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

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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

\[ \text{EPA}_{\text{Mother}} = 2.8 / 1.4 / 0.4 \] (German Data)
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: ~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)
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.

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### Employee Personality
(A priori probability of actions)

<table>
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<tr>
<th></th>
<th>support</th>
<th>antagonize</th>
<th>withdraw</th>
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#### Leadership style

- Authoritarian
- Democratic
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: \text{STUDENT PREVAIL OVER STUDENT}$\ 
    \text{EPA}_{transient} = [0.6, 1.8, 1.7]$ 
  - Democratic: \text{STUDENT CONVINCE STUDENT}$\ 
    \text{EPA}_{transient} = [1.1, 0.9, 0.7]$
Manipulation of Employee Personality

• Competent employee („Mrs. Terhorst“):
  – INTERACT: EMPLOYEE SUPPORT STUDENT
  – Predicted EPA\textsubscript{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\textsubscript{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\textsubscript{transient} = [-0.7 -0.3 0.1]
  – Actual (reported) impression: [-0.1 -0.8 -0.5]
INTERACT Simulation of the Experiment

Predicted Emotions

Probability of Action
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)

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<td>-.19</td>
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* 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!

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