Implicit measures of automatic evaluation

Exploring new methods to measure attitudes towards language varieties

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Introduction

- Since 1960s/1980s **little methodological innovation** in language attitudes research (until recently)
- Traditional methods: (Garrett 2010)
  - Surveys (direct)
  - Speaker evaluation paradigm (indirect)
  - Societal treatment
- Problems: self-presentation, limited introspection, artificiality, lack of semantic & syntactic control (Speelman et al. 2013; Garrett 2010; Gawronski et al. 2011)
- Innovation: inspired by attitude research in **social psychology**

Outline

1. Implicit measures
2. Overview of techniques
3. AAP & IAT: success stories?
4. AMP & ST-IAT: new possibilities?
5. Conclusion

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Implicit measures

- Implicit techniques measure automatic associations
  - Association object & evaluation in memory = **attitude** (Fazio 2007)
  - Automaticity?

    Four horsemen of automaticity (Bargh 1994)
    - unconscious
    - unintentional
    - efficient
    - uncontrollable

Implicit measures

What have they been used for so far?

- **Various fields**:

  marketing, psychiatry, (social) psychology,…

- **Wide variety of topics**:

  Advertising (Häfner & Trampe 2009), sexual preference (Imhoff et al. 2010), alcoholism (Payne et al. 2008), self-mutilation (Franklin et al. 2014), self-esteem (Vandromme 2012), racism (Payne et al. 2005), gender stereotypes (Cvencek et al. 2011), etc.

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Overview of techniques

Two paradigms:

1. **Response interference paradigm**
   (Gawronski et al. 2011; Teige-Mocigemba et al. 2010)

2. **Sequential priming paradigm**
   (Wentura & Degner 2010; Spruyt et al. 2011)

= measure implicit attitudes

= two congruent stimuli → faster response

≠ presentation of stimuli: simultaneous vs. sequential

≠ underlying mechanisms

Overview of techniques

	Response interference paradigm	Sequential priming paradigm
Previously introduced to linguistics	Implicit association test (IAT)	Auditory affective priming (AAP)
New to linguistics	Single target implicit association test (ST-IAT)	Affect misattribution procedure (AMP)

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Implicit Association Test (IAT)

How it works

	TARGET CONCEPT	ATTRIBUTE
Category names	black/white	good/bad
Stimuli	 	*lovely, terrific, horrible, disgusting*

Implicit Association Test (IAT)

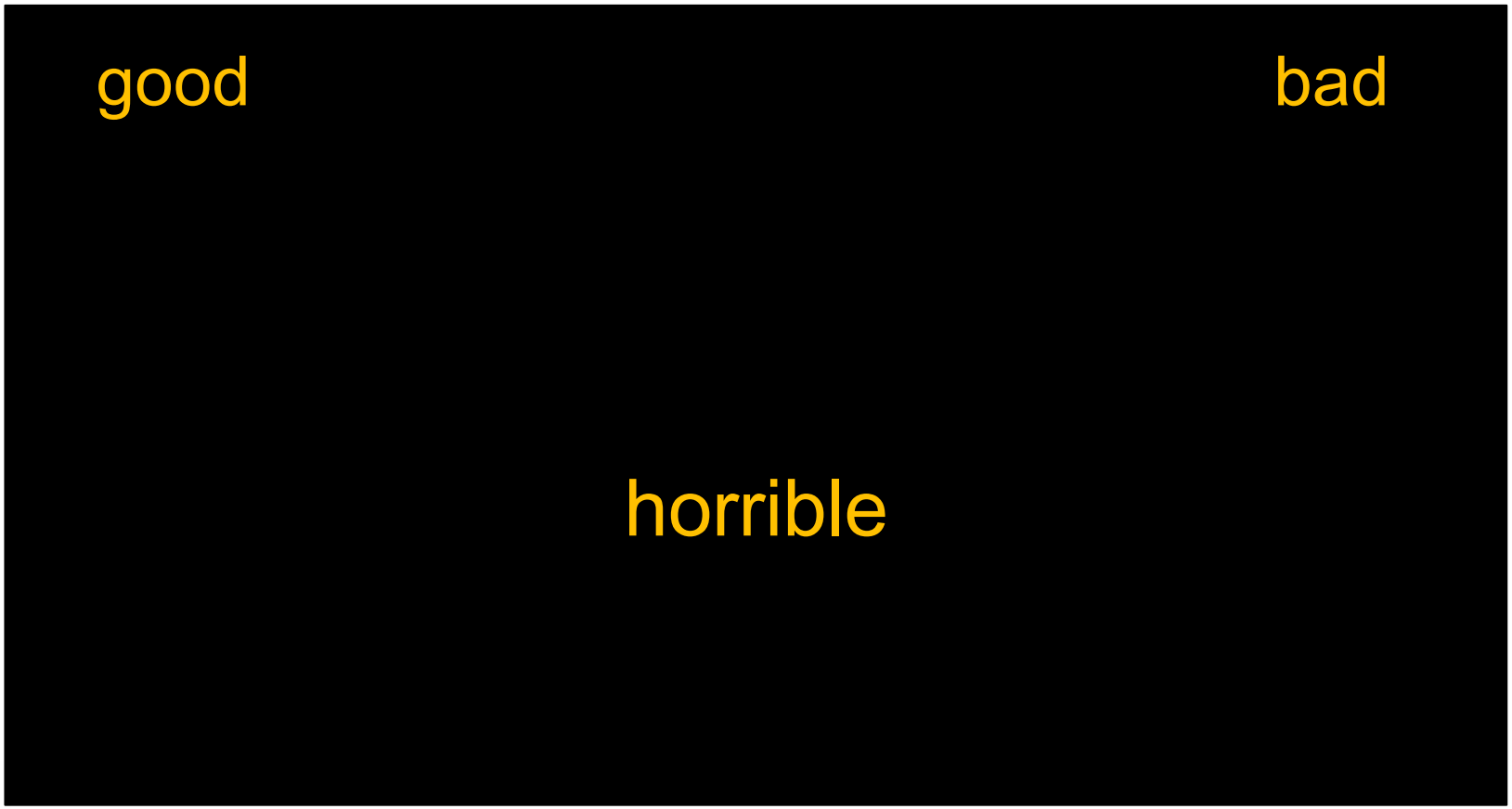
Block 1 – Target discrimination

black

white

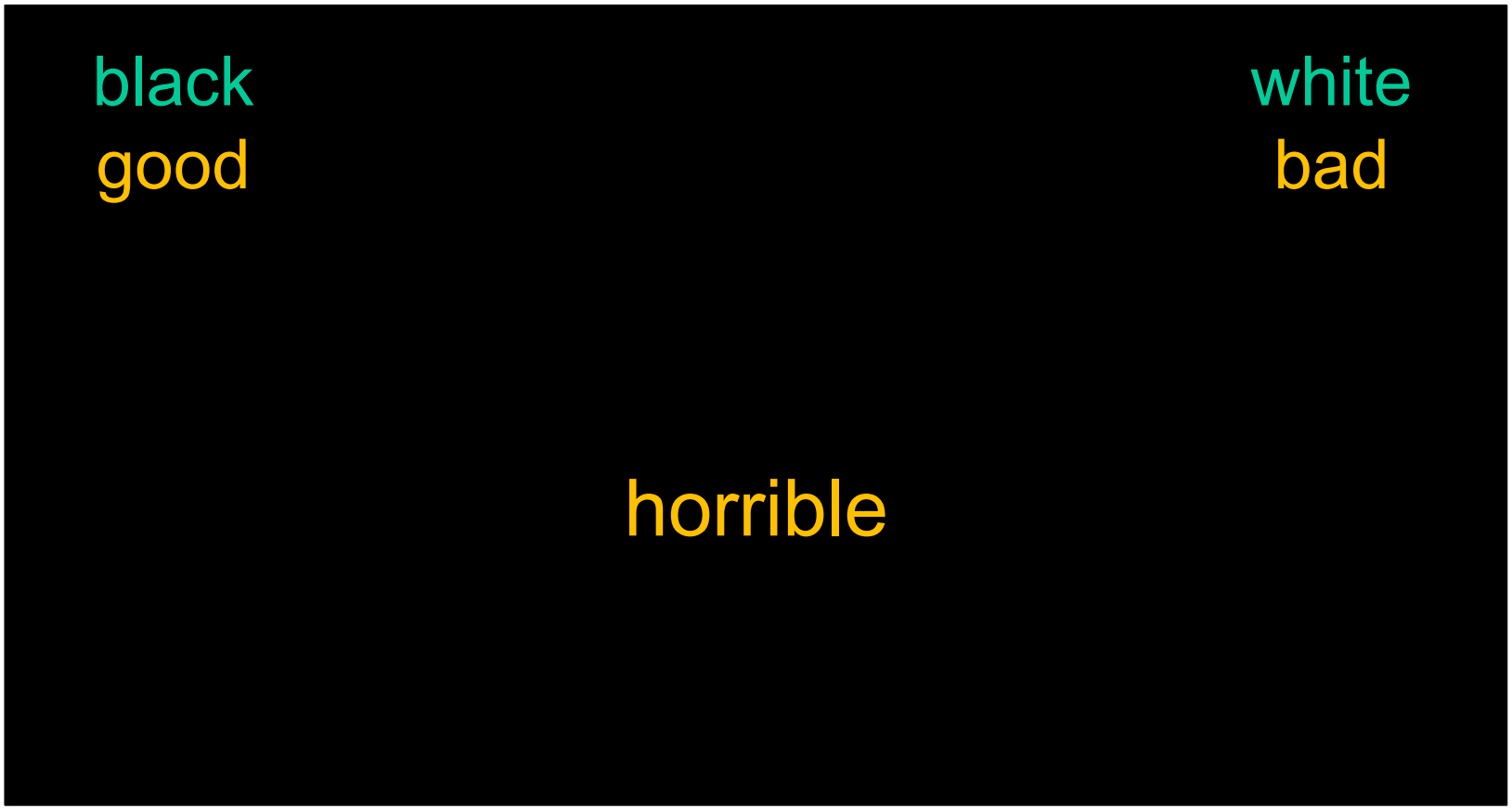
Implicit Association Test (IAT)

Block 2 – Attribute discrimination



Implicit Association Test (IAT)

Block 3 – Critical block: combined task



Implicit Association Test (IAT)

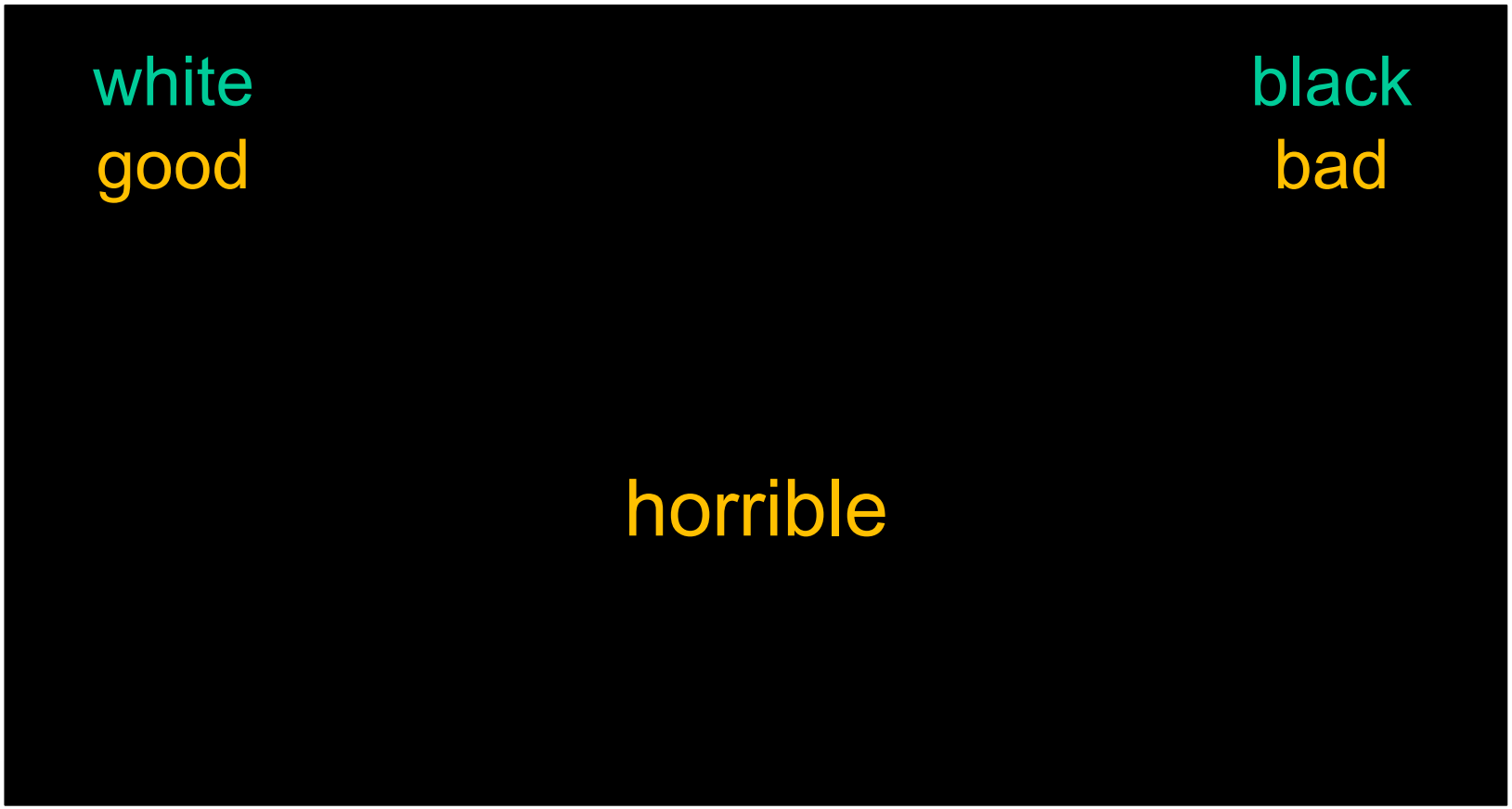
Block 4 – Target concept discrimination reversed

white

black

Implicit Association Test (IAT)

Block 5 – Critical block: combined task reversed



Implicit Association Test (IAT)

In linguistics:

Redinger (2010)

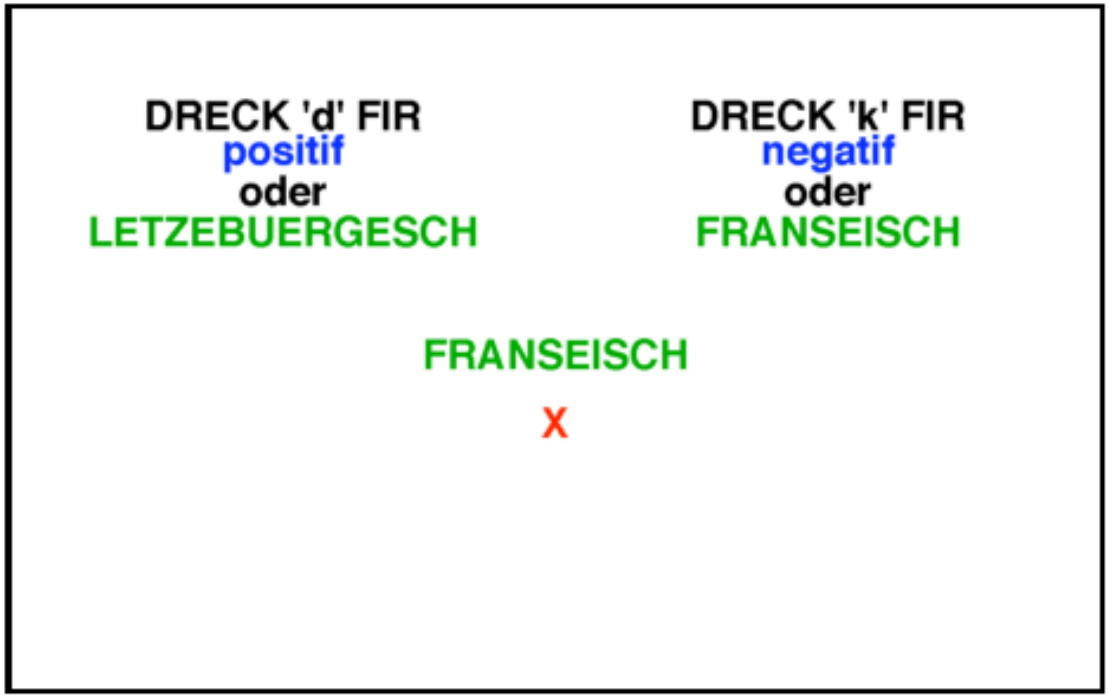
Pantos (2010, 2012)

Campbell-Kibler (2012, 2013)

Implicit Association Test (IAT)

Redinger (2010)

- Attitudes towards French & Luxembourgish
- Labels & positive/negative adjectives as stimuli
- Very small sample (N = 5)
- More positive attitudes towards Luxembourgish



Implicit Association Test (IAT)

Pantos (2010, 2012)

- Attitudes towards foreign accented vs. US English
- Auditory stimuli + written pos/neg adjectives
- Clear preference for US English <-> explicit attitudes

Implicit Association Test (IAT)

Campbell-Kibler (2012, 2013)

- Associations between linguistic variables and the social information they index
- Both auditory & written versions of variables

	Target concept	Attribute category
Exp.1	(ING) 	region education/ occupation language ideology 
Exp.2	(ING) 	region /ay/ monophtongization (ay – ah) /t/ release (burst – no burst) 

Implicit Association Test (IAT)

Evaluation:

Practical complexity	- participant - researcher (reaction times)
Linguistic/auditory stimuli	+ OK (labels & auditory stimuli) + length: rather flexible
Psychometric qualities	+ good reliability & validity
Relation attribute – target	+ valence & semantic
Other	- binary structure / comparative structure - practice effect: max. 1 test - extra-personal associations → P-IAT - naming of categories + inspiration development model of cognitive processes underlying attitudes

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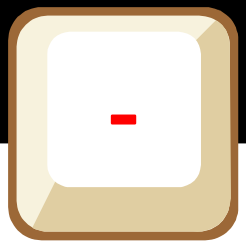
Affective Priming (AP)

How it works

Prime

Affective Priming (AP)

Target



Affective Priming (AP)

Prime

Target

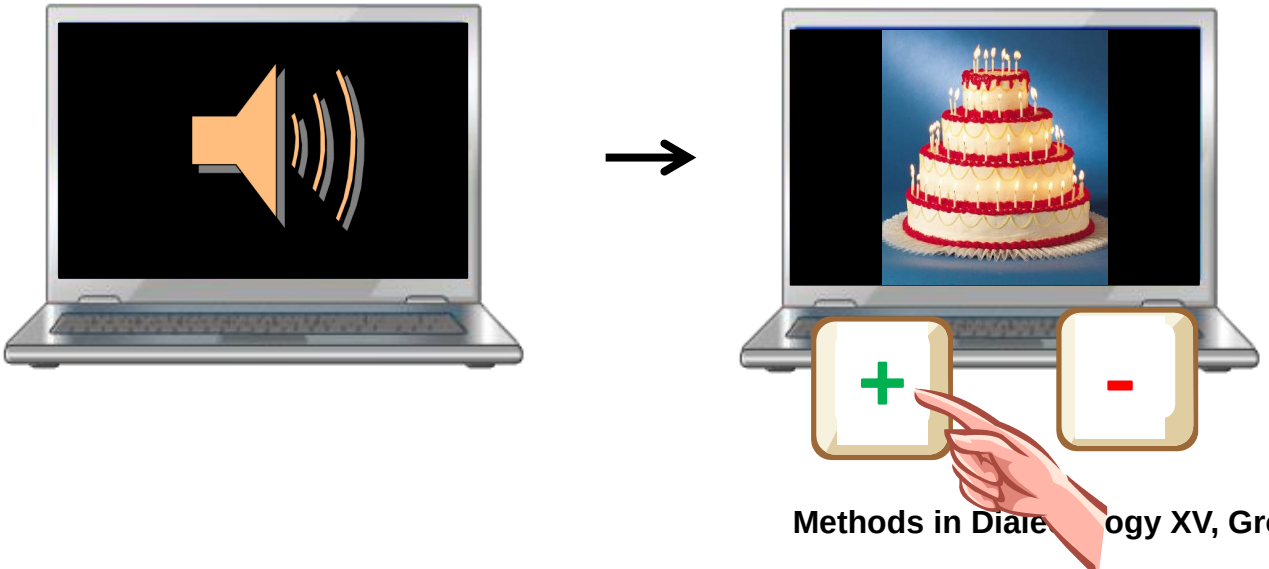
Response to target

Prime	Target	Congruence	Response speed
+	+	congruent	faster
+	-	incongruent	slower
-	+	incongruent	slower
-	-	congruent	faster

Auditory Affective Priming (AAP)

In linguistics? Speelman et al. (2013)

- Attitudes towards 3 varieties of Dutch in Belgium
- Auditory primes, pictures as targets
- For periphery: standard > own (peripheral) > central variety
  For centre: own (central) > standard > peripheral variety



Affective Priming (AP)

Evaluation?

Practical complexity	+ simple for participant - difficult to programme (reaction times) - neutral primes necessary
Linguistic/auditory stimuli	+ OK - length: very limited
Psychometric qualities	- not satisfactory, low reliability
Relation prime – target	+ valence (& semantic)
Other	- few prime categories per experiment → limited number of attitude objects can be compared - very sensitive procedure + publications: many + no naming of categories

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Single target IAT (ST-IAT)

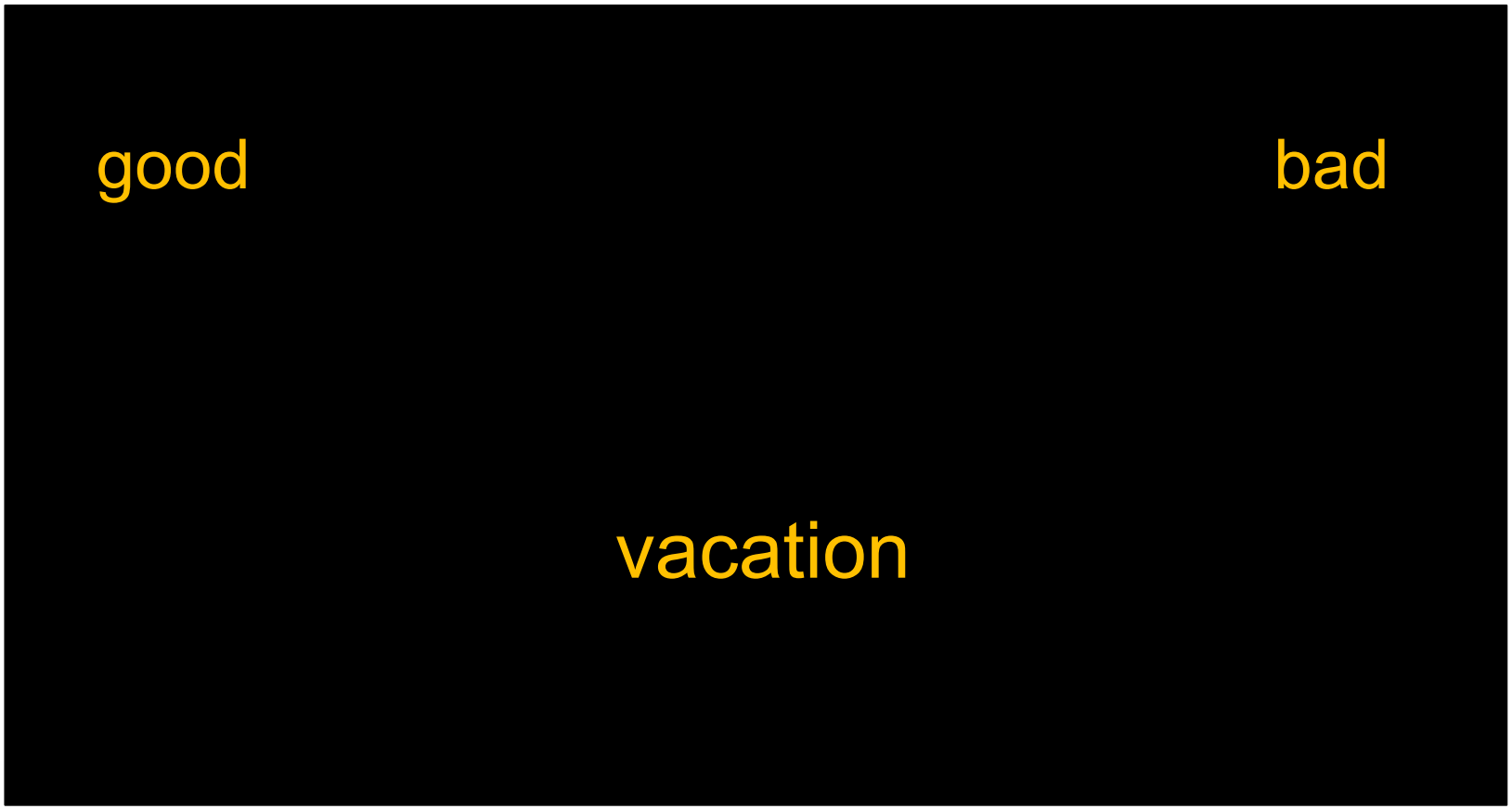
How it works

	TARGET CONCEPT	ATTRIBUTE
Category names	CDU	good/bad
Stimuli	Schäuble, Koch   CDU	*love, vacation, health, disease, death, pain*

(Bluemke & Friese 2008)

Implicit Association Test (IAT)

Block 1 – Attribute discrimination



Implicit Association Test (IAT)

Block 2 – Critical block: combined task

CDU
good

bad

Implicit Association Test (IAT)

Block 3 – Critical block: combined task reversed

CDU
bad

good

Single target IAT (ST-IAT)

Evaluation

Practical complexity	+ rather simple for the participant - difficult to programme (reaction times)
Linguistic/auditory stimuli	+ (OK) + length: rather flexible
Psychometric qualities	+ good reliability & validity
Relation attribute – target	+ valence & semantic
Other	+/- publications: moderate + not binary / comparative + multiple subsequent tests possible

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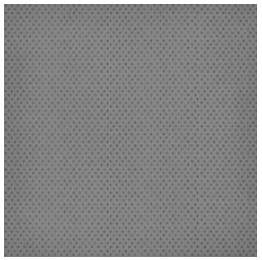
Affect misattribution procedure (AMP)

How it works

Prime

Target

Backward mask



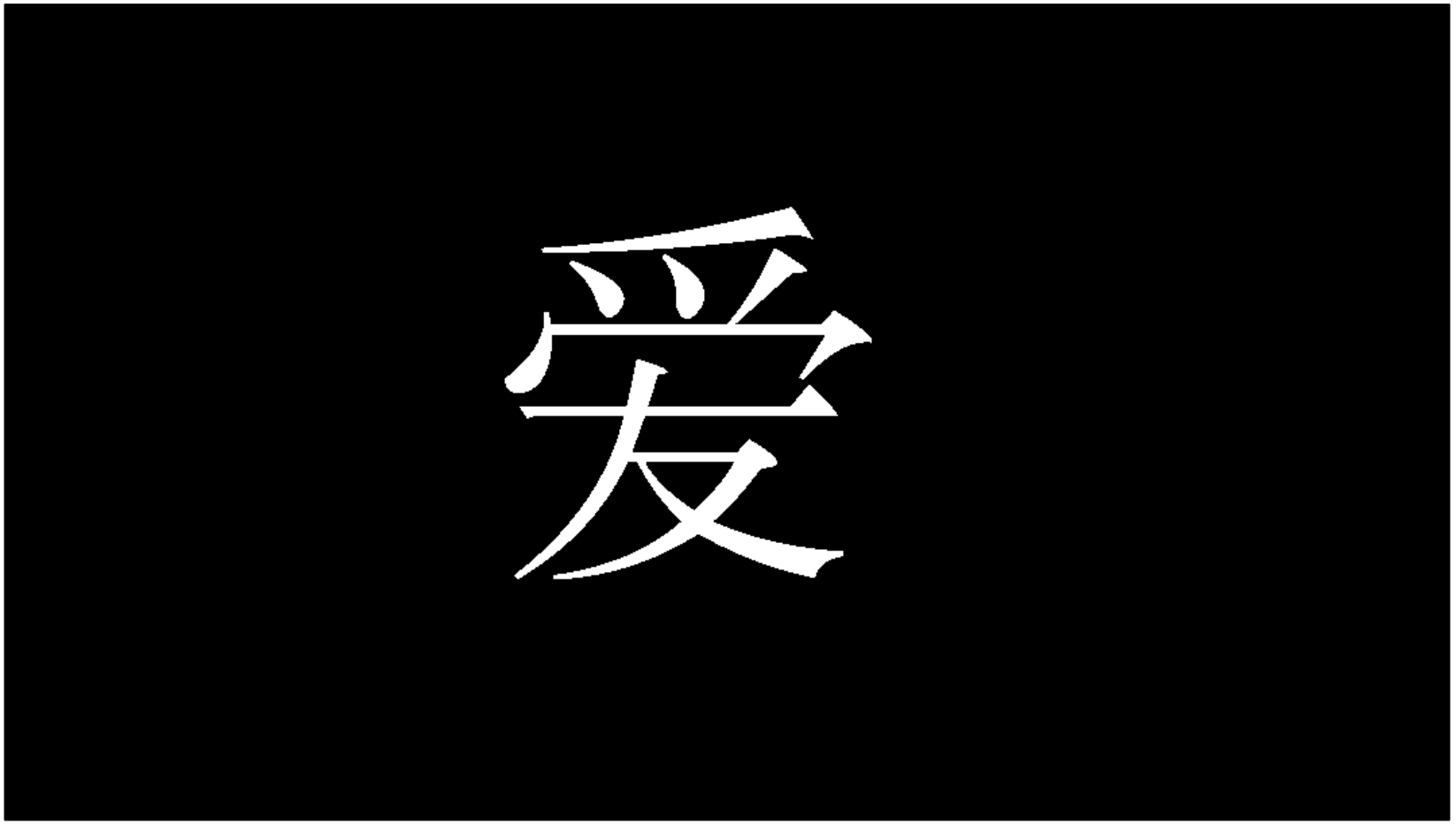
?

Affect misattribution procedure (AMP)

Prime

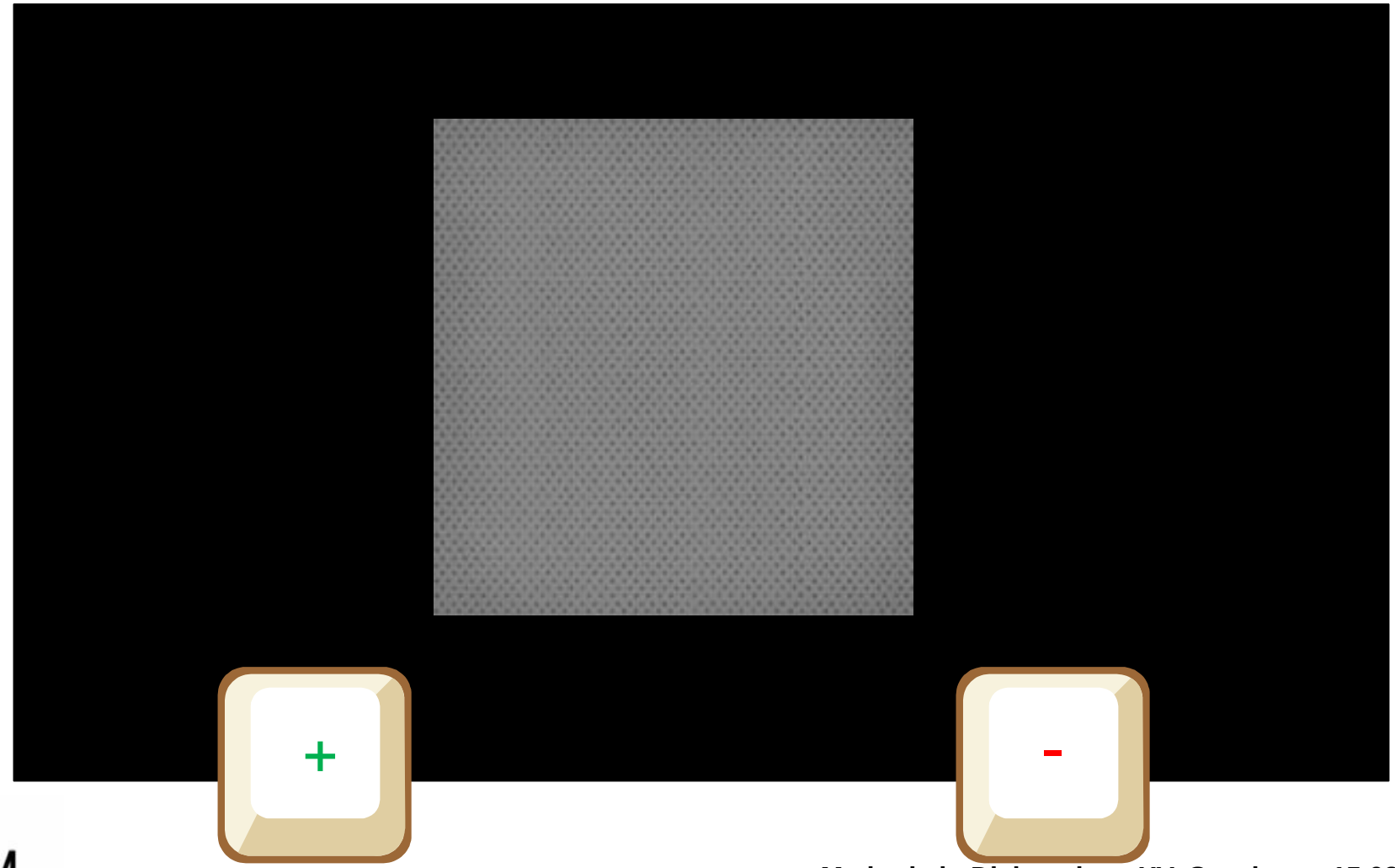
Affect misattribution procedure (AMP)

Target



Affect misattribution procedure (AMP)

Backward mask



Affect misattribution procedure (AMP)

Evaluation:

Practical complexity	+ rather simple for the participant + simple to programme / measure (no reaction times)
Linguistic/auditory stimuli	- ? - length: limited
Psychometric qualities	+ good reliability & validity
Relation attribute – target	+ valence & semantic
Other	- implicitness questioned + publications: moderate – many + no neutral primes + multiple prime categories (attitudes objects) in one experiment

Measure	Practical complexity	Linguistic/ auditory stimuli	Psychometric qualities	Relation prime & target	Other
IAT	- participant - researcher	+OK + length: rather flexible	+ good	Valence & semantic	**- binary / comparative structure** **- practice effect: max. 1 test** - extra-personal associations+ publications: many
AAP	+ participant - researcher	+OK - length : very limited	**- not very good**	Valence & (semantic)	**- few prime categories / experiment** **- very sensitive procedure** **- neutral primes** + publications (AP): many
ST-IAT	+ participant - researcher	+(OK) + length : rather flexible	+ good	Valence & semantic	- extra-personal associations → P-IAT **+ not binary/comparative** -/+ publications: moderate **+ several subsequent tests**
AMP	+ participant **+ researcher**	-? - length : limited	**+ good**	Valence & semantic	- implicitness questioned **+ multiple prime categories** **+ no neutral primes** + publications: moderate-many

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Limitations implicit measures

- Sensitive to many procedural details
- No gold standard
- Lack of context in prime stimuli

Advantages

- Extensive literature from psychology → ample evidence for validity & reliability
- Limit the influence of social desirability & lack of introspection
- Fairly short and easy to administer
- Inspiration in implicit measures paradigms to help sociolinguistics to develop a cognitive model of language attitudes

- Method to test hypotheses, not an exploratory technique

Conclusion

- Early to draw any definitive conclusions, but promising avenue if:
  more research is done to develop a gold standard so techniques become easier to implement
- No technique is perfect
  → choose technique in function of research question
  → methods can complement each other

- Implicit measures as a valuable addition to be used in addition to other (traditional) methods to make up for each other's limitations

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