

Choose your words wisely

Semiotic Characteristics predict Halo Effects and Attrition in the Serial Reproduction of Person Descriptions



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Let's discuss!
During Poster Session 3:

<https://heiconf.uni-heidelberg.de/hg24-crf4-9eav-4dnh>
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Information changes when it is communicated: some pieces are lost (*attrition*), others are added (*halo effect*). This experimental study manipulated similarity and cue overlap in the sign system available to describe persons (personality traits and behaviours). These semiotic characteristics successfully predicted attrition and halo effects.

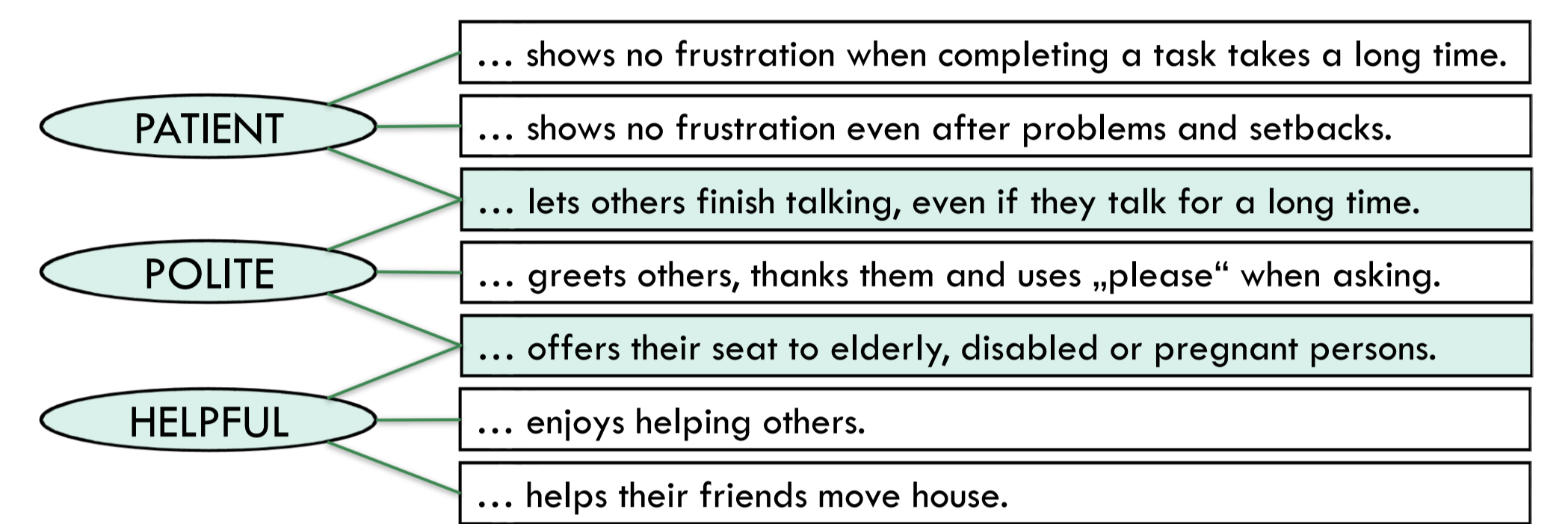
Summary

Personality Traits: A sign system to describe persons

- two basic dimensions underlying personality traits: valence and domain (agency, communion)
- density hypothesis (Unkelbach et al., 2008):
 - traits can be classified in how **similar** they are to each other
 - positive traits are more similar to each other than negative traits (Unkelbach et al., 2008)
 - traits within valence x domain categories are more similar to each other than between categories (Bruckmüller & Abele, 2013)
- feature overlap in memory is a main dimension underlying similarity (Tversky, 1977): similar traits are connected and share constituent features with each other
- this is partly based on the distal nature of personality traits: on the level of observations, similar traits share more behavioural cues (**cue overlap**, validated in two pre-studies, N = 182)

1. Personality traits vary in their similarity. Similar traits are based on the same observations (cue overlap) more often.

Positive	Communal	patient – polite – helpful caring – gentle – friendly	similarity ↓ Traits
Positive	Agentic	strong-minded – industrious – able persistent – competent – assertive	
Negative	Communal	insidious – inconsiderate – cynical gruff – hard-hearted – cool	
Negative	Agentic	simple-minded – dependent – lacking self-discipline insecure – stupid – lazy	



Material: Example

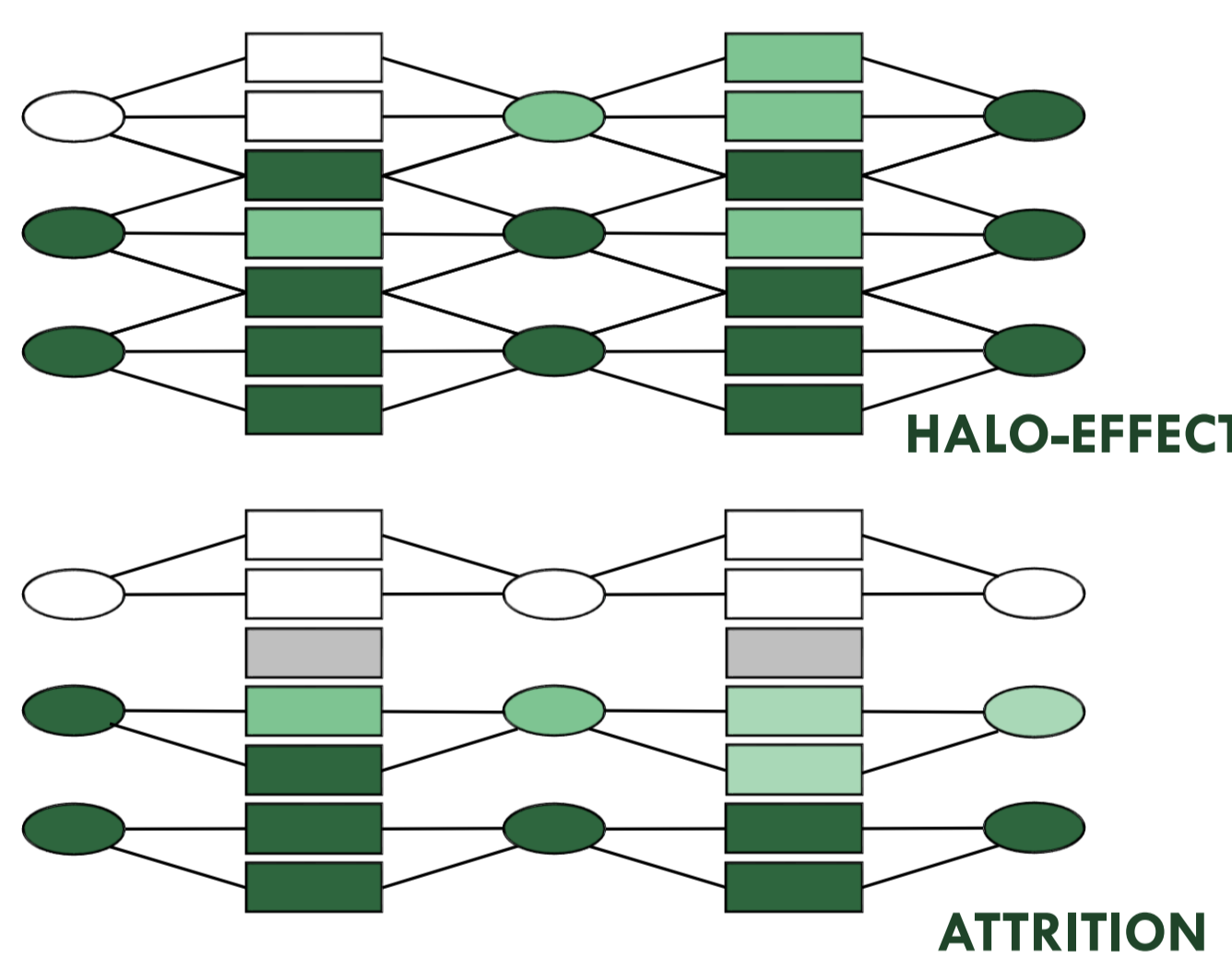
Why do smart people appear to be industrious?

- halo effect:** the presence of one trait makes it more likely that another trait is assumed to be present
- possible mechanisms: influence of an overarching dimension, connection between traits, cue overlap
 - traits with high similarity produce stronger halo effects (Gräf & Unkelbach, 2016); we propose two additive mechanisms: 1. similar traits are connected in memory 2. behavioural descriptions support similar traits as well, even if they are only given to indicate one trait (cue overlap)

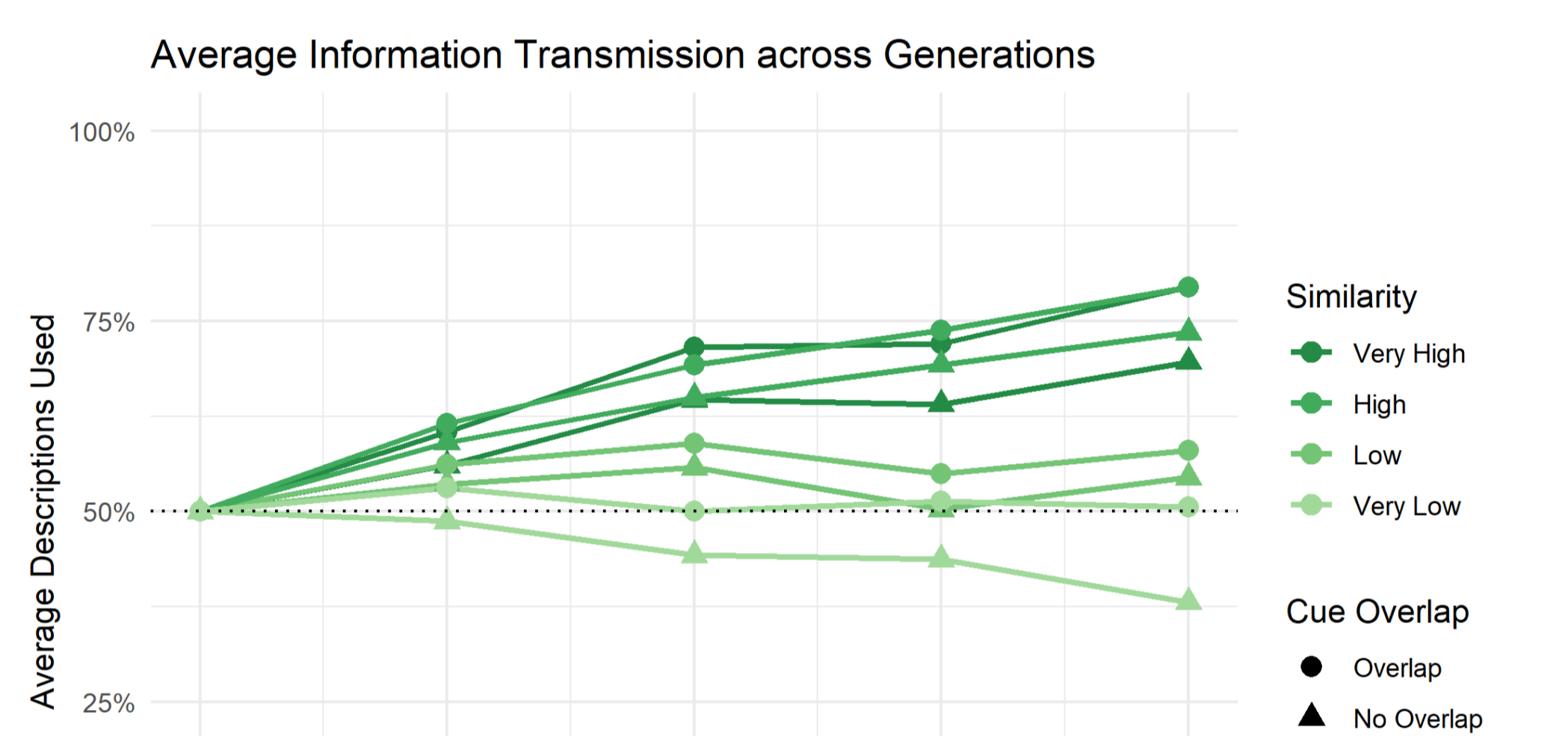
2. Both the presence of similarity and cue overlap can cause that the presence of one trait leads to the inference that another trait is present as well (halo effect).

Halo Effects and Attrition in Serial Reproduction

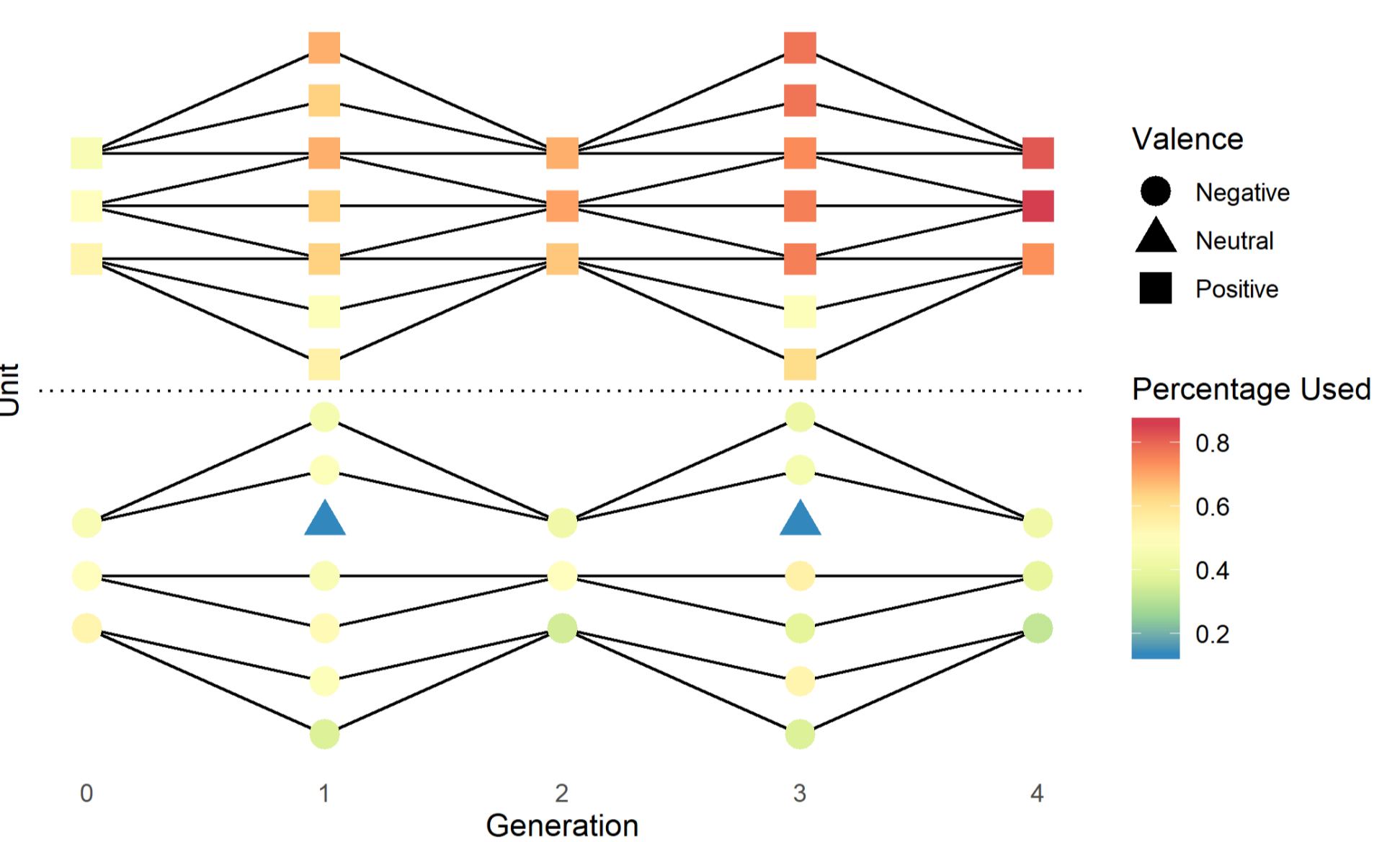
- paradigm to model effects of (repeated) communication on information: **serial reproduction** (Bartlett, 1932)
- disparate findings: information loss (**attrition**) vs. added information (**enrichment**, here: **halo effect**) as outcomes of serial reproduction
- amplification function of repeated transmission: initially small differences become large after repetition



3. Retelling (serial reproduction) leads to halo effects in systems with high similarity and cue overlap and attrition in systems with low similarity and no cue overlap.



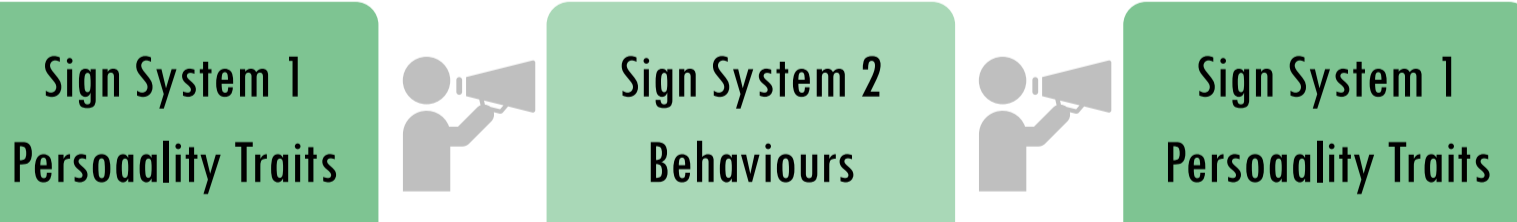
Information Transmission for Single Items



Results: Plots

How do we manipulate similarity and cue overlap in serial reproduction?

- paradigm to measure semiotic influences: **backtranslation** (Fiedler et al., 2008)



- in this study: two subsequent cycles of backtranslation
» **serial backtranslation paradigm**
- we vary similarity within the personality traits, and cue overlap within the behaviours participants can use for their messages to the next participant

Method

Participants: 117 (90 female, age 18-65, m = 26)

Material: 8 trait-triplets (see box "Traits"); per trait-triplet one set (7 behavioural cues) with and one set without cue overlap from pre-studies

Combined into **PROFILES**: 1 positive, 1 negative trait-triplet

Design: between participants: Generation (1:4)
within participants (between trait-triplets):

- Valence** (positive, negative) • **Domain** (Agency, Communion)
- Cue Overlap** (yes, no) • **Number of Traits in Gen 1** (0:3)

Task: 16 X



trait or behaviour chosen as present = Valence * Domain * Cue Overlap * Generation + (1 + Valence | Participant) + (1 | Item)

Significant Predictors:	OR	CI	p
(1) Generation	1.24	1.14 – 1.35	<.001
(2,4) Neg. Valence * Generation	0.82	0.74 – 0.90	<.001
(3) Cue Overlap * Generation	1.13	1.03 – 1.24	<.01
(2,4) Neg. Valence * Ag. Domain * Generation	0.83	0.73 – 0.95	<.01

Logistic Mixed-Effects Model

- Overall, the mean amount of traits chosen as present increased from the initial material (50%) to gen. 4 (63%)
- In categories with **higher similarity** (positive and communal), more traits are accepted as present (**halo effect**) across generations.
 - 0. Gen: 50 % -> 4. Gen: 75% vs. 44%
- More **cue overlap** within the sign system leads to more traits accepted as present (**halo effect**) across generations:
 - 0. Gen: 50 % -> 4. Gen: 67% vs. 59%
- When there is **no cue overlap and very low similarity**, the amount of information decreases across generations (**attrition**)
 - 0. Gen: 50 % -> 4. Gen: 38%

Results: Summary and Discussion

Future Directions

- further experiments** on the semiotic approach to serial reproduction:
 - content domains: conceptual replication and extension for **healthiness and tastiness of food**
 - further **semiotic characteristics**: redundancy, diagnosticity
- possible **applications** of using semiotic characteristics to predict retelling results:
 - health communication, marketing, education

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