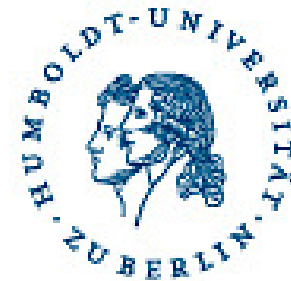


Estimating and Experimentally Testing a Model of Impression-Formation Among Germans

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Indiana University Social Psychology Colloquium
April 2nd, 2008

a mother

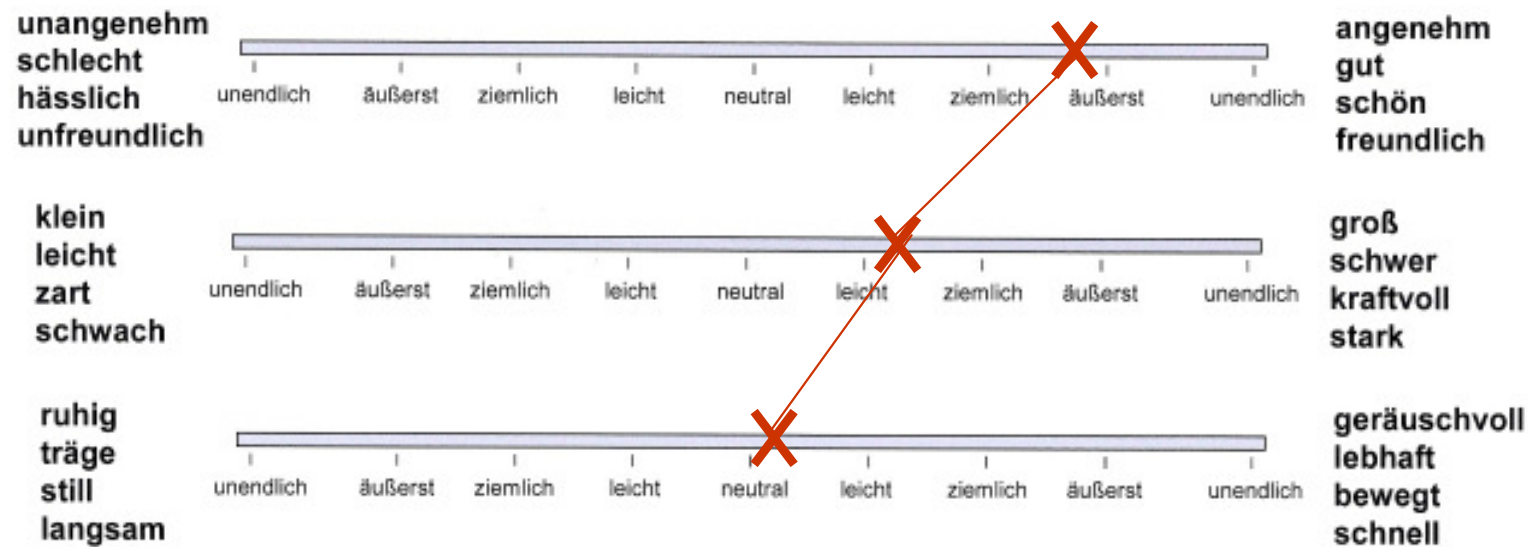
Sentiments



- All concepts evoke feelings (*fundamental sentiments*) that can be measured on three universal dimensions (Osgood et al., 1957):
 - Evaluation: good vs. bad
 - Potency: weak vs. strong
 - Activation: calm vs. lively
- These **basic dimensions of social interaction** (Scholl, subm.) can be found in language, emotions, personality, non-verbal behavior etc.

Example

a mother



Evaluation

Potency

Activation

$$EPA_{\text{Mother}} = 2.8 / 1.4 / 0.4 \quad (\text{German Data})$$

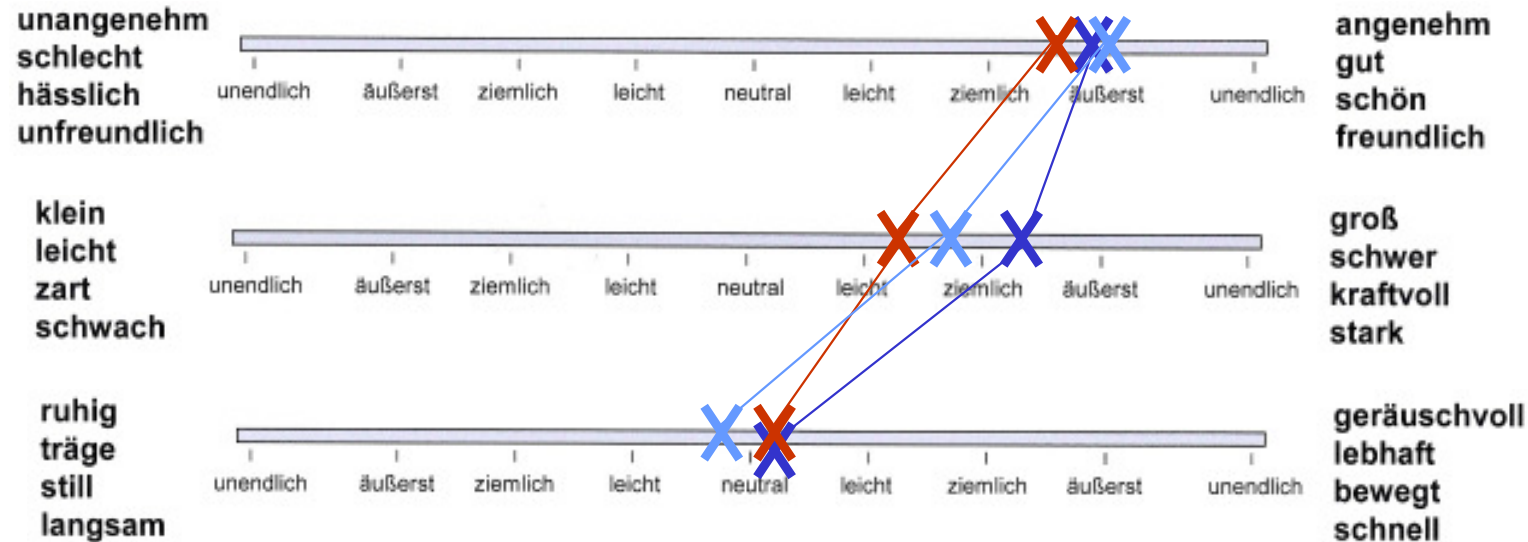
Impression Formation and Emotion I



A mother praises a child. (2.8 / 2.3 / 0.2)

a mother (2.8 / 1.4 / 0.4)

a satisfied mother (2.9 / 1.7 / -0.3)

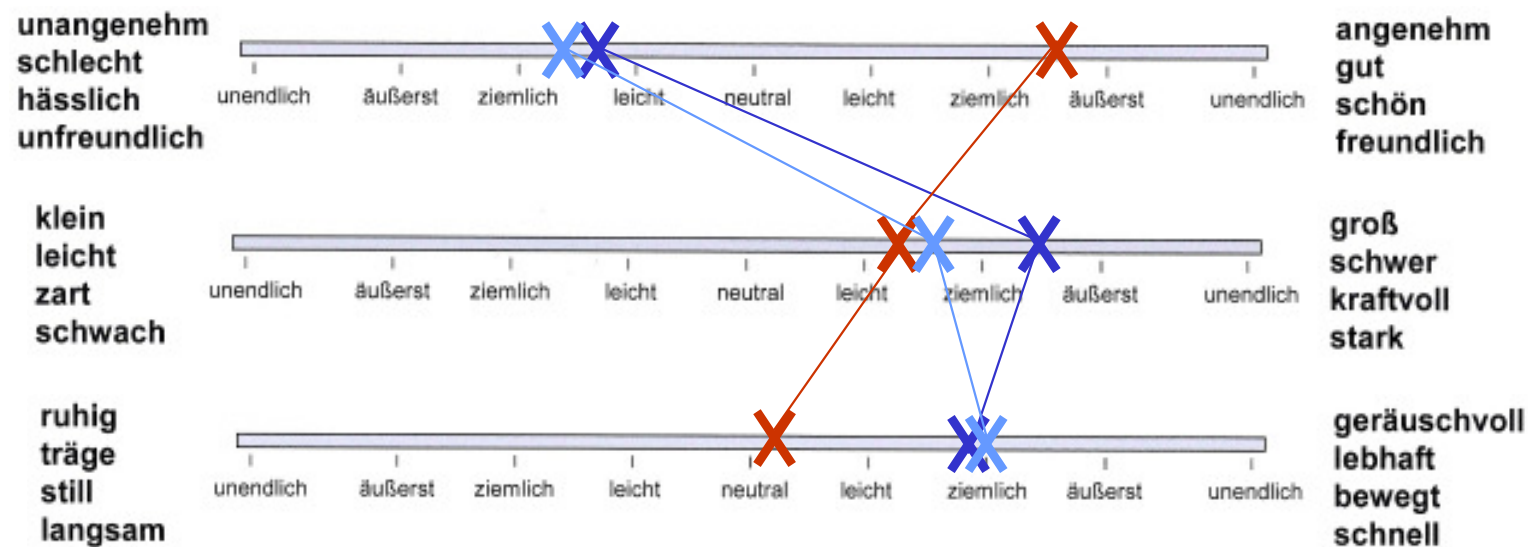


Impression Formation and Emotion II

A mother beats a child. (-1.2 / 2.5 / 1.8)

a mother (2.8 / 1.4 / 0.4)

a furious mother (-1.6 / 1.6 / 1.9)



Affect Control Theory

(Heise, 1979, 2007; MacKinnon, 1994)



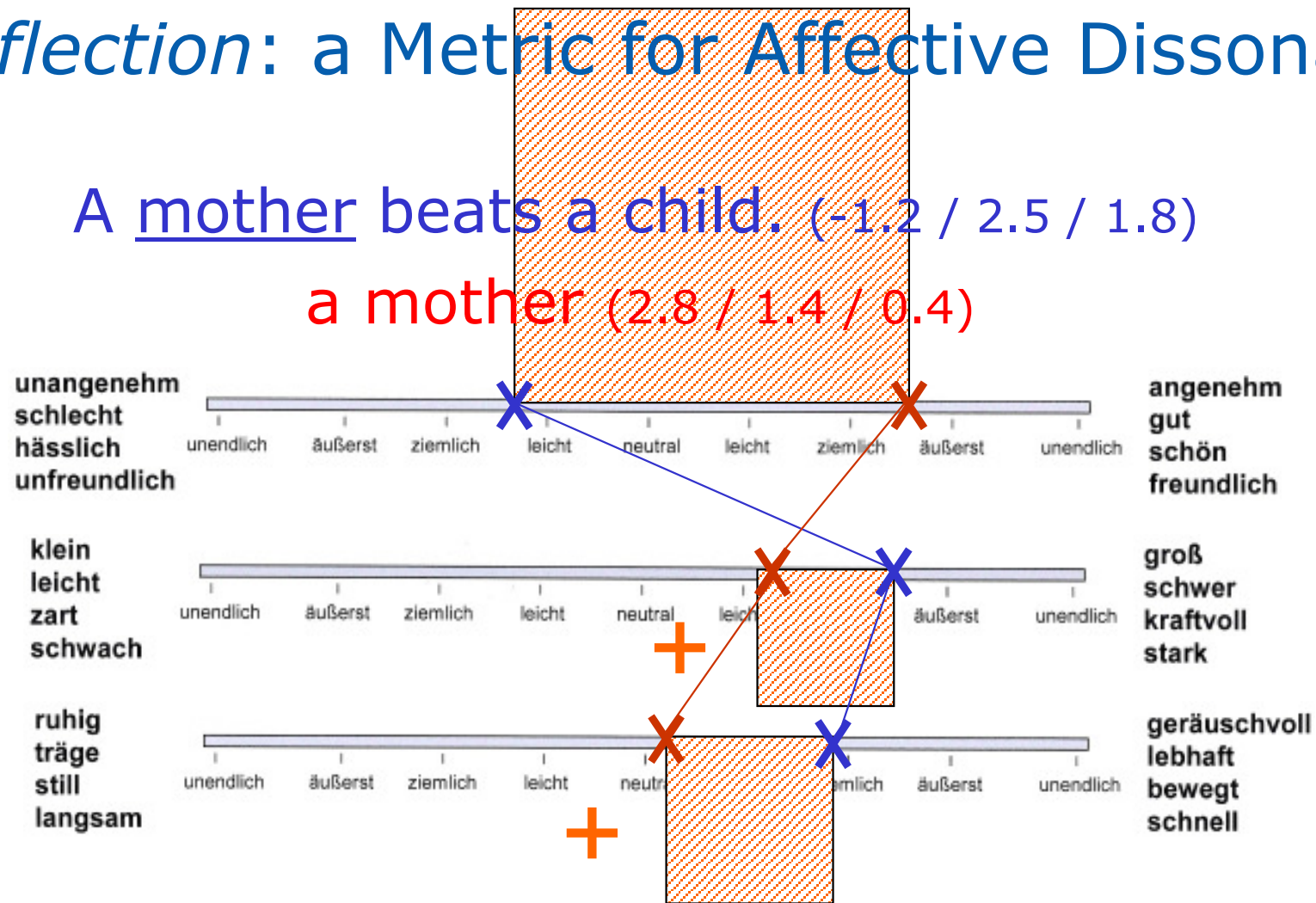
„People try to experience events that confirm their fundamental sentiments.“

- ⇒ ACT as a theory of **action**: those actions that confirm social identities are most probable
- ⇒ ACT as a theory of **emotion**: emotions inform about the success in confirming one's social identity

Deflection: a Metric for Affective Dissonance

A mother beats a child. (-1.2 / 2.5 / 1.8)

a mother (2.8 / 1.4 / 0.4)



- Sum of Squares $EPA_{\text{fundamental}} - EPA_{\text{transient}}$
- Mathematics of ACT: minimize deflection



Developing a German ACT Model

- Affective Dictionary: $\sim 1,100$ concepts designating social identities, actions, emotional states and personality traits
- Impression Formation Equations
- Amalgamation Equations
- Internet Data Collection in 2007:
 - N=1,905 (734 males / 1171 females)
 - 60 stimuli per rater
 - 30.6 male / 48.8 female raters per concept

Implementing the ACT Model into the INTERACT Software (Schneider & Heise, 1995)



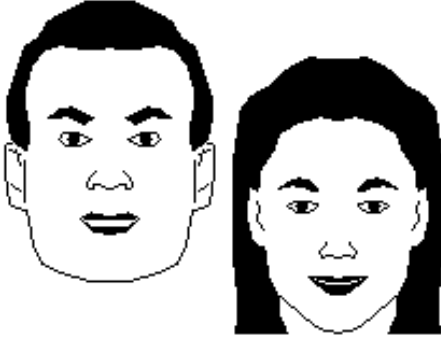
Indiana 2003 Basic Functions Analyze events Help

Experiences of Peter Male.

Peter[_husband], cajole, Gabi[_wife]

Actor emotions

- contented
- awe-struck
- lustful
- compassionate
- euphoric
- eager
- reverent
- moved



Object emotions

- self-conscious
- no emotion
- contented

Actor behaviors

- dine with
- embrace
- encourage
- share something with
- make up with

Object behaviors

- reward
- embrace
- make out with
- smile at
- be intimate with
- compliment
- protect
- teach

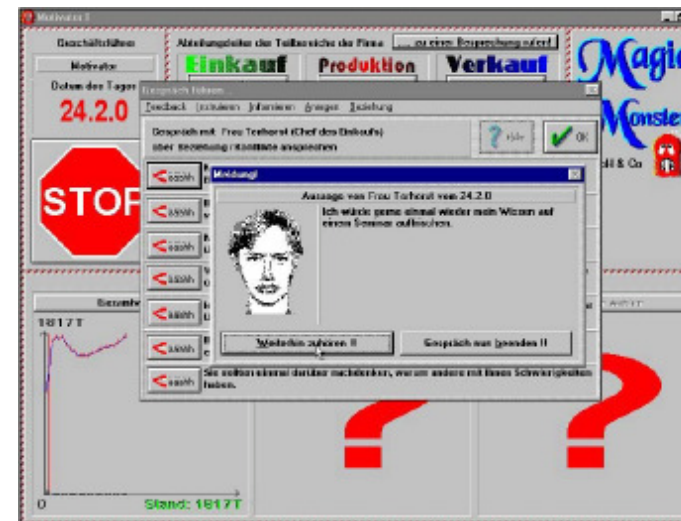
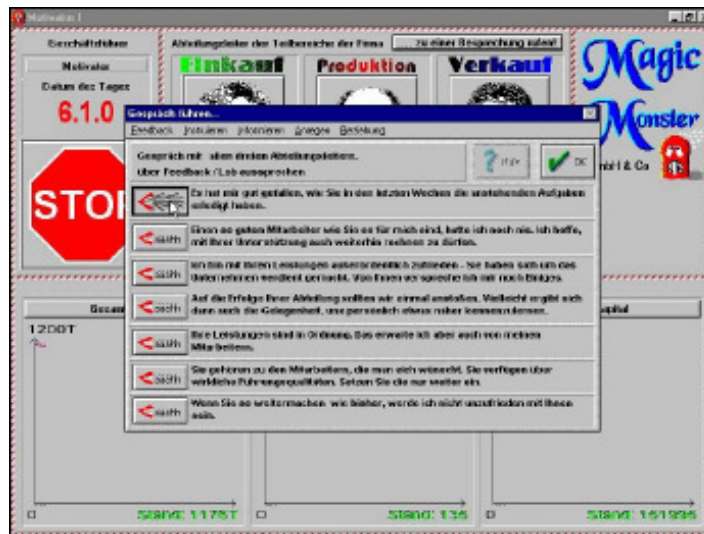
The Experiment



Do language based impression formation processes correspond to those in realistic social interactions?

- 60 Ss` (business admin. students about to finish their graduation) interacted with virtual employees in a computer simulated business environment
- „*Magic Monster Ltd.*“ (Heineken et al., 1995) was designed for training business leaders.

Magic Monster Ltd.



2x3 Experimental Design



Employee Personality (A priori probability of actions)

		support	antagonize	withdraw
Leadership style	authoritarian	30	→	→
	democratic	30	→	→

Manipulation of Leadership Style

- Situational interview priming technique
- Authoritarian style:
 - „Tell us about a situation where you realized your will over the resistance of the other group members.“
(Weber`s 1922 definition of power)
- Democratic Style:
 - „ Tell us about a situation where you succeeded in convincing the other group members of your ideas.“
- INTERACT simulation:
 - Authoritarian: *STUDENT PREVAIL OVER STUDENT*
 $EPA_{\text{transient}} = [0.6 \ 1.8 \ 1.7]$
 - Democratic: *STUDENT CONVINCED STUDENT*
 $EPA_{\text{transient}} = [1.1 \ 0.9 \ 0.7]$

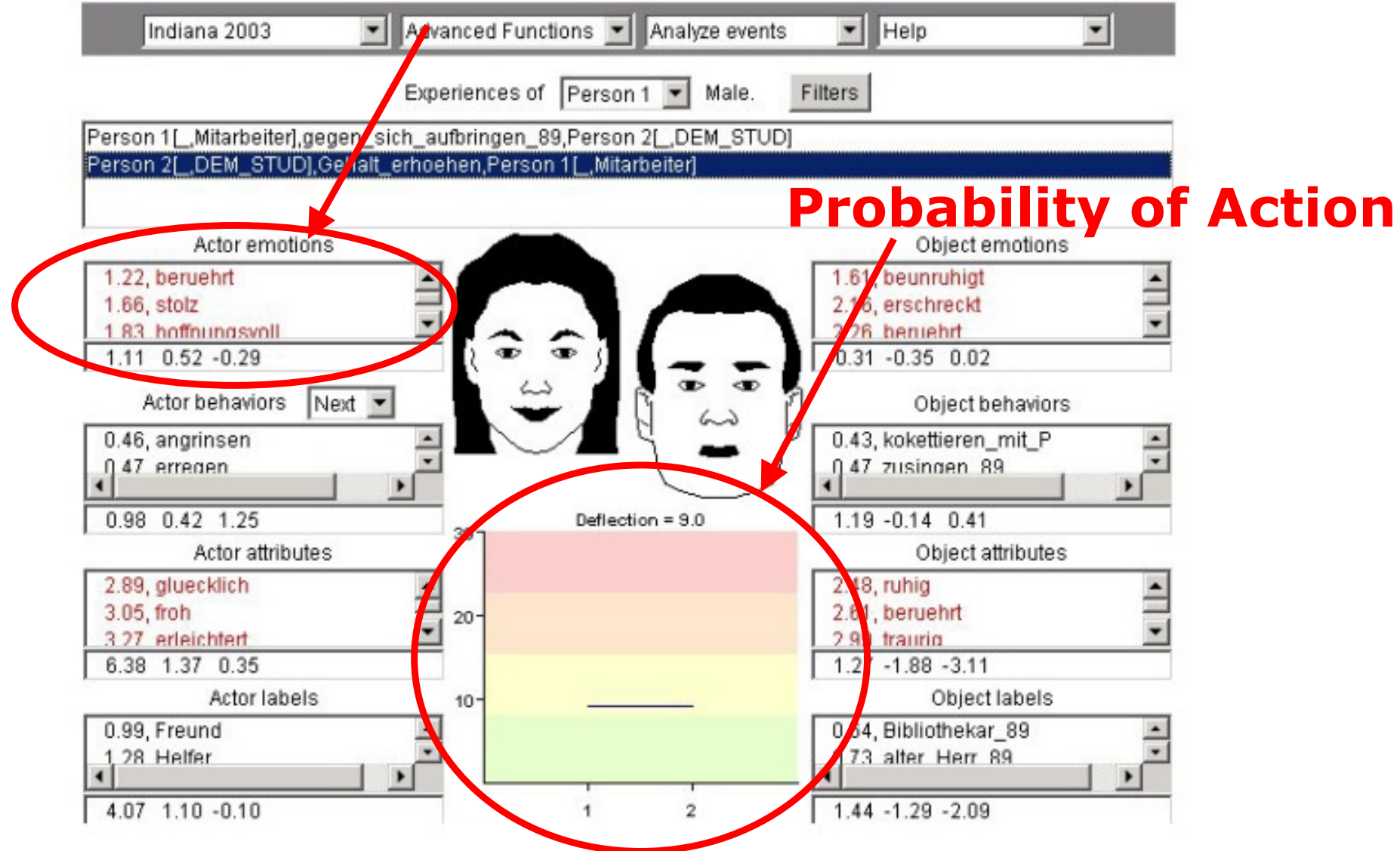
Manipulation of Employee Personality



- Competent employee („Mrs. Terhorst“):
 - INTERACT: *EMPLOYEE SUPPORT STUDENT*
 - Predicted $EPA_{\text{transient}} = [1.5 \ 1.5 \ 0.3]$
 - Actual (reported) impression: $[2.0 \ 1.3 \ 0.2]$
- Antagonizing employee („Mr. Cleves“):
 - INTERACT: *EMPLOYEE ANTAGONIZE STUDENT*
 - Predicted $EPA_{\text{transient}} = [-0.9 \ 1.0 \ 1.0]$
 - Actual (reported) impression: $[-1.1 \ 1.2 \ 1.5]$
- Withdrawn employee („Mr. Esch“):
 - INTERACT: *EMPLOYEE AVOID STUDENT*
 - Predicted $EPA_{\text{transient}} = [-0.7 \ -0.3 \ 0.1]$
 - Actual (reported) impression: $[-0.1 \ -0.8 \ -0.5]$

INTERACT Simulation of the Experiment

Predicted Emotions

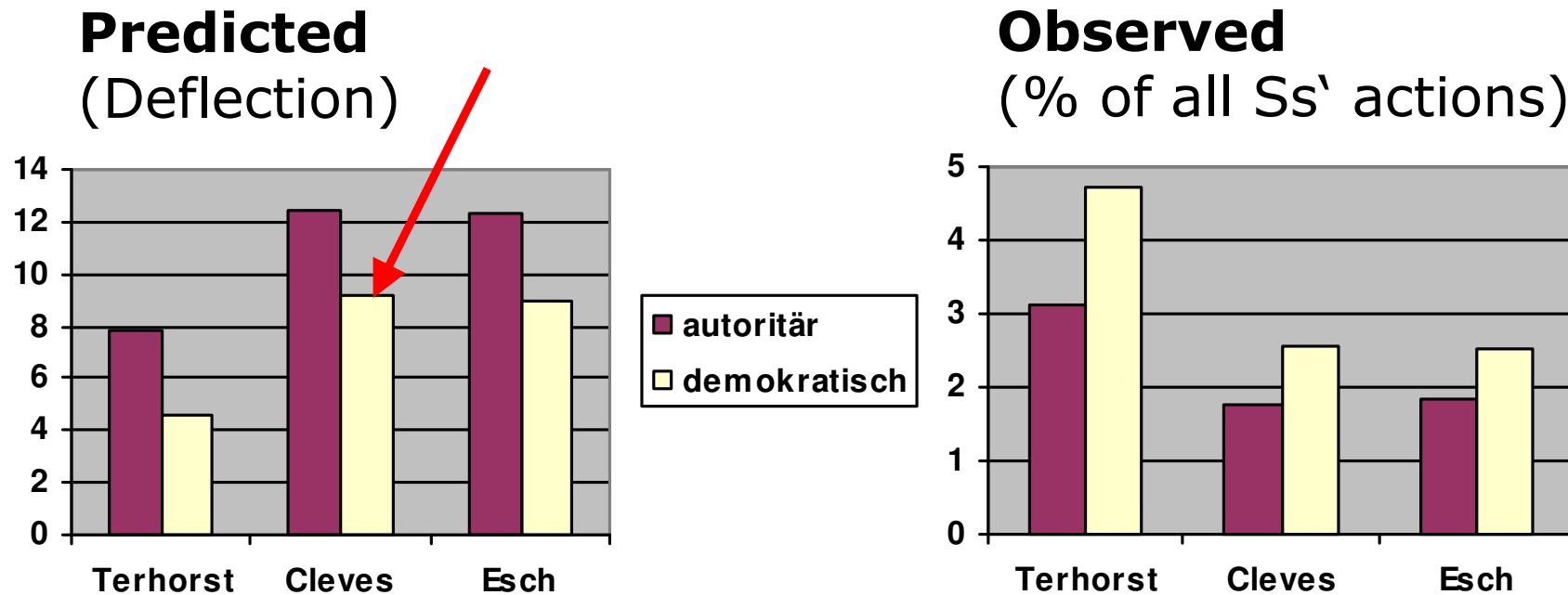


The screenshot displays the INTERACT simulation interface for the 'Indiana 2003' scenario. It shows the predicted emotions and actions for two characters: Person 1 (female) and Person 2 (male). The interface is divided into several sections:

- Actor emotions:** 1.22, beruehrt; 1.66, stolz; 1.83, hoffnungslos; 1.11, 0.52, -0.29
- Object emotions:** 1.61, beunruhigt; 2.16, erschreckt; 2.26, beruehrt; 0.31, -0.35, 0.02
- Actor behaviors:** 0.46, angrinsen; 0.47, erregen; 0.98, 0.42, 1.25
- Object behaviors:** 0.43, kokettieren_mit_P; 0.47, zinsingen_89; 1.19, -0.14, 0.41
- Actor attributes:** 2.89, gluecklich; 3.05, froh; 3.27, erleichtert; 6.38, 1.37, 0.35
- Object attributes:** 2.48, ruhig; 2.61, beruehrt; 2.91, traurig; 1.27, -1.88, -3.11
- Actor labels:** 0.99, Freund; 1.28, Helfer; 4.07, 1.10, -0.10
- Object labels:** 0.64, Bibliothekar_89; 0.73, alter_Herr_89; 1.44, -1.29, -2.09

In the center, there are two character portraits and a 'Deflection = 9.0' chart. The chart shows a horizontal line at a value of 9.0 on a scale from 0 to 30. The chart is divided into four colored regions: green (0-10), yellow (10-20), orange (20-25), and red (25-30). A red circle highlights the chart and the 'Object emotions' section. A red arrow points from the 'Advanced Functions' dropdown menu to the 'Actor emotions' section. Another red arrow points from the 'Probability of Action' text to the 'Object emotions' section.

Results I – Actions, Example: *Raise Employee's Salary*



- All the BETWEEN contrasts (leadership style manipulation) were correctly predicted.
- 5 out of 6 possible WITHIN contrasts (employee personality manipulation) were correctly predicted. The prediction failed only for Cleves vs. Esch in the democratic condition.

Results II - Actions

The Overall Picture



- Leadership Style Manipulation:
 - 42 (3x14) possible contrasts
 - Correct INTERACT predictions: 28
 - Binomial test: $p < .05$ for 28 out of 42
 - Pearson Correlation for *Difference in Deflection* with *Effect Size of Contrast*: $r = 0.39, p < .05$
- Employee Personality Manipulation
 - 84 (6x14) possible contrasts
 - Correct INTERACT predictions: 56
 - Binomial test: $p < .01$ for 56 out of 84
 - Pearson Correlation for *Difference in Deflection* with *Effect Size of Contrast*: $r = 0.29, p < .01$

Results III - Emotions



- After the experiment, Ss received a list of 40 emotion words:
„Please mark all emotions that you experienced while interacting with Mrs. Terhorst/Mr. Cleves/Mr. Esch!“
- The list was designed to cover the entire semantic space of emotions according to dimensional models of emotion by Morgan & Heise (1988) and Scherer (2005).

Results IV: Emotions - Correlations of Frequencies with Distances



Employee Personality (A priori probability of actions)

	support	antagonize	withdraw
authoritarian	-.26 *	-.52 **	-.14
democratic	-.40 **	-.39 **	-.19

* $p < .05$ ** $p < .01$

Conclusions

- INTERACT predictions with the German ACT model accounted for differences in actions and emotions between experimental conditions.
- Empirical support for the validity of the new German ACT model.
- Apparently, language based impression formation is similar to immediately experienced impression formation in complex, realistic social interactions.

Thank you for your attention!

(And special thanks to Edgar Heineken, David R. Heise, Jan Hülsenbeck, Heike Ollesch, Marco Peucker, Wolfgang Scholl, Michaela Turss, the Friedrich Ebert Foundation, and many others for supporting this research.)

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