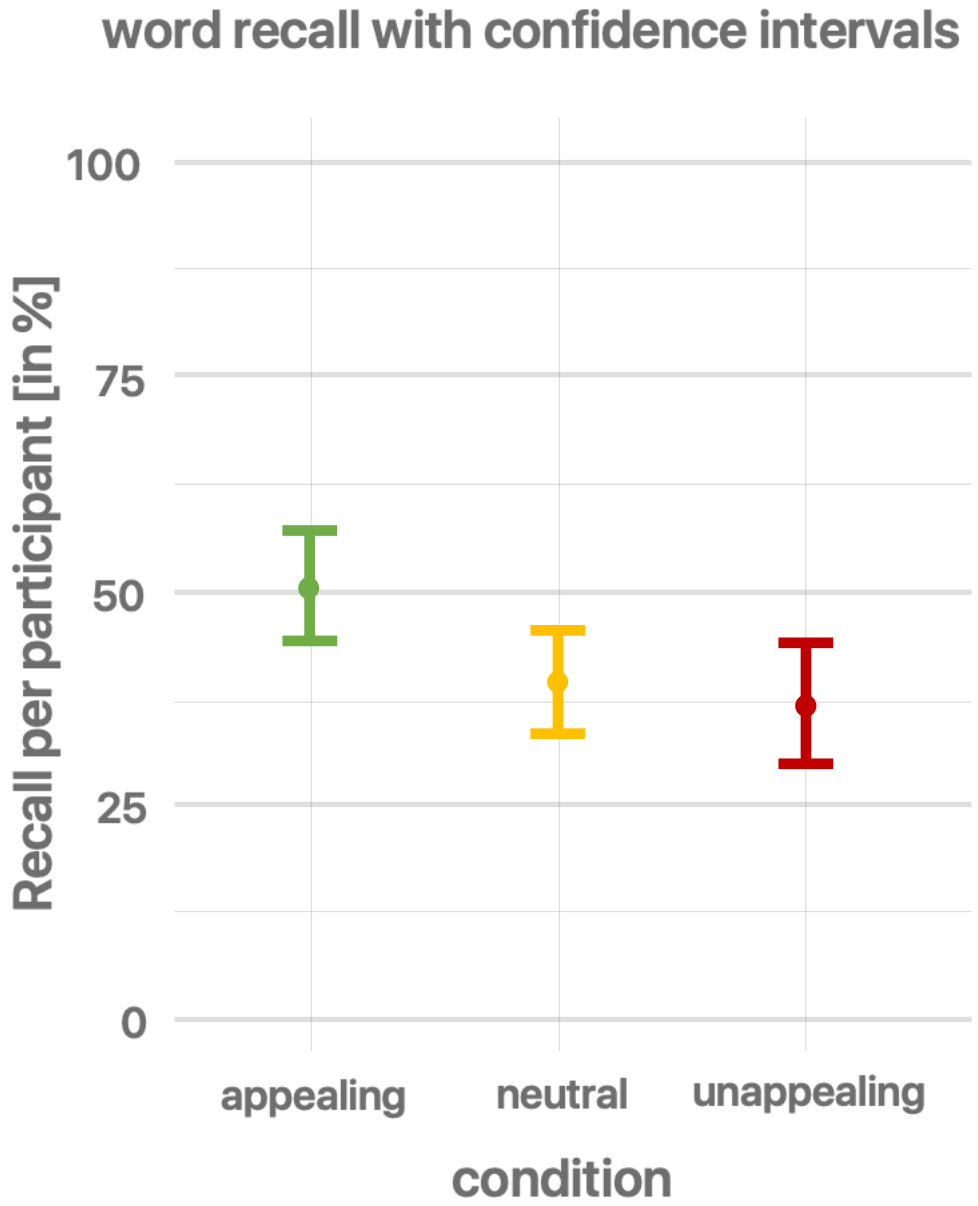
7 – point Likert scale

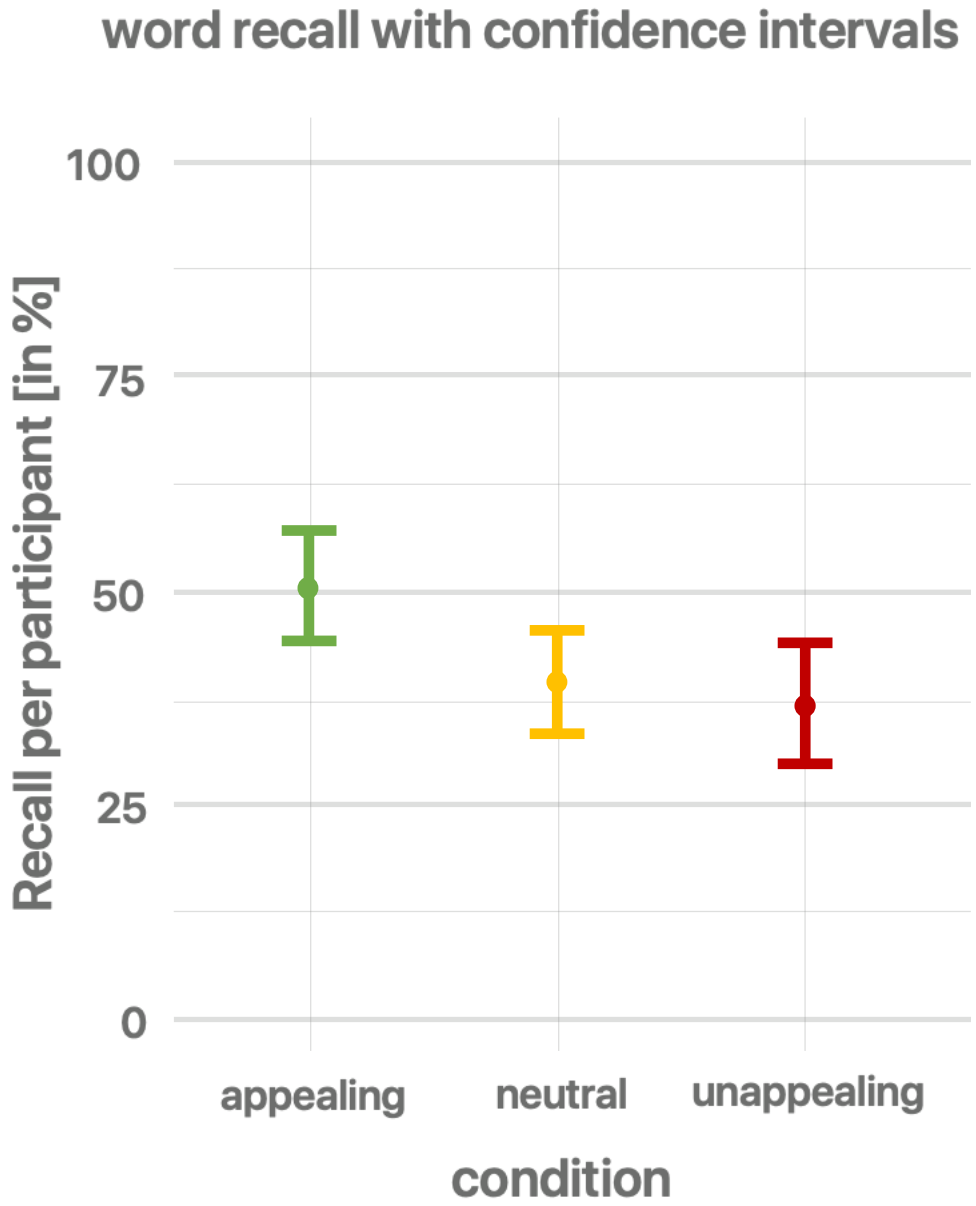
results


mean ratings with confidence intervals
7
6
5
4
3
2
1
ratings
appealing
neutral
unappealing
condition



contrary to the hypothesis, **neutral** stimuli were rated most appealing


word recall with confidence intervals
100
75
50
25
0
Recall per participant [in %]
appealing
neutral
unappealing
condition



As hypothesized, **appealing** stimuli were more likely to be memorized and recalled

discussion

discussion

familiarity effect

high frequency of appealing phonemes in the English language

Hanson et al. 1978

discussion

familiarity effect

high frequency of appealing phonemes in the English language

Hanson et al. 1978

frequent phonemes ➔ boredom (or overstimulation?)

discussion

familiarity effect

high frequency of appealing phonemes in the English language

Hanson et al. 1978

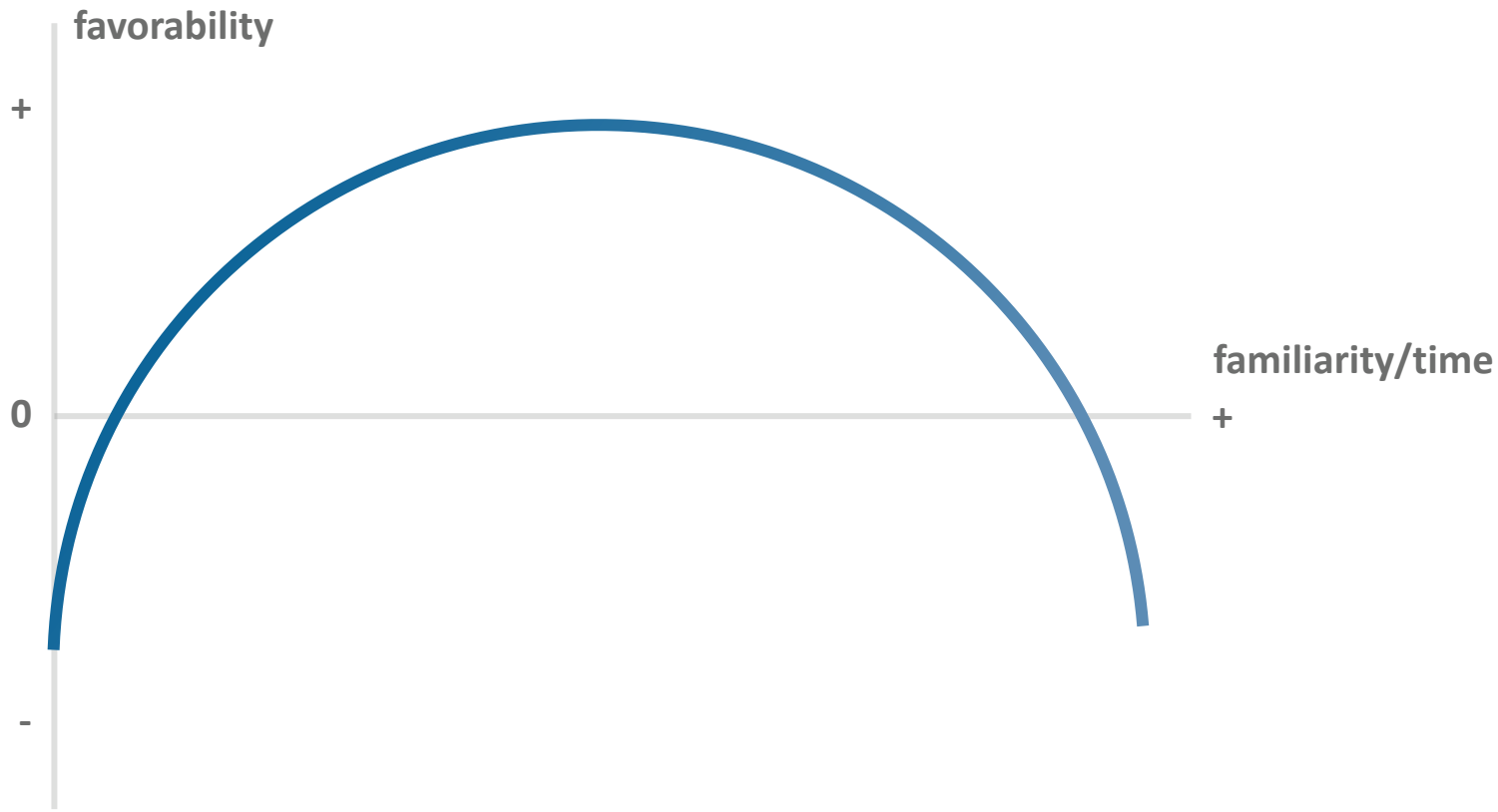
frequent phonemes ➔ boredom (or overstimulation?)

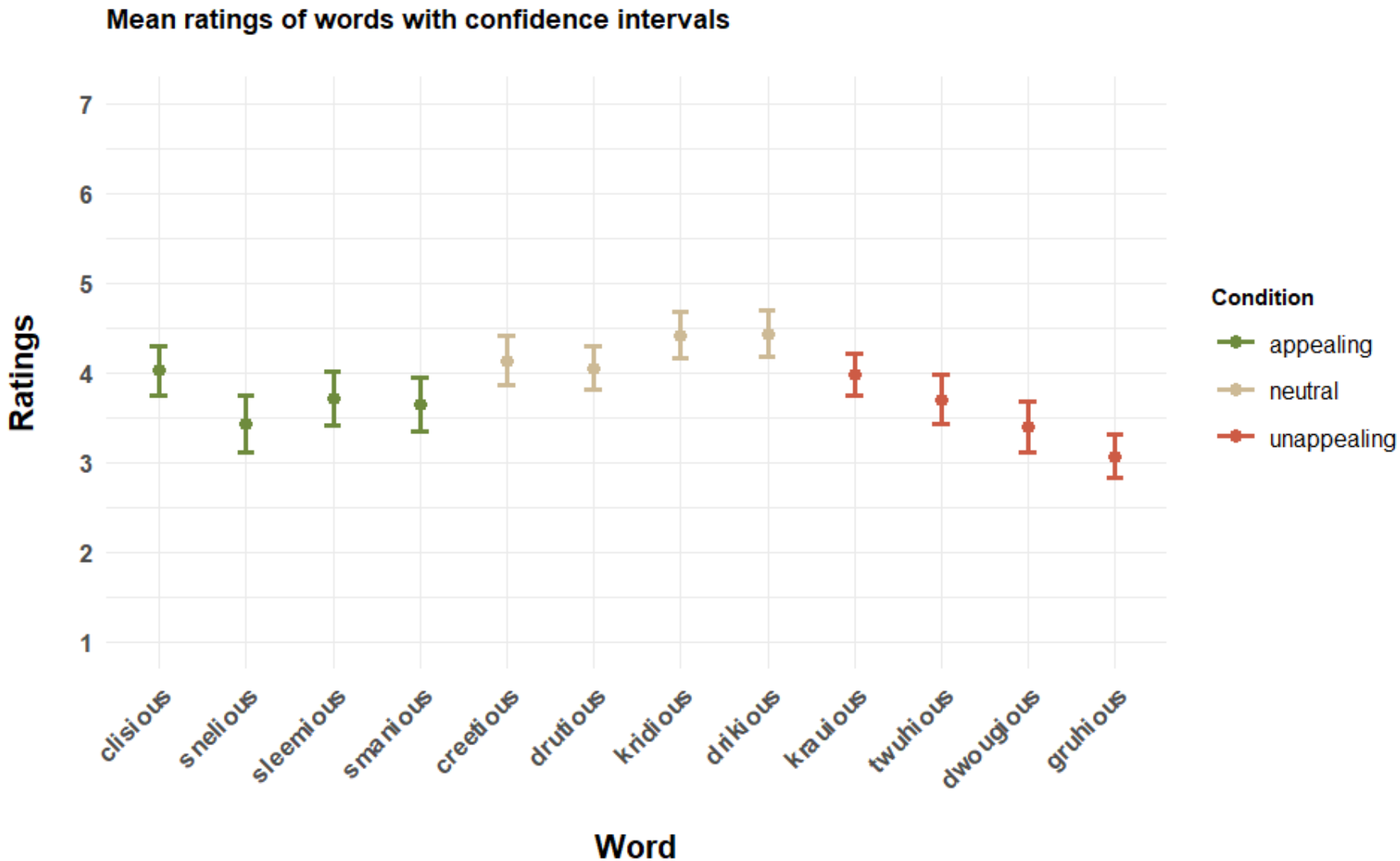
infrequent phonemes ➔ discomfort and uncertainty

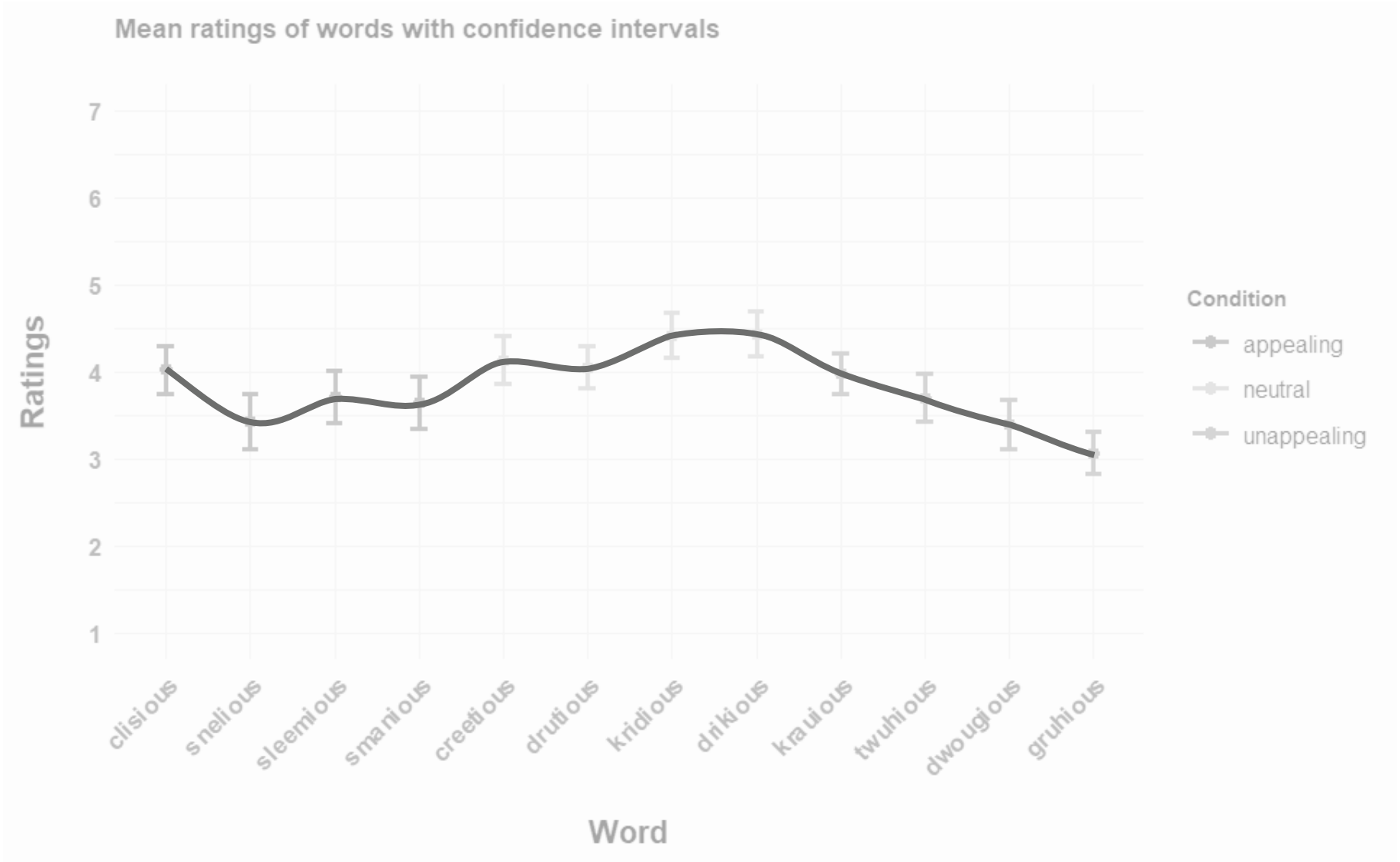
discussion

inverted U-curve

Berlyne 1971


favorability
+
0
-
familiarity/time
+


Mean ratings of words with confidence intervals
Ratings
7
6
5
4
3
2
1
clisious
snelious
sleemious
smanious
creetious
drutious
kridious
drikious
krauious
twuhious
dwougious
gruhious
Word
Condition
appealing
neutral
unappealing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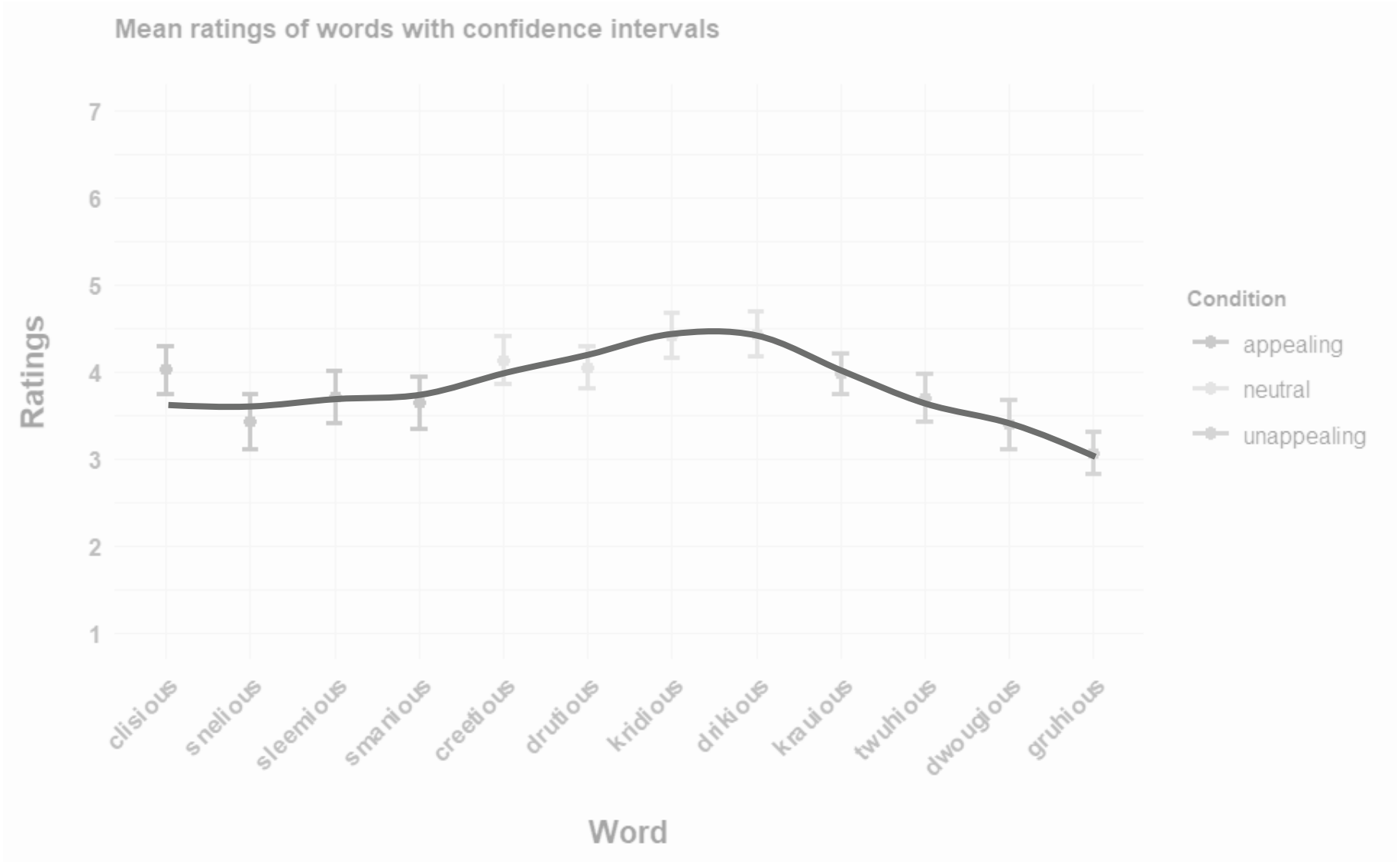
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krauious
twuhious
dwougious
gruhious
Word
Condition
appealing
neutral
unappealing

discussion

feedback loop

discussion

feedback loop

appeal

liking

discussion

feedback loop

appeal ▲ liking

discussion

feedback loop

appeal ▲ liking ▼

discussion

feedback loop

appeal ▼ liking ▼

discussion

feedback loop

appeal ▼ liking ▲

discussion

feedback loop

appeal

liking

discussion

facial attractiveness studies

Alley 1997

discussion
facial attractiveness studies

Alley 1997

most appealing

discussion
facial attractiveness studies

Alley 1997

most memorable

implications

implications

apparent link between language learning and aesthetic appeal

implications

apparent link between language learning
and aesthetic appeal

appealing/neutral patterns **boost learning**

implications

apparent link between language learning
and aesthetic appeal

appealing/neutral patterns **boost learning**
or
unappealing patterns **hinder learning?**

implications

apparent link between language learning and aesthetic appeal

appealing/neutral patterns **boost learning**
or
unappealing patterns **hinder learning?**

frequency and **familiarity?**

implications

apparent link between language learning and aesthetic appeal

appealing/neutral patterns **boost learning**
or
unappealing patterns **hinder learning?**

frequency and **familiarity?**
direction of **causality?**

conclusion

conclusion

intrinsic appeal of single phonemes

conclusion

intrinsic appeal of single phonemes
learnability of appealing words

conclusion

aesthetic perception:

relevant bias in language learning

conclusion

aesthetic perception:

language learning (transmission)

conclusion

aesthetic perception:

language learning
(transmission)

↓

cultural language evolution

thank you

thank you

contact information:

a11927657@unet.univie.ac.at
davidkosic5@gmail.com

Tedesco. 2007. “Introduction to Prehistoric Art, 20,000–8000 B.C.”.
Ilkay Isik & Vessel. 2021. Frontiers in Human Neuroscience 15.
Matzinger et al.. 2021. Proceedings of the Annual Meeting of the Cognitive Science Society 43.
Crystal. 1995. English Today 11.
Hanson et al.. 1978. Language and Speech 21.
Berlyne. 1971. Aesthetics and Psychobiology.
Alley. 1997. The American Journal of Psychology 110.