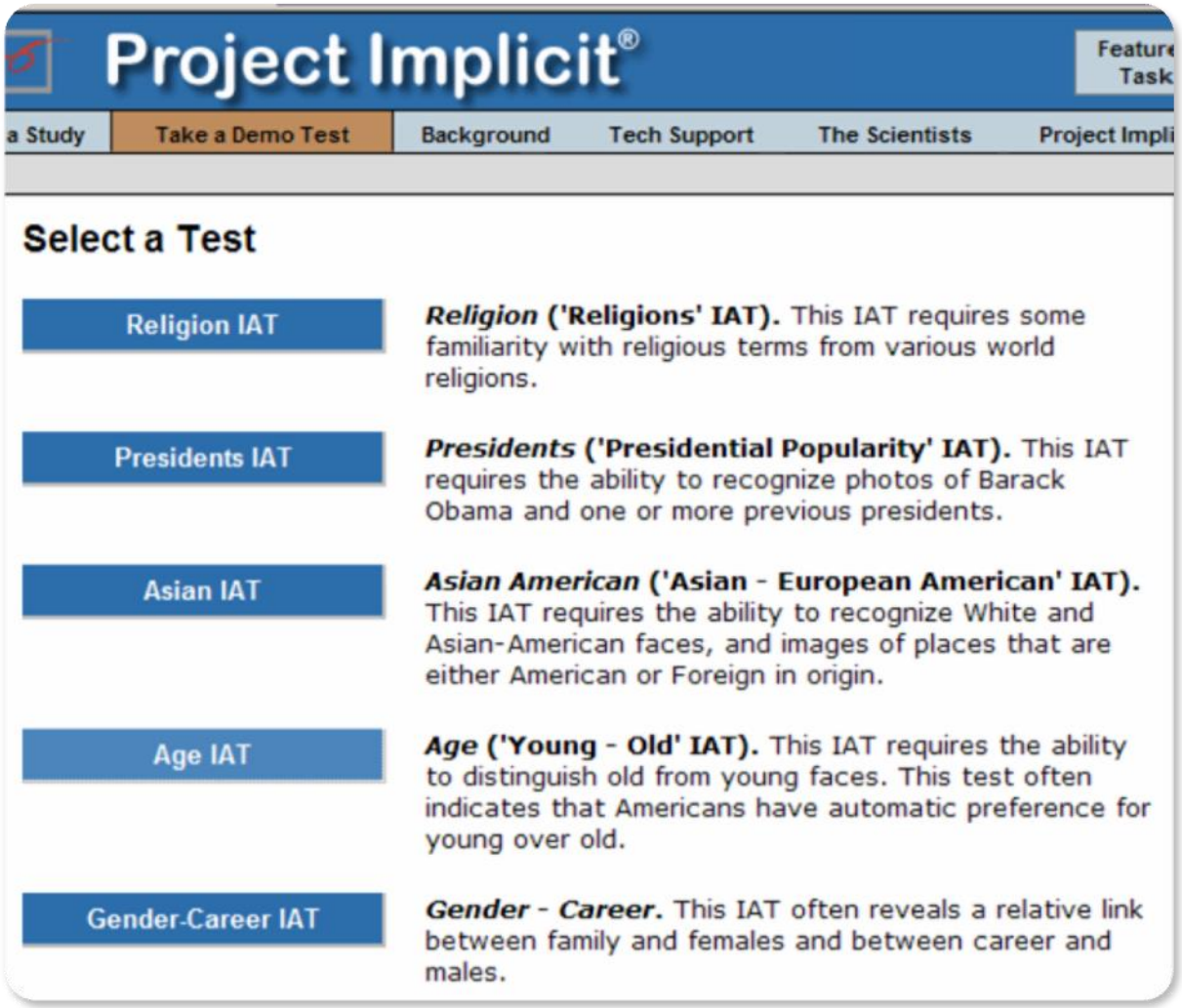
10.20378/irb-104647

18.11.2024


Project Implicit®
Feature
Task
a Study
Take a Demo Test
Background
Tech Support
The Scientists
Project Impli
Select a Test
Religion IAT
Religion ('Religions' IAT). This IAT requires some familiarity with religious terms from various world religions.
Presidents IAT
Presidents ('Presidential Popularity' IAT). This IAT requires the ability to recognize photos of Barack Obama and one or more previous presidents.
Asian IAT
Asian American ('Asian - European American' IAT). This IAT requires the ability to recognize White and Asian-American faces, and images of places that are either American or Foreign in origin.
Age IAT
Age ('Young - Old' IAT). This IAT requires the ability to distinguish old from young faces. This test often indicates that Americans have automatic preference for young over old.
Gender-Career IAT
Gender - Career. This IAT often reveals a relative link between family and females and between career and males.

Below is the interpretation of your IAT performance, followed by questions about what you think it means. The next page explains the task and has more information such as a summary of what most people show on this IAT.

Your Result

Your data suggest a slight automatic preference for Young compared to Old.

The interpretation is described as 'automatic preference for Young People' if you responded faster when *Young* faces and *Good* words were classified with the same key than when *Old* faces and *Good* words were classified with the same key.
Depending on the magnitude of your result, your automatic preference may be described as 'slight', 'moderate', 'strong', or 'little to no preference'. Alternatively, you may have received feedback that 'there were too many errors to determine a result'.

Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998)

- Measures the strength of implicit associations among concepts categories/targets and attributes
- Computerized classification task: requires respondents to rapidly sort stimulus exemplars from four concepts using just two response options, each of which is assigned to two of the four concepts.
- Using response latencies and errors
- Rationale: sorting task should be easier when the two concepts that share a response are strongly associated than when they are weakly associated

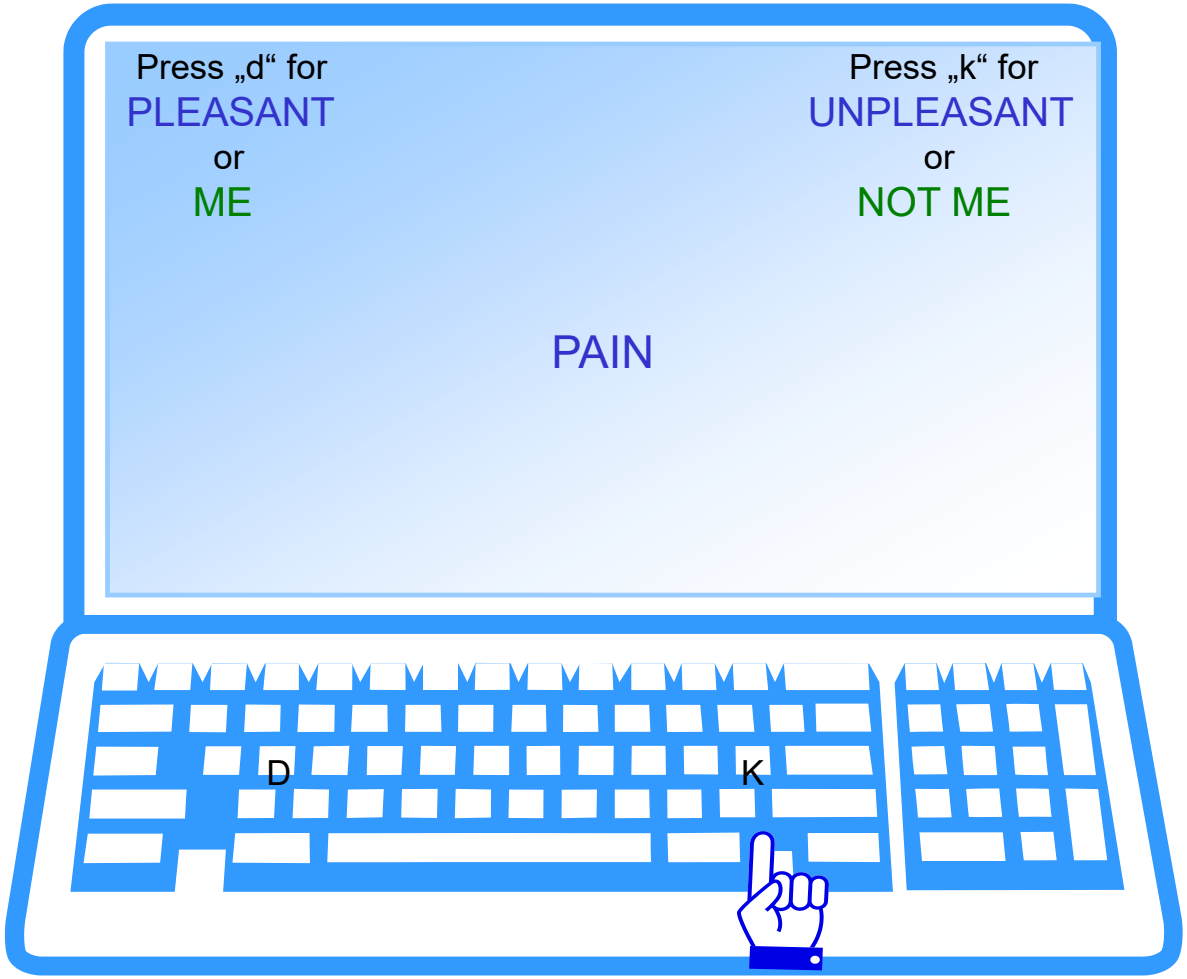
IAT Procedure

Block	Left Key	Right Key
1	PLEASANT	UNPLEASANT
2	ME	NOT ME
3	PLEASANT or ME	UNPLEASANT or NOT ME
4	NOT ME	ME
5	PLEASANT or NOT ME	UNPLEASANT or ME

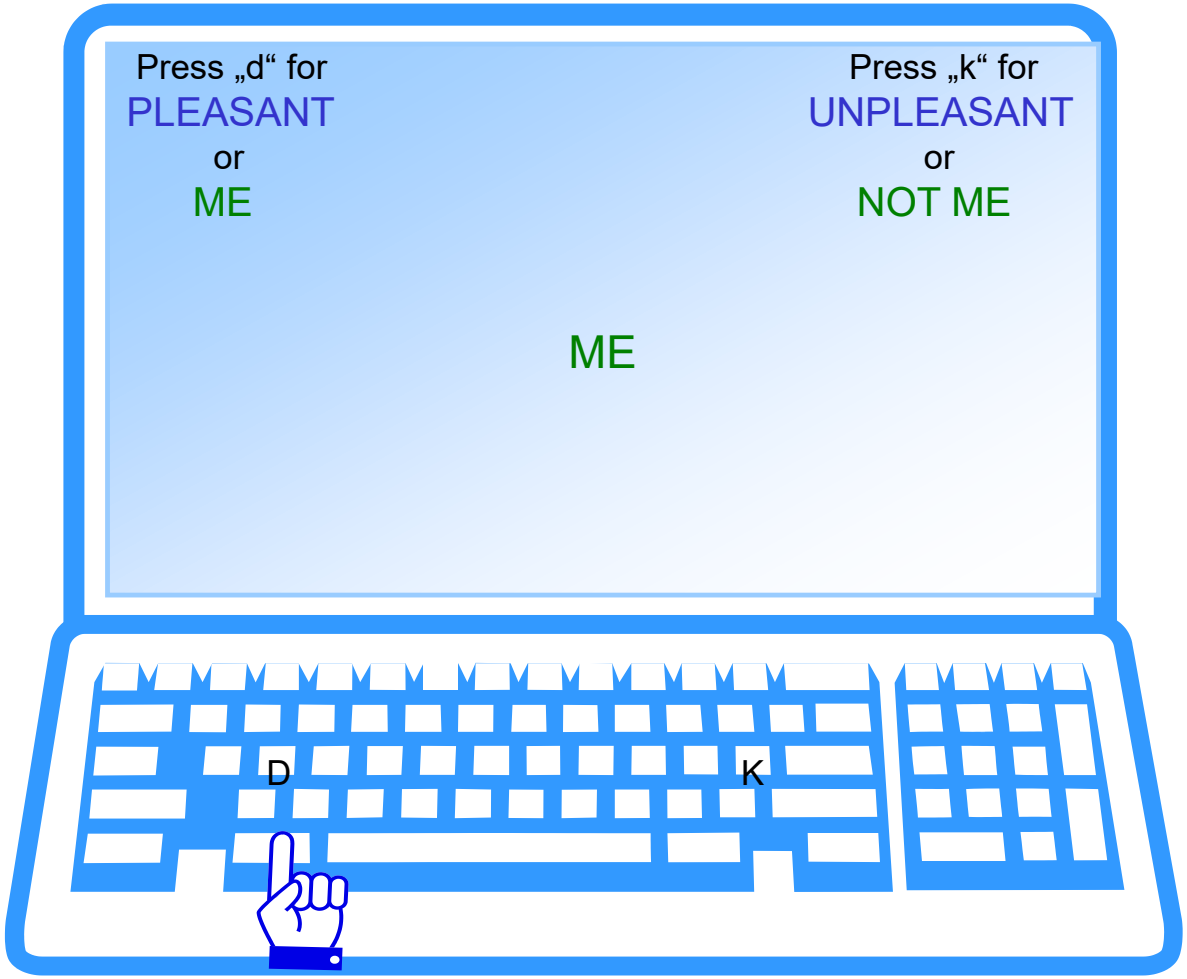
IAT Procedure

Block	Left Key	Right Key
1	PLEASANT	UNPLEASANT
2	ME	NOT ME
3	PLEASANT or ME	UNPLEASANT or NOT ME
4	NOT ME	ME
5	PLEASANT or NOT ME	UNPLEASANT or ME

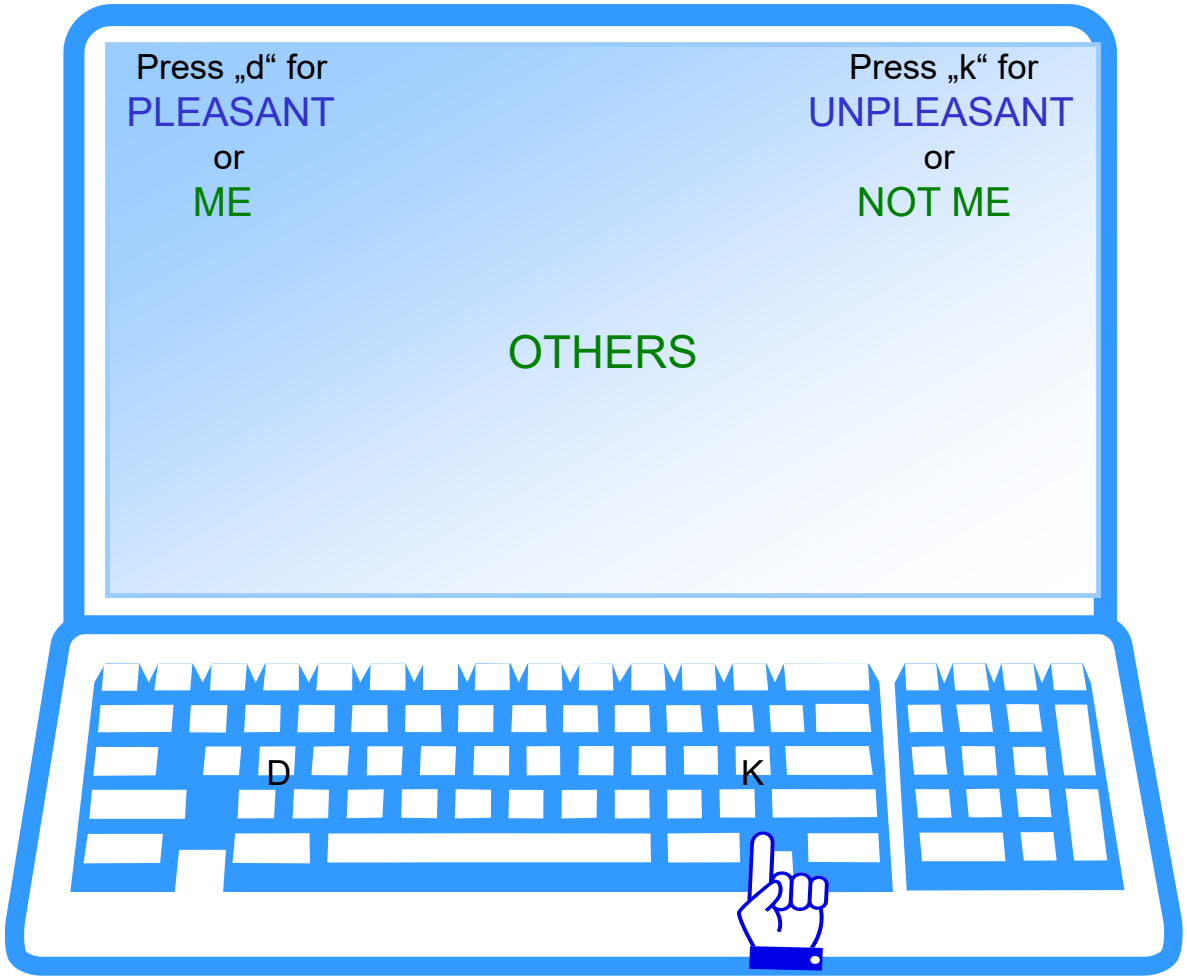
IAT – Block 3


Press „d“ for
PLEASANT
or
ME
Press „k“ for
UNPLEASANT
or
NOT ME
PAIN
D
K

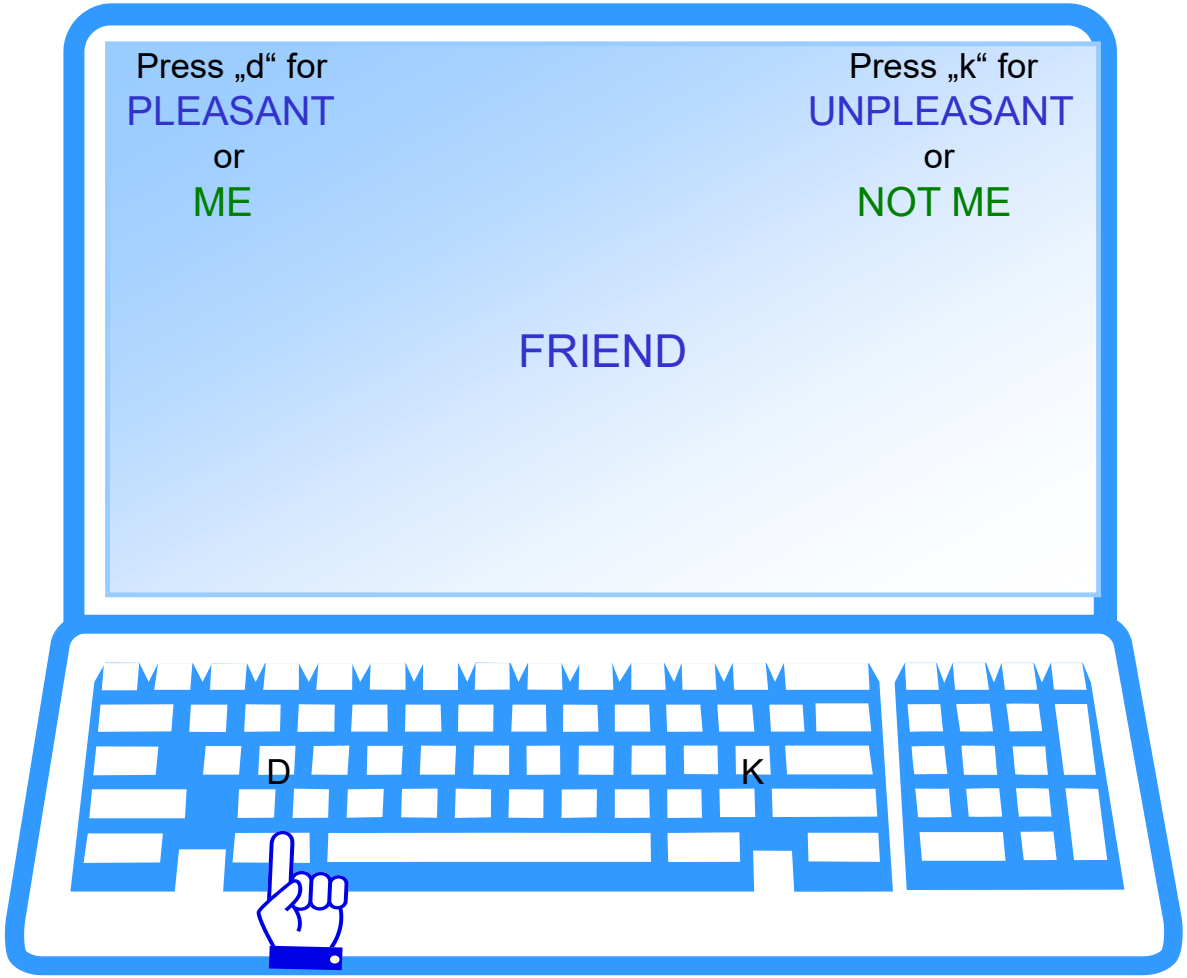
IAT – Block 3


Press „d“ for
PLEASANT
or
ME
Press „k“ for
UNPLEASANT
or
NOT ME
ME
D
K

IAT – Block 3


Press „d“ for
PLEASANT
or
ME
Press „k“ for
UNPLEASANT
or
NOT ME
OTHERS
D
K

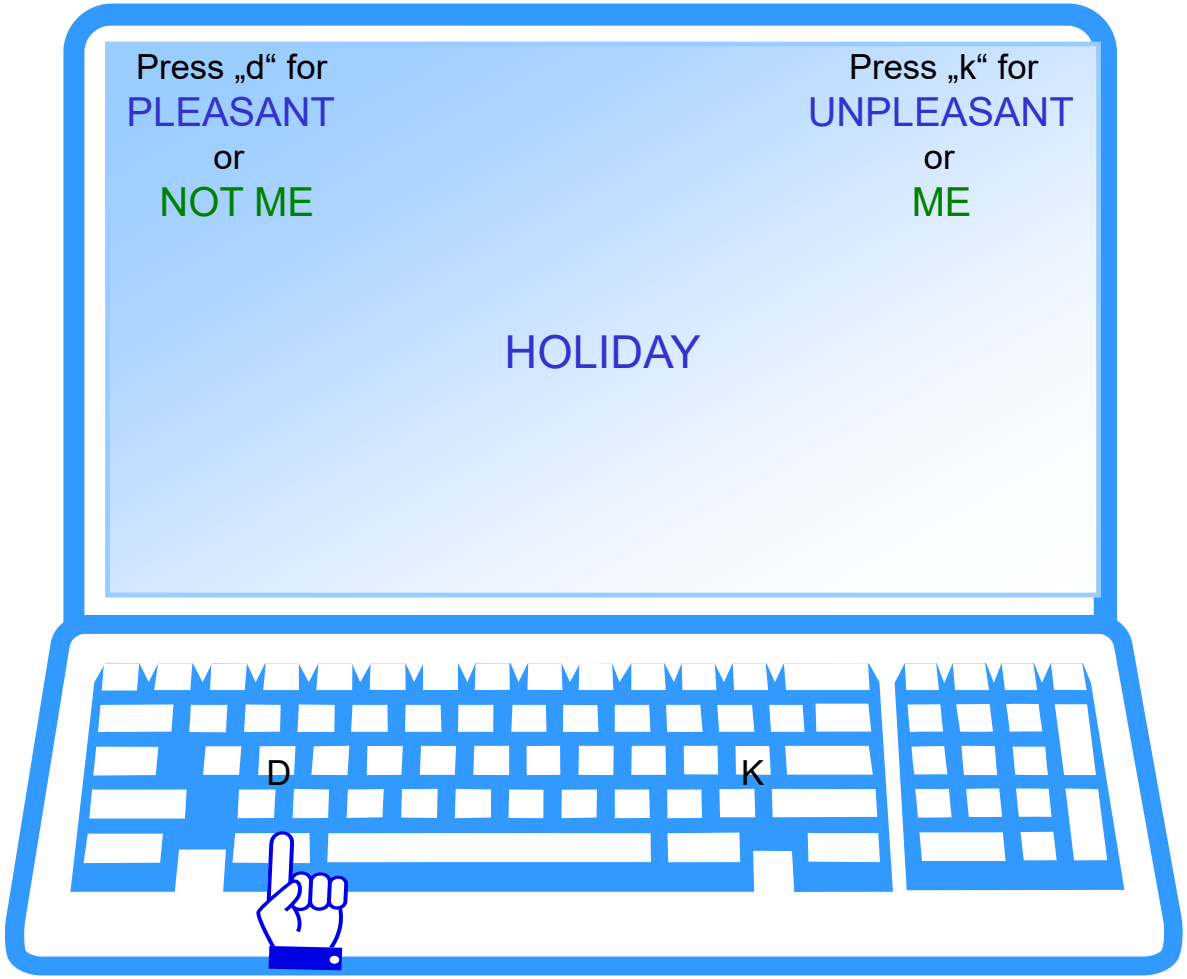
IAT – Block 3


Press „d“ for
PLEASANT
or
ME
Press „k“ for
UNPLEASANT
or
NOT ME
FRIEND
D
K

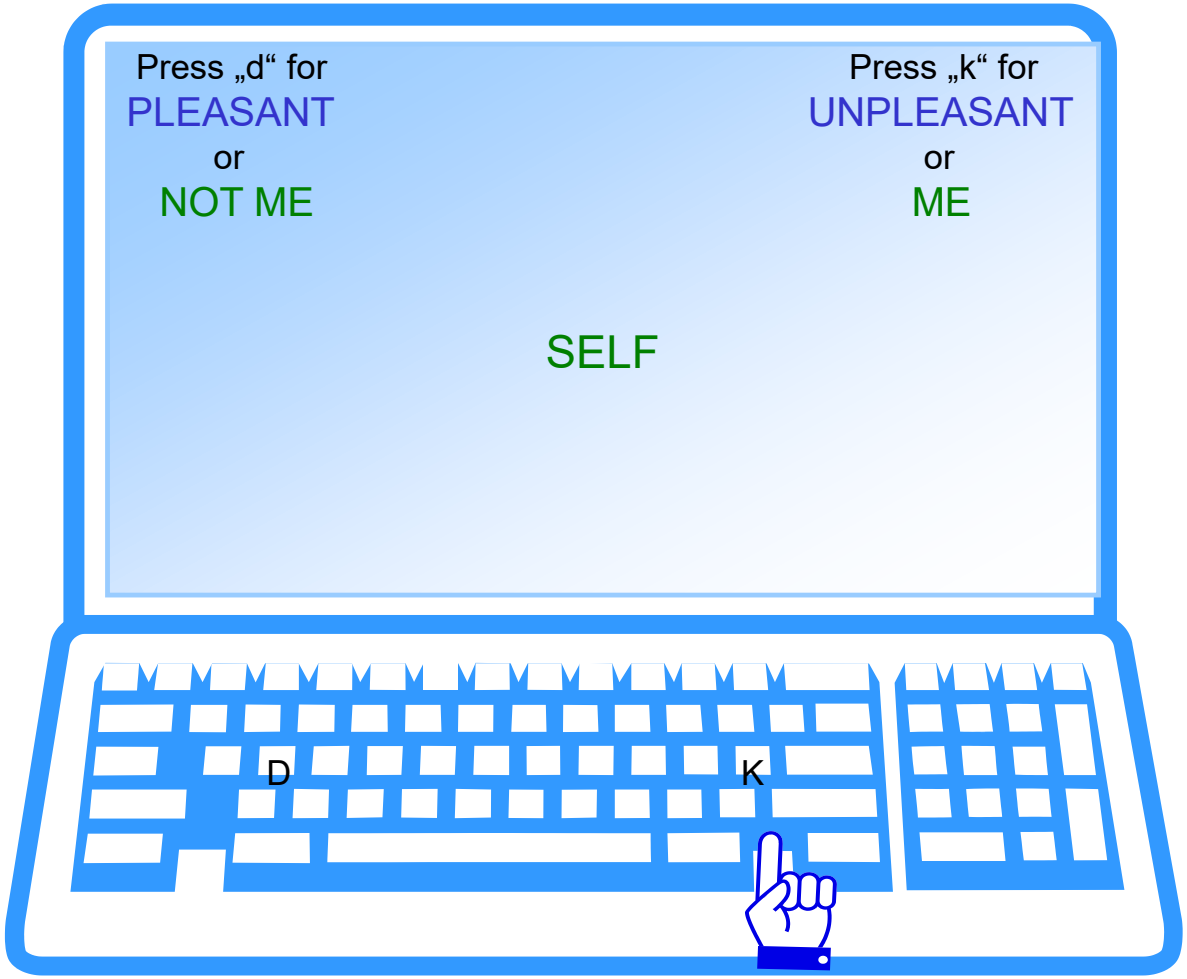
IAT Procedure

Block	Left Key	Right Key
1	PLEASANT	UNPLEASANT
2	ME	NOT ME
3	PLEASANT or ME	UNPLEASANT or NOT ME
4	NOT ME	ME
5	PLEASANT or NOT ME	UNPLEASANT or ME

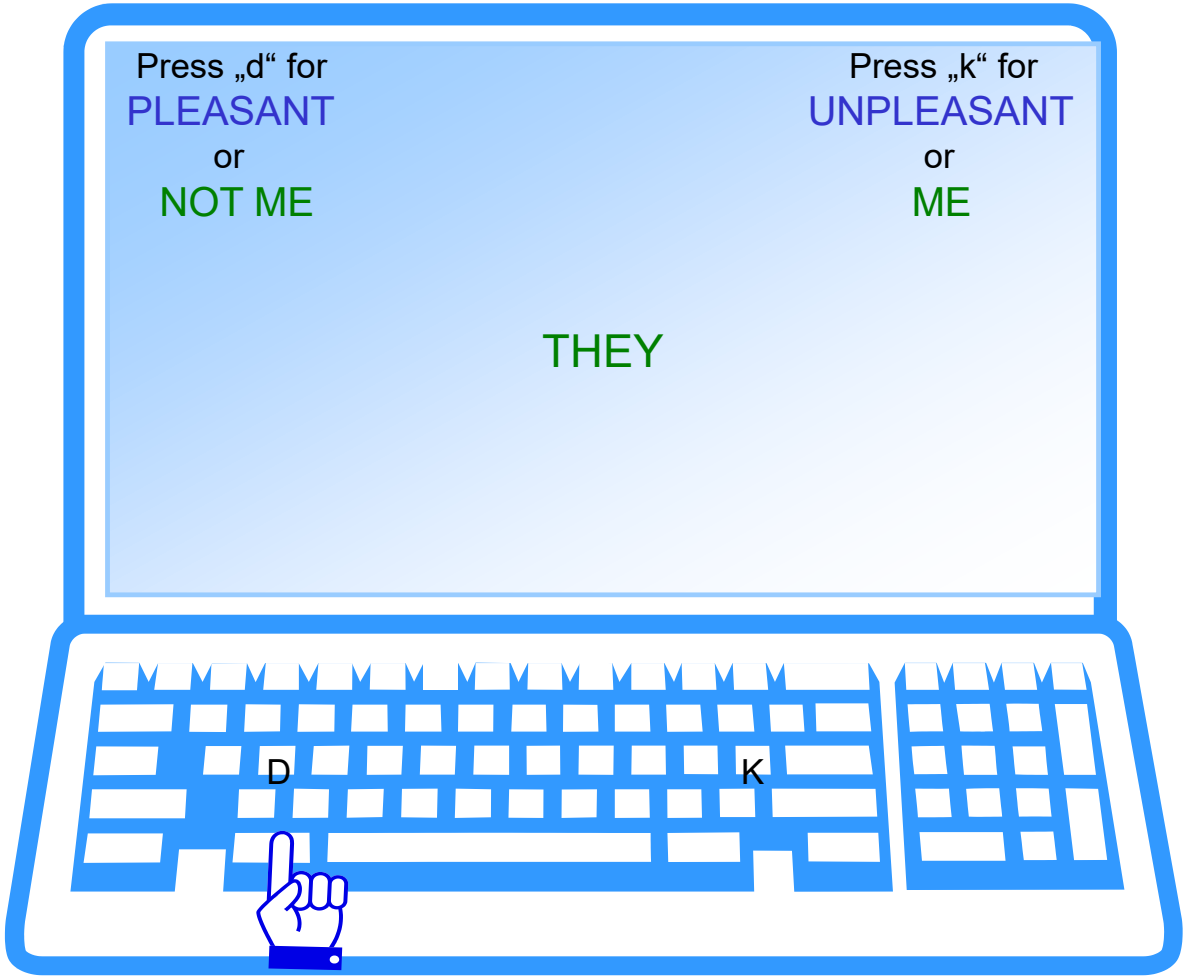
IAT – Block 5


Press „d“ for
PLEASANT
or
NOT ME
Press „k“ for
UNPLEASANT
or
ME
HOLIDAY
D
K

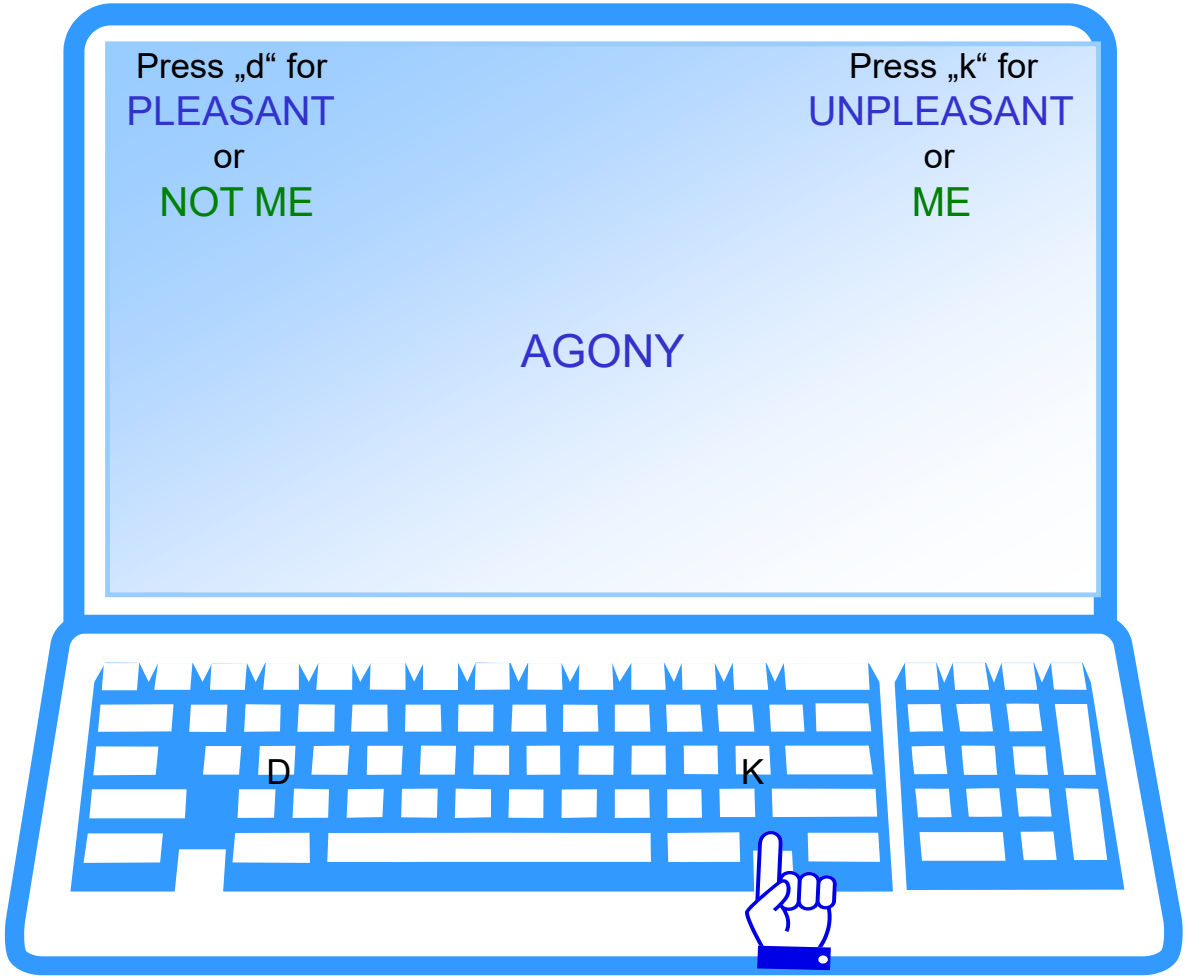
IAT – Block 5


Press „d“ for
PLEASANT
or
NOT ME
Press „k“ for
UNPLEASANT
or
ME
SELF
D
K

IAT – Block 5


Press „d“ for
PLEASANT
or
NOT ME
Press „k“ for
UNPLEASANT
or
ME
THEY
D
K

IAT – Block 5


Press „d“ for
PLEASANT
or
NOT ME
Press „k“ for
UNPLEASANT
or
ME
AGONY
D
K

IAT Effect

Block	Left Key	Right Key
1	PLEASANT	UNPLEASANT
2	ME	NOT ME
3	PLEASANT or ME	UNPLEASANT or NOT ME
4	NOT ME	ME
5	PLEASANT or NOT ME	UNPLEASANT or ME

Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998)

- Measures the strength of implicit associations among concepts and attributes
- Computeri task: requires respondents to rapidly sort stimulus exemplars from four concepts using just two response options, each of which is assigned to two of the four concepts.
- Using response latencies and errors
- Rationale: sorting task should be easier when the two concepts that share a response are strongly associated than when they are weakly associated

Assumed to measure!

The implicitness of implicit measures
(De Houwer & Moors, 2006, De Houwer, 2006)

- Non self-report measures: **Indirect** measures
- Implicitness needs to be investigated
- **Implicit** measure: measurement outcome that reflects the to-be-measured construct by virtue of processes that have the features of **automatic** processes
- Aspects of automaticity:
  - Uncontrolled
  - Unintentional
  - Efficient
  - Goal-independent …

The implicitness of implicit measures
(De Houwer & Moors, 2006, De Houwer, 2006)

- Non self-report measures: **Indirect** measures
- Implicitness needs to be investigated
- **Implicit** measure: measurement outcome that reflects the to-be-measured construct by virtue of processes that have the features of **automatic** processes
- Aspects of automaticity:
  - **Uncontrolled**
  - Unintentional
  - Efficient
  - Goal-independent …

Faking instructions

Research on IAT fakeability

- Unspecific faking instructions → no faking
  - prejudice (Banse, Seise & Zerbes, 2001)
  - anxiety (Egloff & Schmukle, 2002)
  - conscientiousness (Steffens, 2004)
- Faking possible with detailed faking instructions or prior IAT experience
  - racissism (Kim, 2003)
  - prejudice (Fiedler & Bluemke, 2005)
  - extraversion (Steffens, 2004)
  - anxiety (Tulbure, 2006)

Research on IAT fakeability

- Fakeability depends on construct and direction
  - extraversion vs. conscientiousnss (McAdams, 2009)
  - anxiety (Tulbure, 2005)

Self-Esteem IAT

- Low correlations with explicit SE
- Strong positivity bias

(Bosson et al., 2000; Hofmann et al., 2006; Rudolph, Schröder-Abé, Gregg, Sedikides & Schütz, 2008)

→ Fakeability not yet investigated

Research Questions

- Are participants able to fake IAT scores when receiving unspecific faking instructions?
- Are participants able to fake IAT scores with the help of detailed faking instructions?
- Are there practice effects?
- Is bidirectional faking possible in a self-esteem IAT?
- Is it possible to identify faking with the help of response latencies error scores?

Method

Study Design

	1	2	3	4	5

Study Design

	1	2	3	4	5
CG	Baseline	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment

Study Design

	1	2	3	4	5
EG ↑	Baseline	↑ Unspecific Faking Instruction	↑ Detailed Faking Instruction	↑ Detailed Faking Instruction (repeated)	↓ Detailed Faking In struction (reversed)
CG	Baseline	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment
EG ↓	Baseline	↓ Unspecific Faking Instruction	↓ Detailed Faking Instruction	↓ Detailed Faking Instruction (repeated)	↑ Detailed Faking Instruction (reversed)

Study Design

	1	2	3	4	5
EG ↑	Baseline	↑ Unspecific Faking Instruction	↑ Detailed Faking Instruction	↑ Detailed Faking Instruction (repeated)	↓ Detailed Faking In struction (reversed)
CG	Baseline	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment
EG ↓	Baseline	↓ Unspecific Faking Instruction	↓ Detailed Faking Instruction	↓ Detailed Faking Instruction (repeated)	↑ Detailed Faking Instruction (reversed)

Study Design

	1	2	3	4	5
EG ↑	Baseline	↑ Unspecific Faking Instruction	↑ Detailed Faking Instruction	↑ Detailed Faking Instruction (repeated)	↓ Detailed Faking In struction (reversed)
CG	Baseline	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment
EG ↓	Baseline	↓ Unspecific Faking Instruction	↓ Detailed Faking Instruction	↓ Detailed Faking Instruction (repeated)	↑ Detailed Faking Instruction (reversed)

Study Design

	1	2	3	4	5
EG ↑	Baseline	↑ Unspecific Faking Instruction	↑ Detailed Faking Instruction	↑ Detailed Faking Instruction (repeated)	↓ Detailed Faking In struction (reversed)
CG	Baseline	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment
EG ↓	Baseline	↓ Unspecific Faking Instruction	↓ Detailed Faking Instruction	↓ Detailed Faking Instruction (repeated)	↑ Detailed Faking Instruction (reversed)

Personnel selection scenario
- You want the job
- Fake high self-esteem

Personnel selection scenario
- You don't want the job
- Fake low self-esteem

Study Design

	1	2	3	4	5
EG ↑	Baseline	↑ Unspecific Faking Instruction	↑ Detailed Faking Instruction	↑ Detailed Faking Instruction (repeated)	↓ Detailed Faking In struction (reversed)
CG	Baseline	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment
EG ↓	Baseline	↓ Unspecific Faking Instruction	↓ Detailed Faking Instruction	↓ Detailed Faking Instruction (repeated)	↑ Detailed Faking Instruction (reversed)

Study Design

	1	2	3	4	5
EG ↑	Baseline	↑ Unspecific Faking Instruction	↑ Detailed Faking Instruction	↑ Detailed Faking Instruction (repeated)	↓ Detailed Faking In struction (reversed)
CG	Baseline	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment
EG ↓	Baseline	↓ Unspecific Faking Instruction	↓ Detailed Faking Instruction	↓ Detailed Faking Instruction (repeated)	↑ Detailed Faking Instruction (reversed)

- Detailed information on IAT block structure
- Instruction to fake reaction times

Study Design

	1	2	3	4	5
EG ↑	Baseline	↑ Unspecific Faking Instruction	↑ Detailed Faking Instruction	↑ Detailed Faking Instruction (repeated)	↓ Detailed Faking In struction (reversed)
CG	Baseline	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment	Repeated Measure-ment
EG ↓	Baseline	↓ Unspecific Faking Instruction	↓ Detailed Faking Instruction	↓ Detailed Faking Instruction (repeated)	↑ Detailed Faking Instruction (reversed)

Measures

- Self-Esteem IAT (Greenwald & Farnham, 2000; Rudolph et al., 2008, EAPA)
- Rosenberg Self-Esteem Scale (Rosenberg, 1965; von Collani & Herzberg, 2003)

Participants

- N = 84 (64 ♀ 20 ♂)
- Age: M = 22.4, SD = 4.5
- 73 % Psychology students, 15 % other students, 12 % others
- Motivation: course participation credit and personal feedback

Results

Mixed Design ANOVA

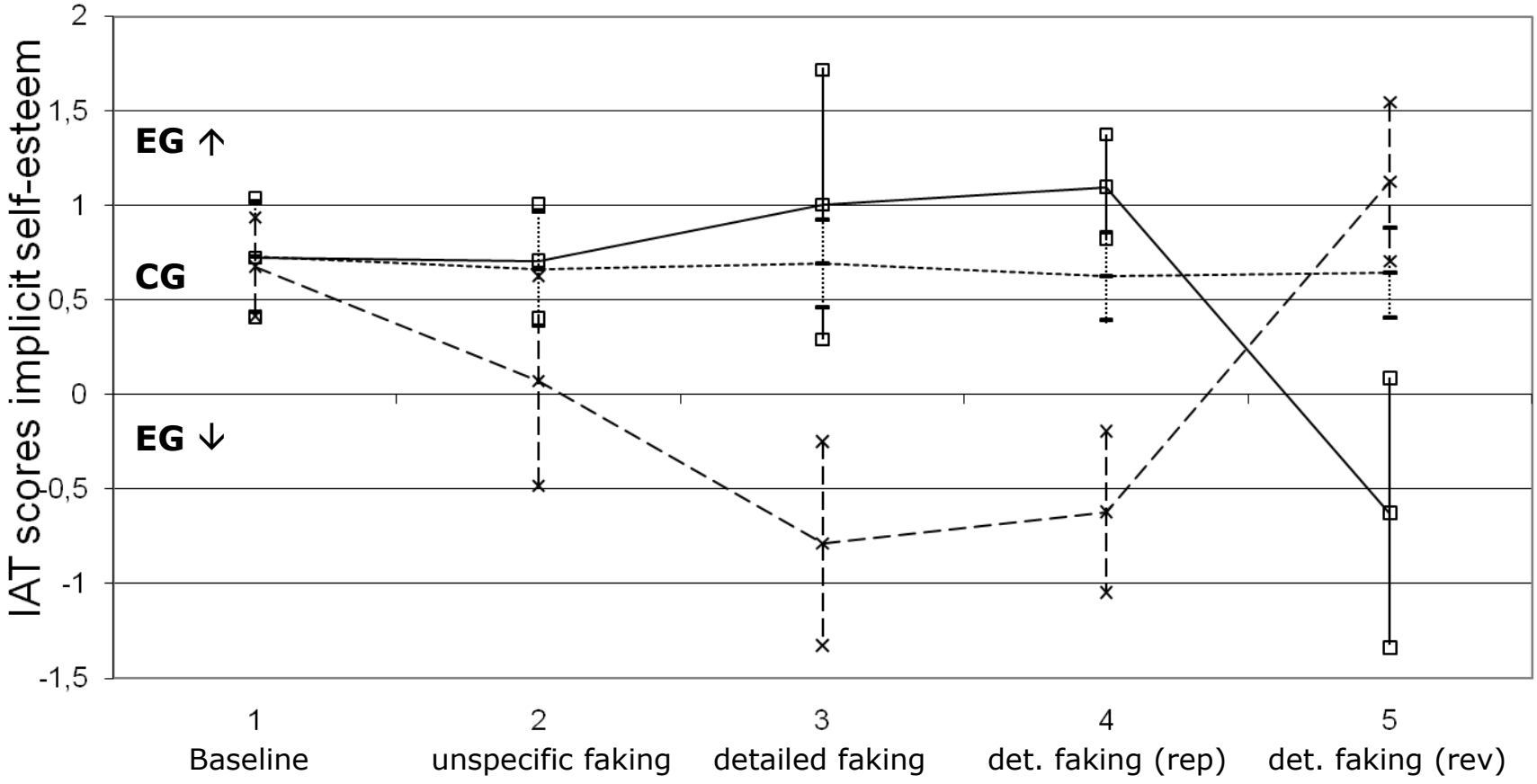
- Implicit self-esteem:
  - main effect group

  $F(2; 81) = 68.82^{**}$, $\eta_{part}^2 = .63$, $\omega^2 = .62$
  - main effect measurement occasion

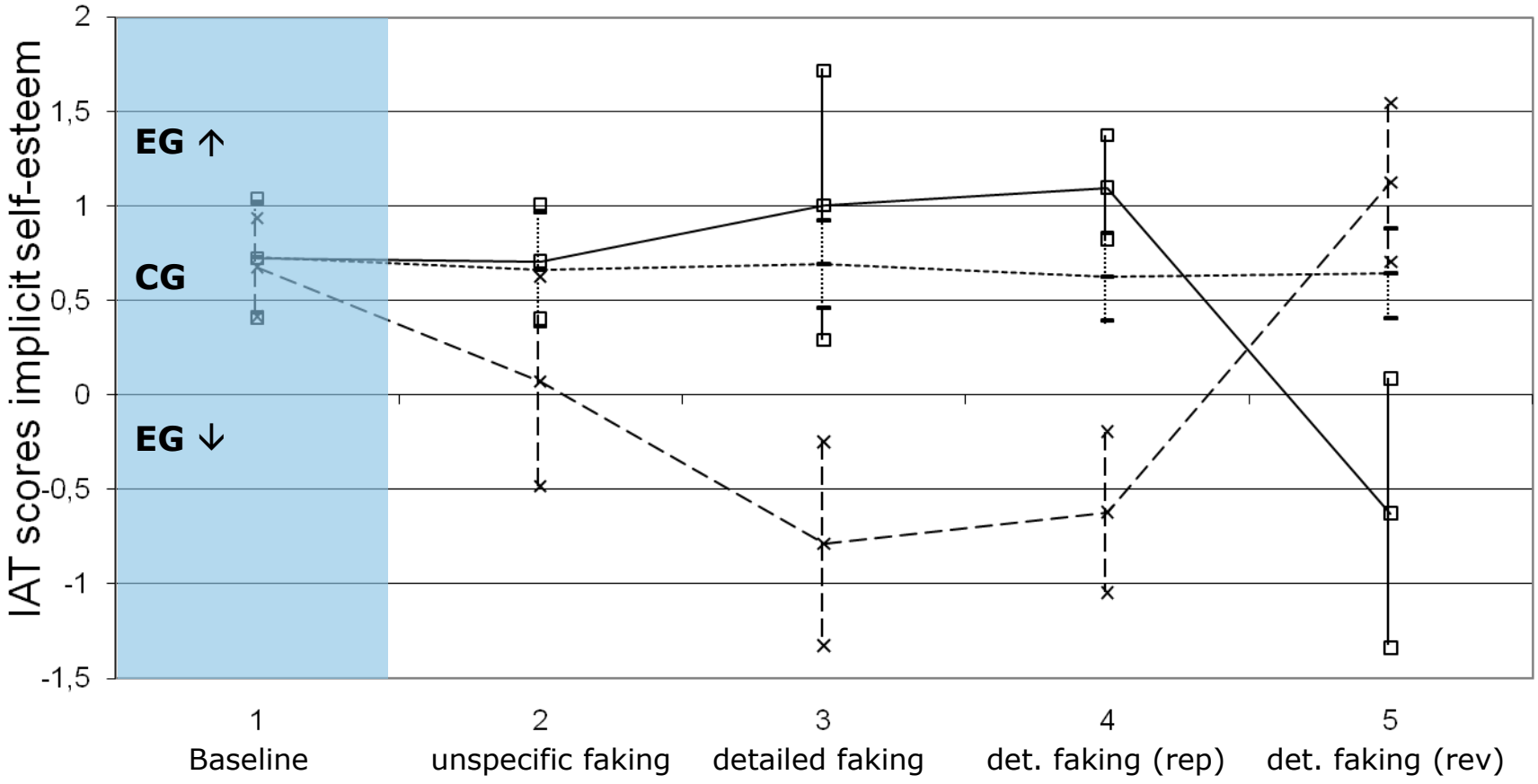
  $F(2.46; 199.16) = 12.35^{**}$, $\eta_{part}^2 = .13$, $\omega^2 = .25$
  - interaction effect

  $F(4.92; 199.16) = 88.49^{**}$, $\eta_{part}^2 = .69$, $\omega^2 = .84$

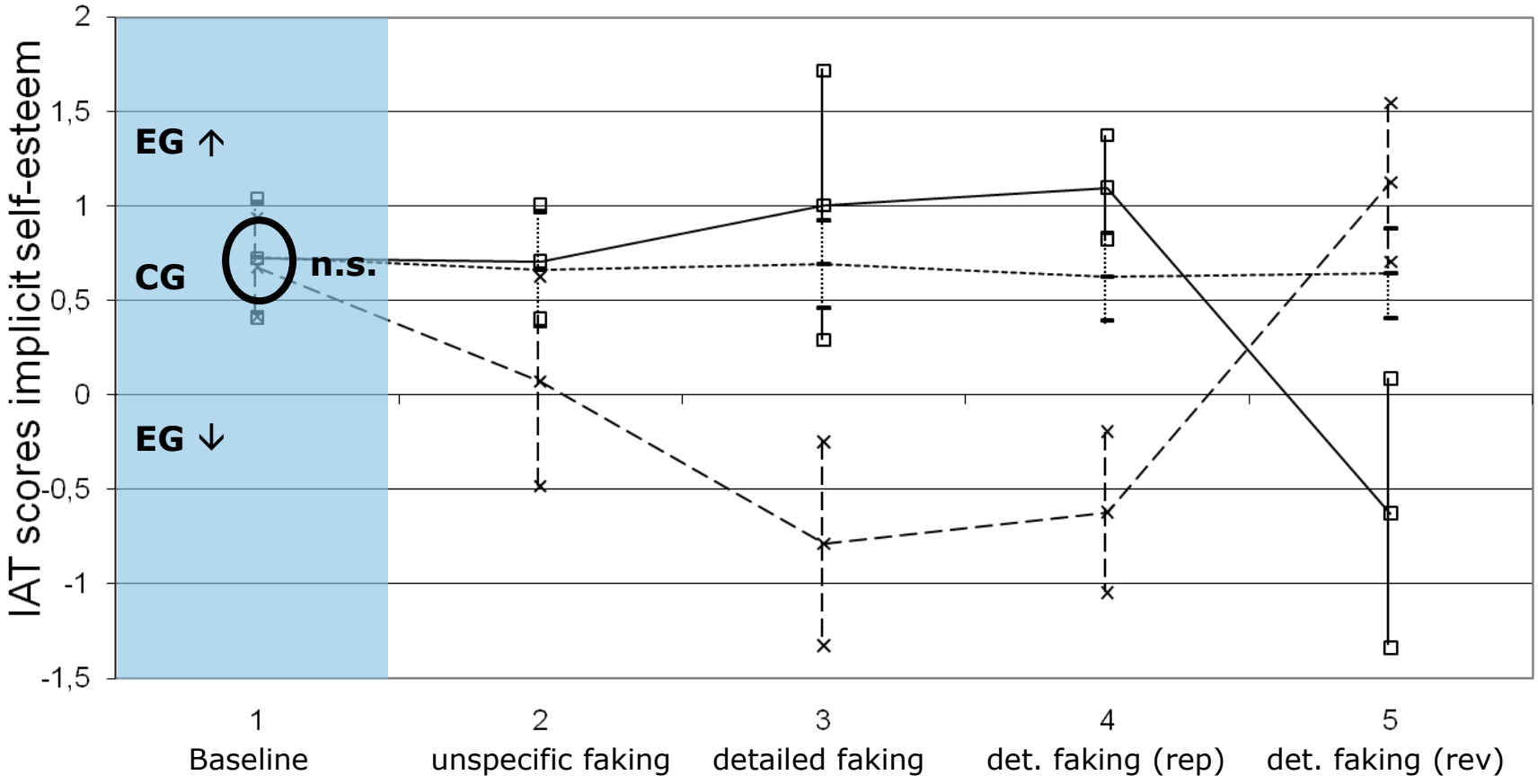
Self-Esteem IAT
Contrast Analysis (between)



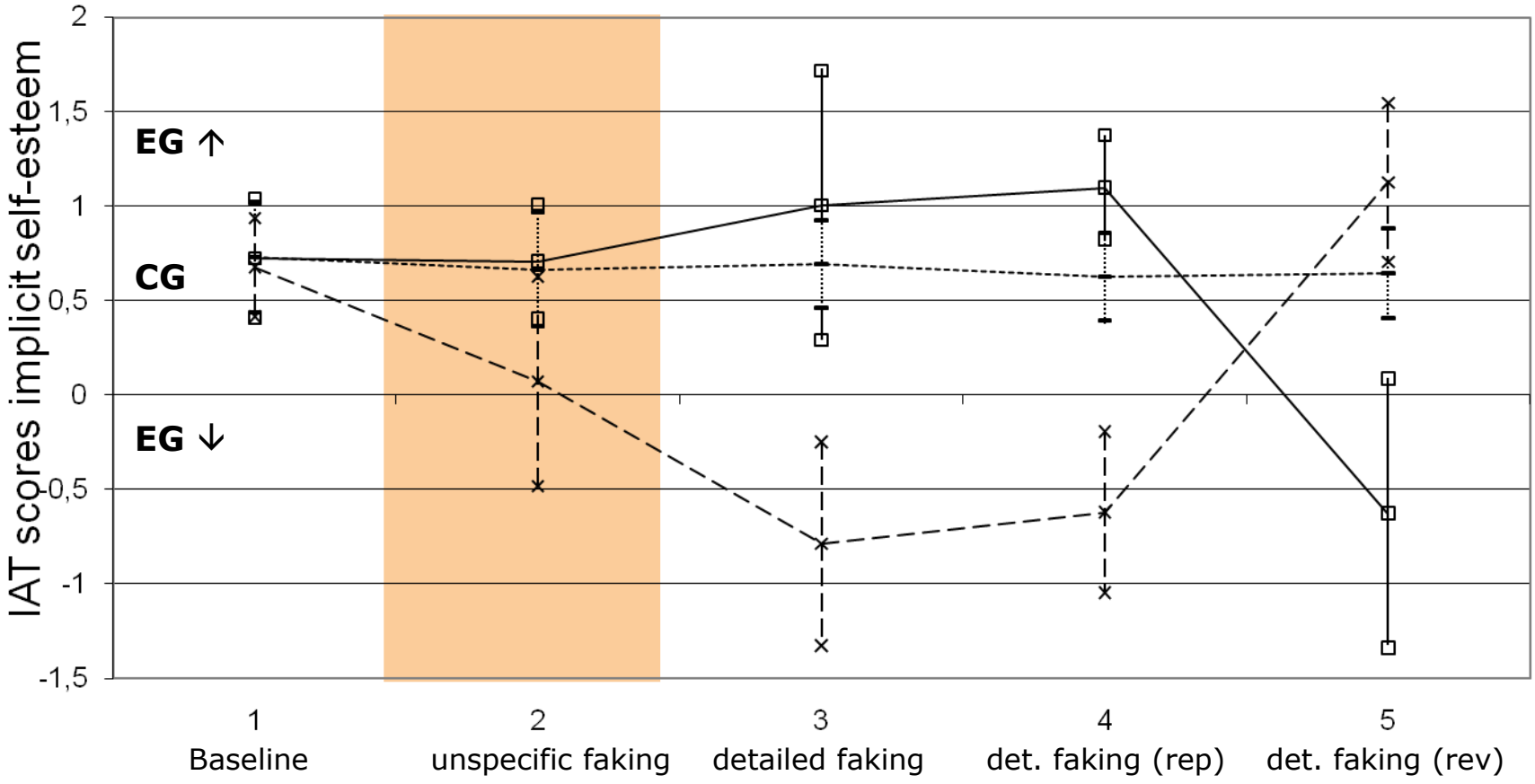
Self-Esteem IAT (Baseline)



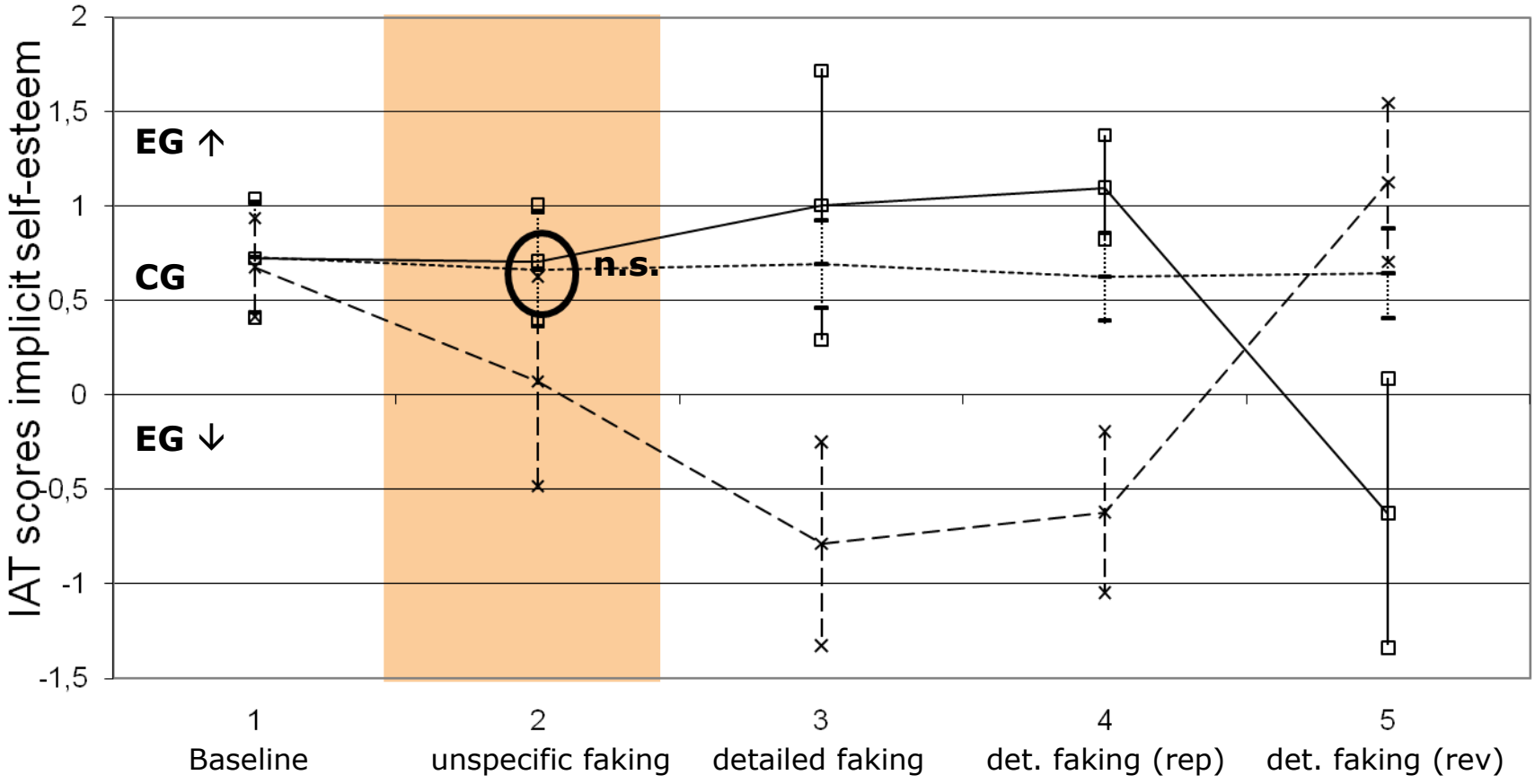
Self-Esteem IAT (Baseline)



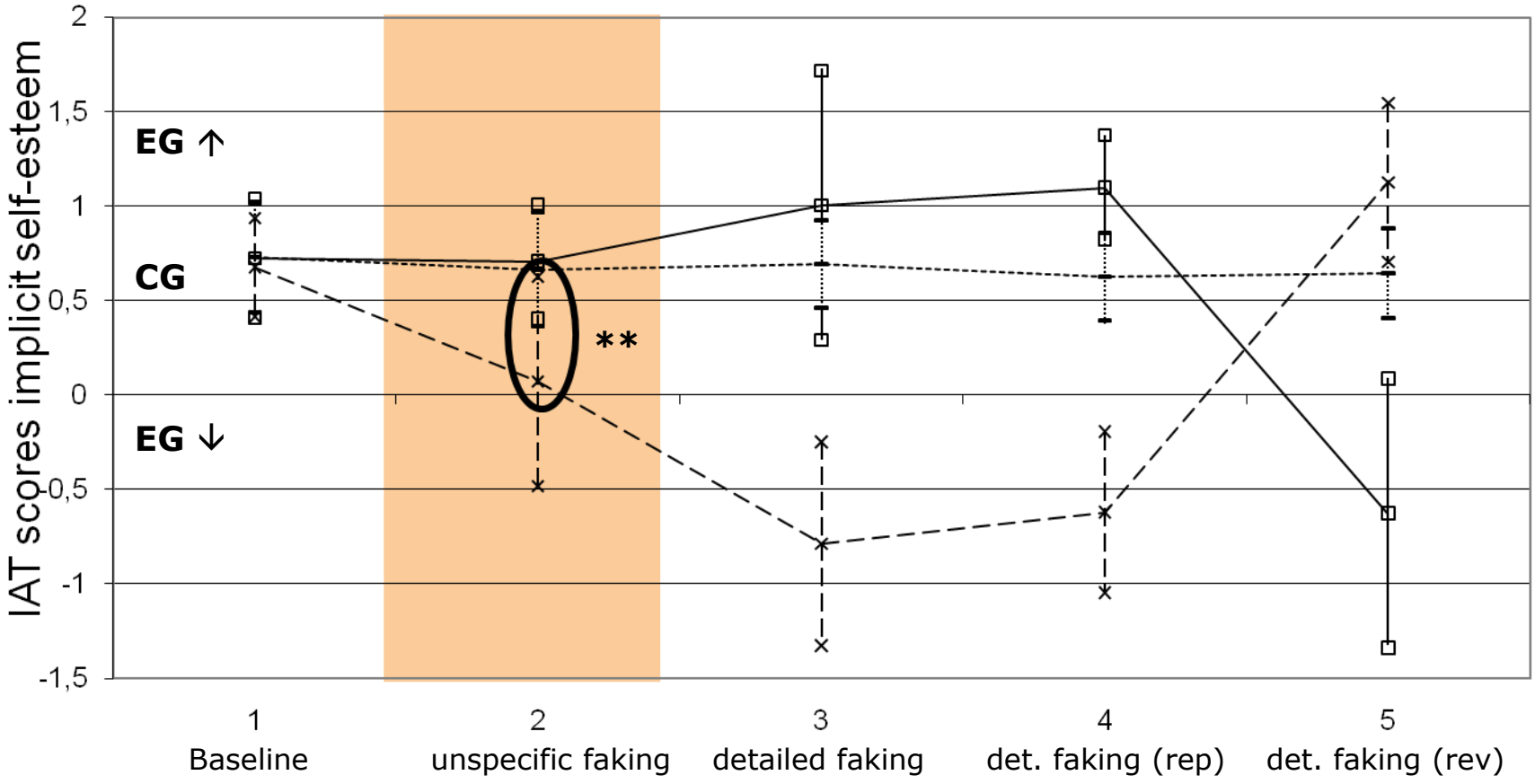
Self-Esteem IAT (unspecific faking instruction)



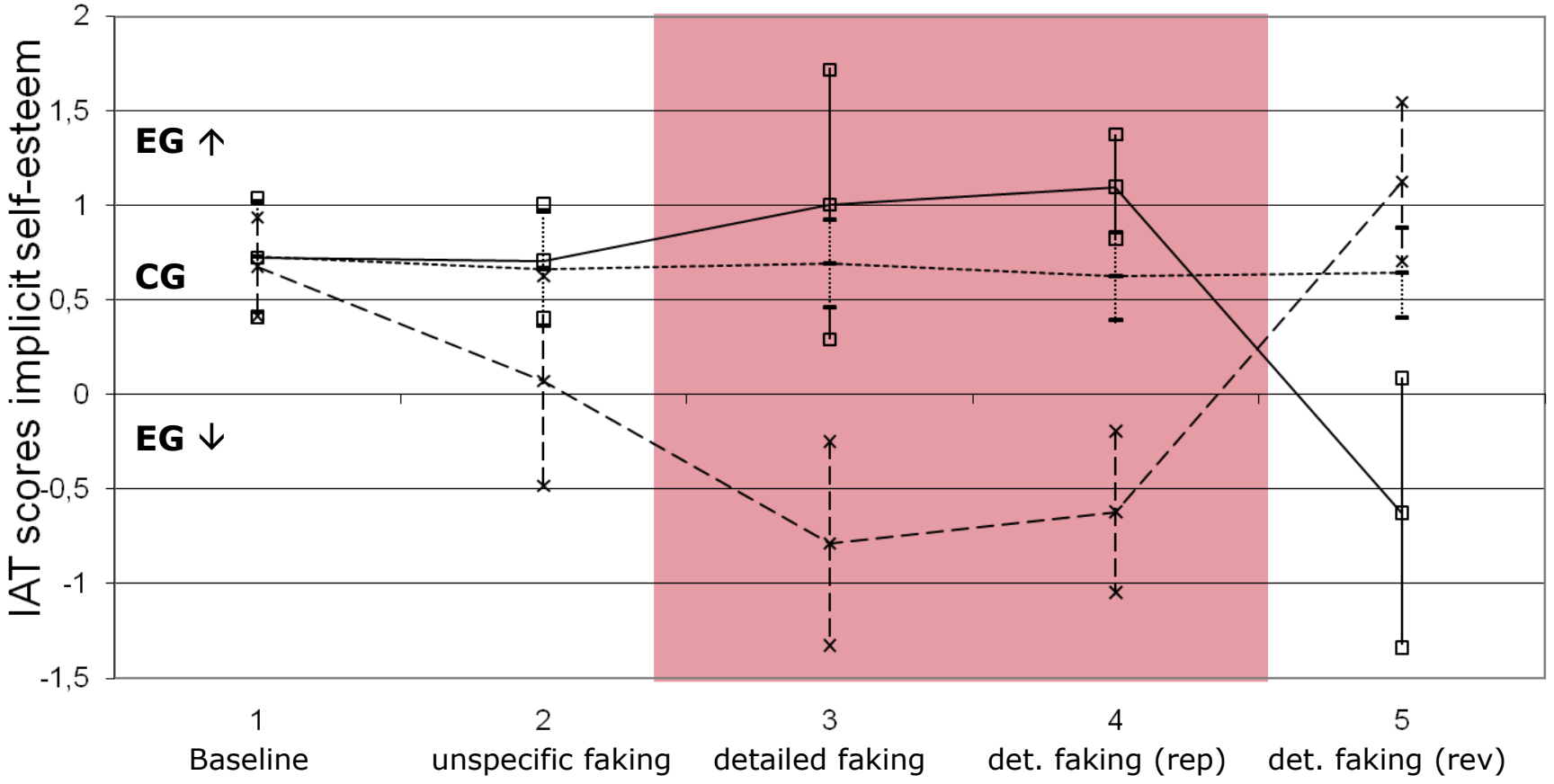
Self-Esteem IAT (unspecific faking instruction)



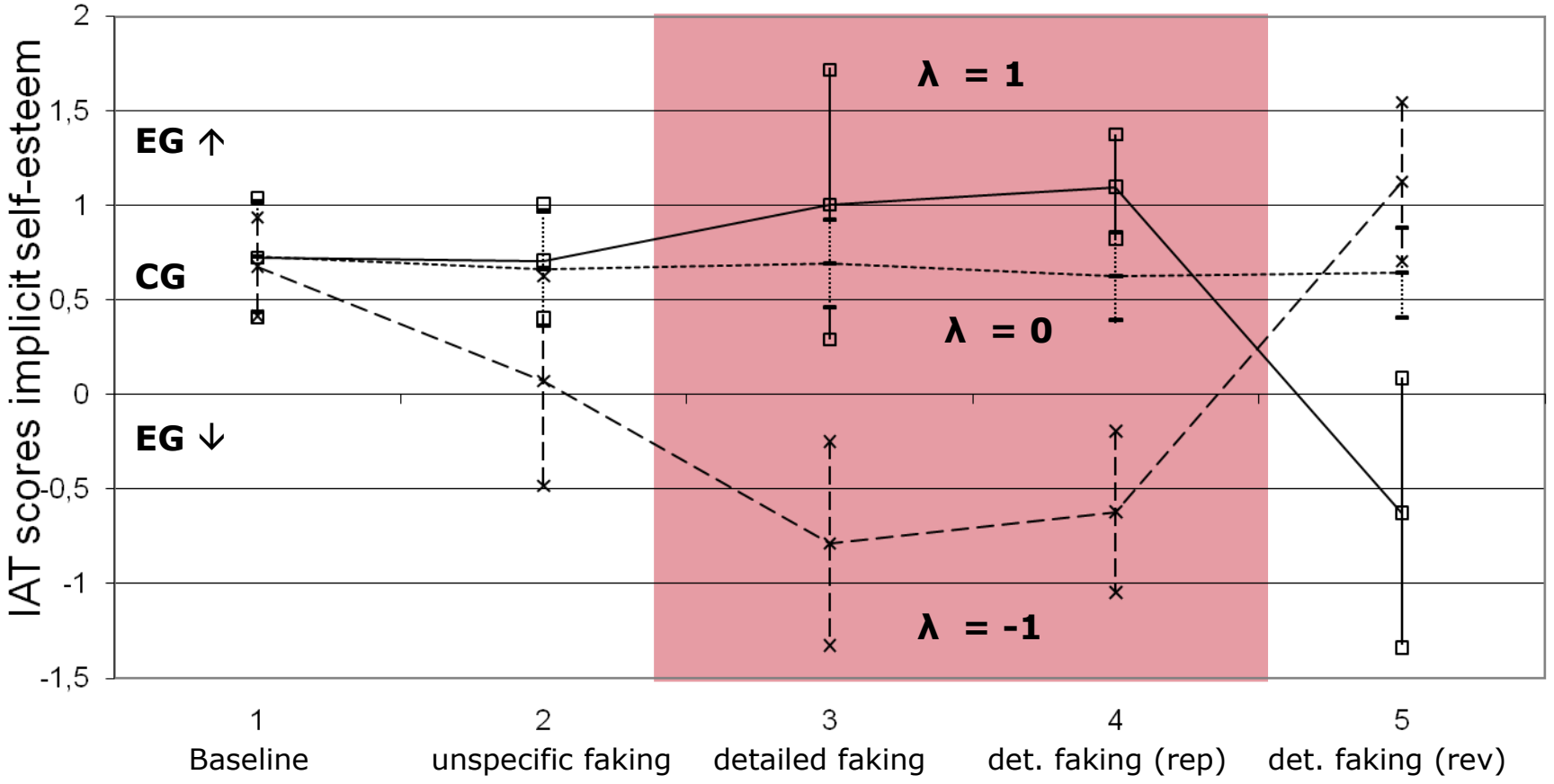
Self-Esteem IAT (unspecific faking instruction)



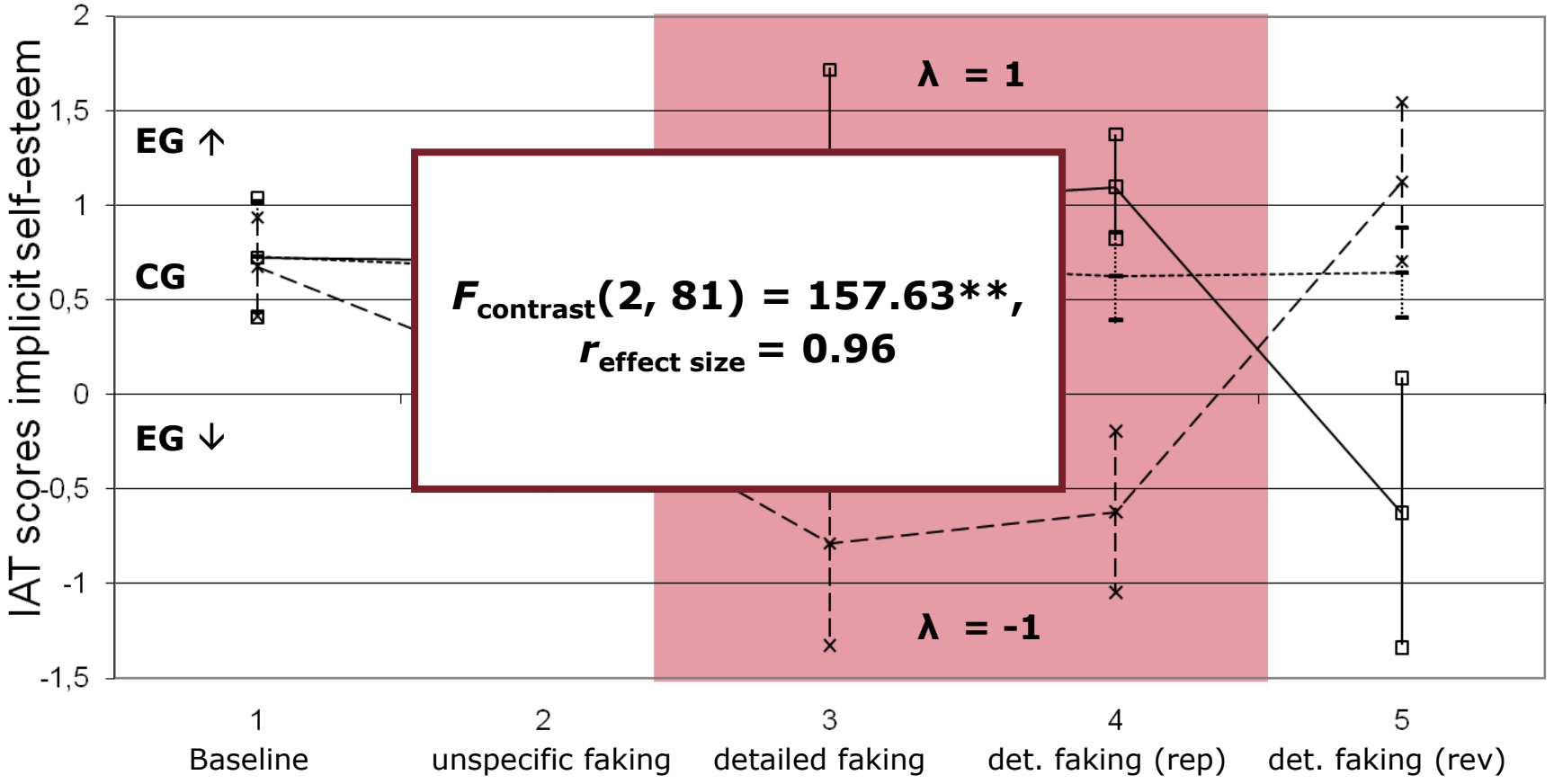
Self-Esteem IAT (detailed faking instructions)



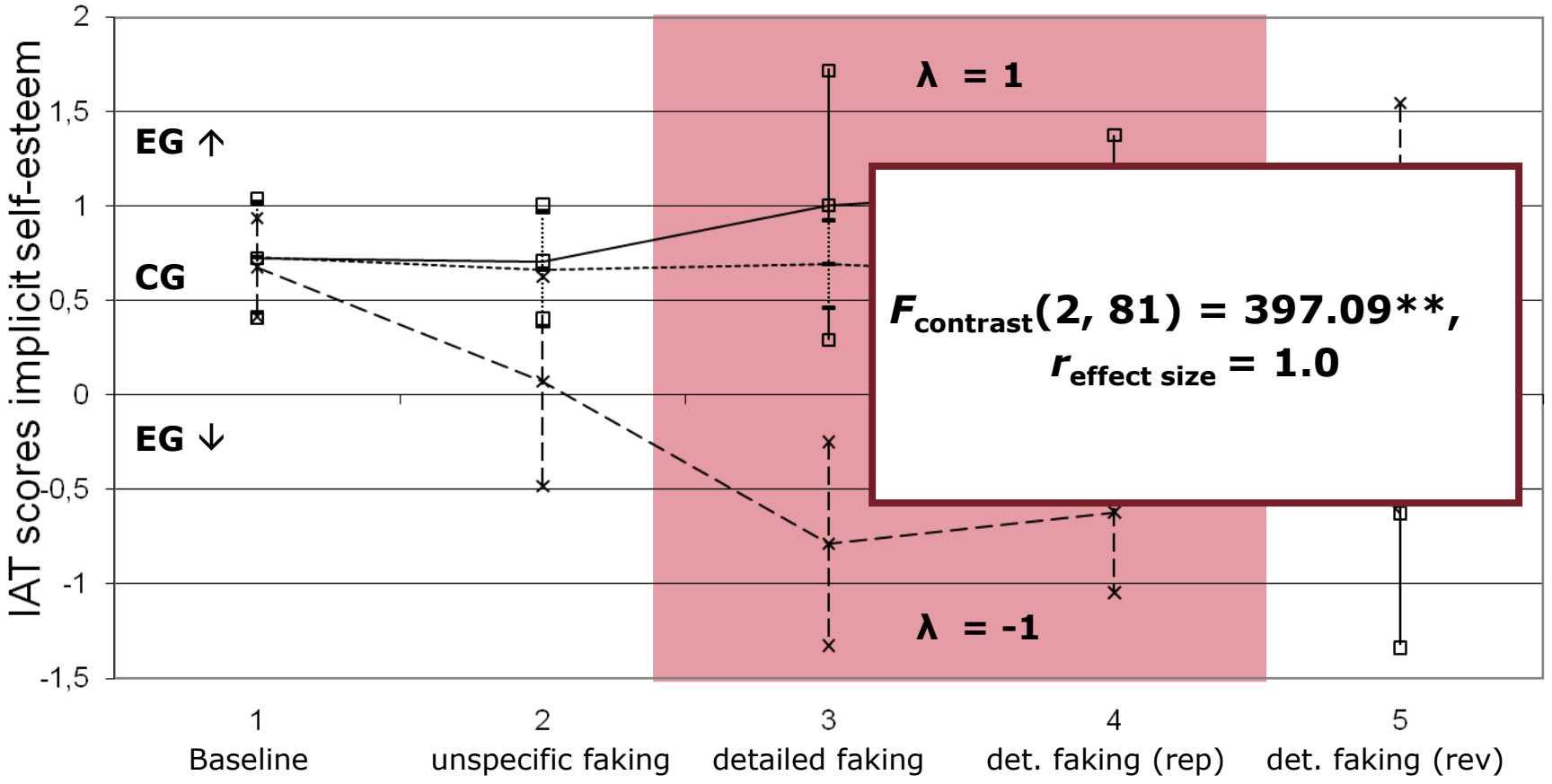
Self-Esteem IAT
Contrast Analysis (between)



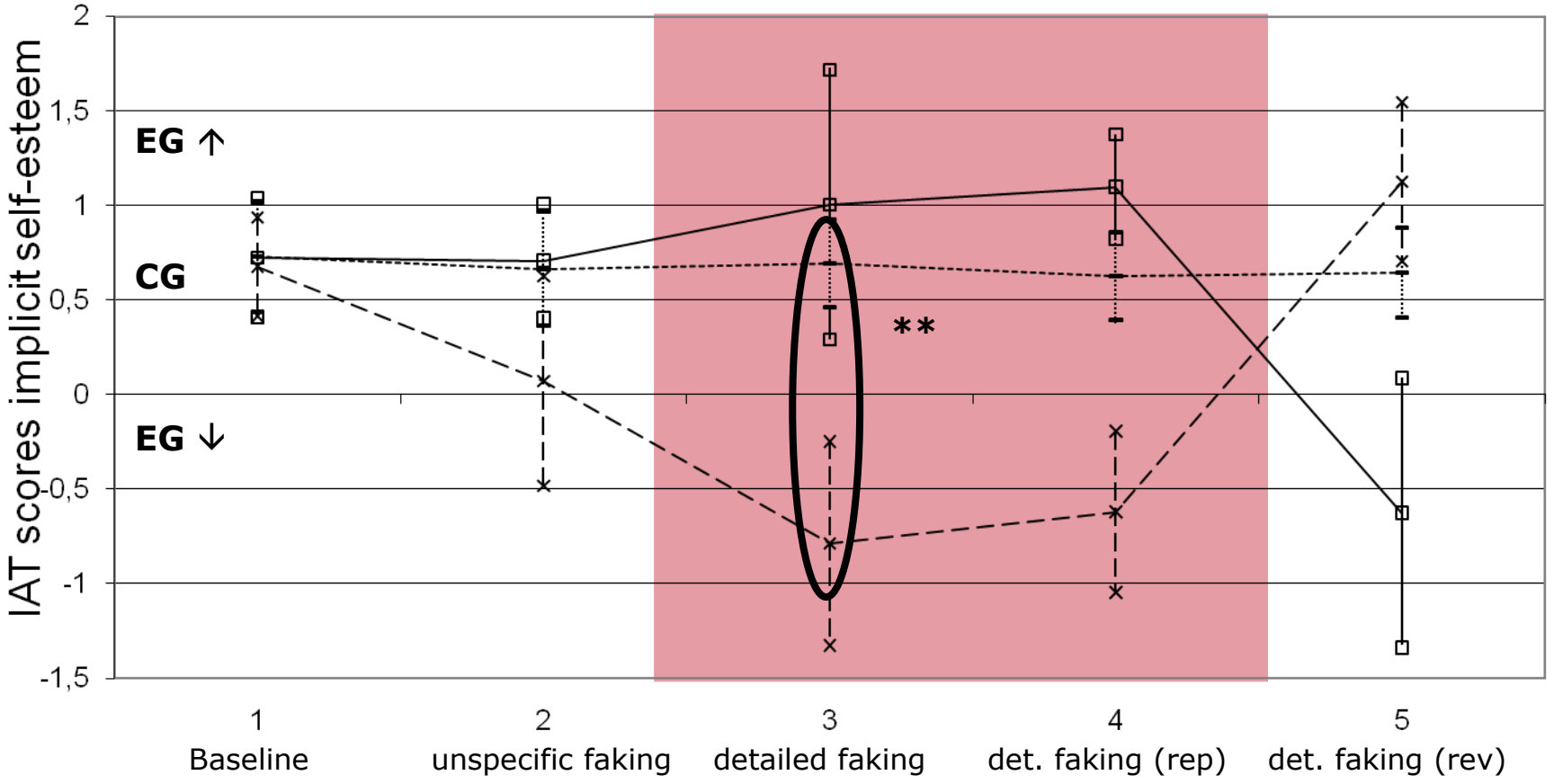
Self-Esteem IAT
Contrast Analysis (between)



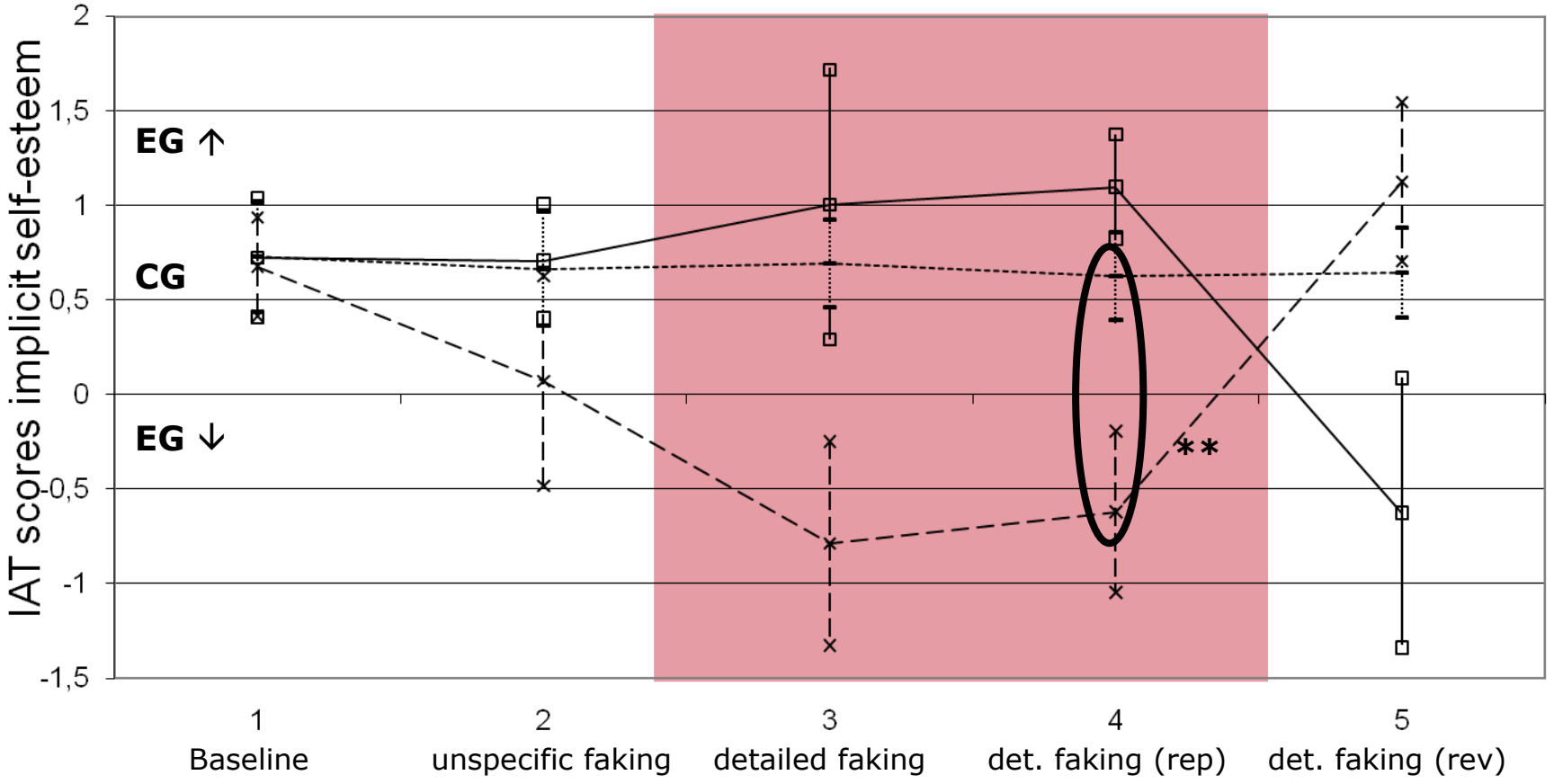
Self-Esteem IAT
Contrast Analysis (between)



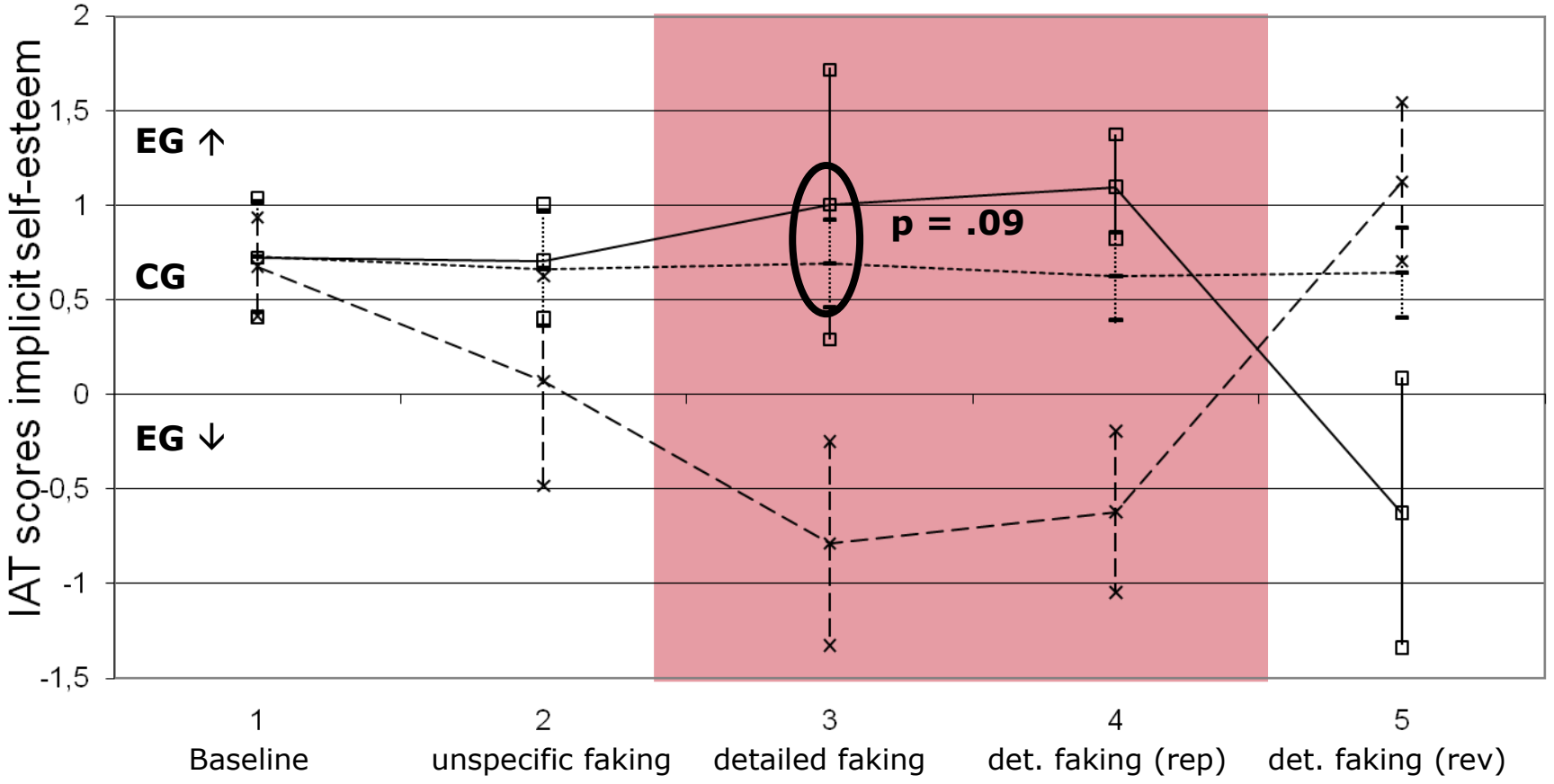
Self-Esteem IAT (detailed faking instructions)



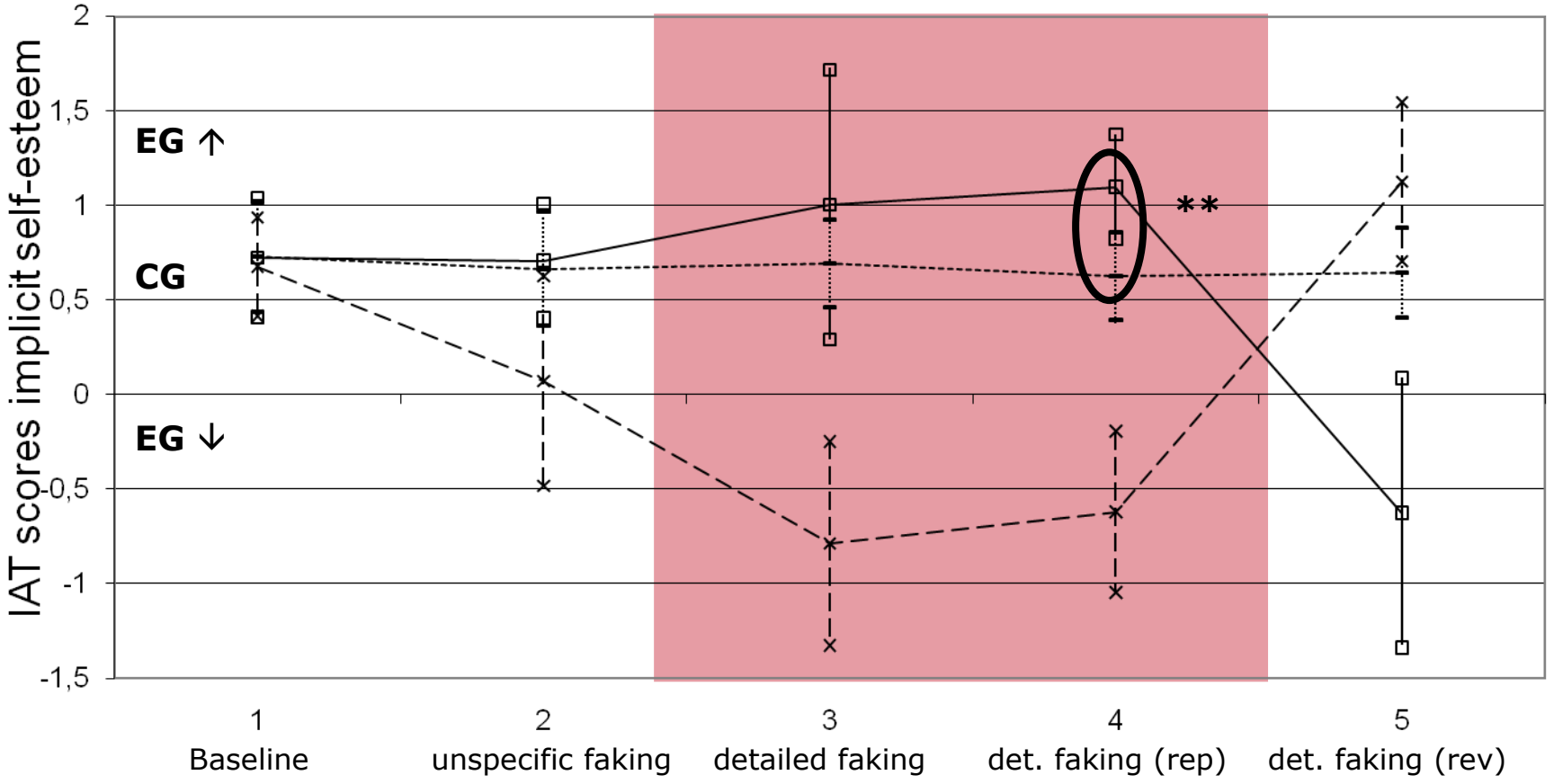
Self-Esteem IAT (detailed faking instructions)



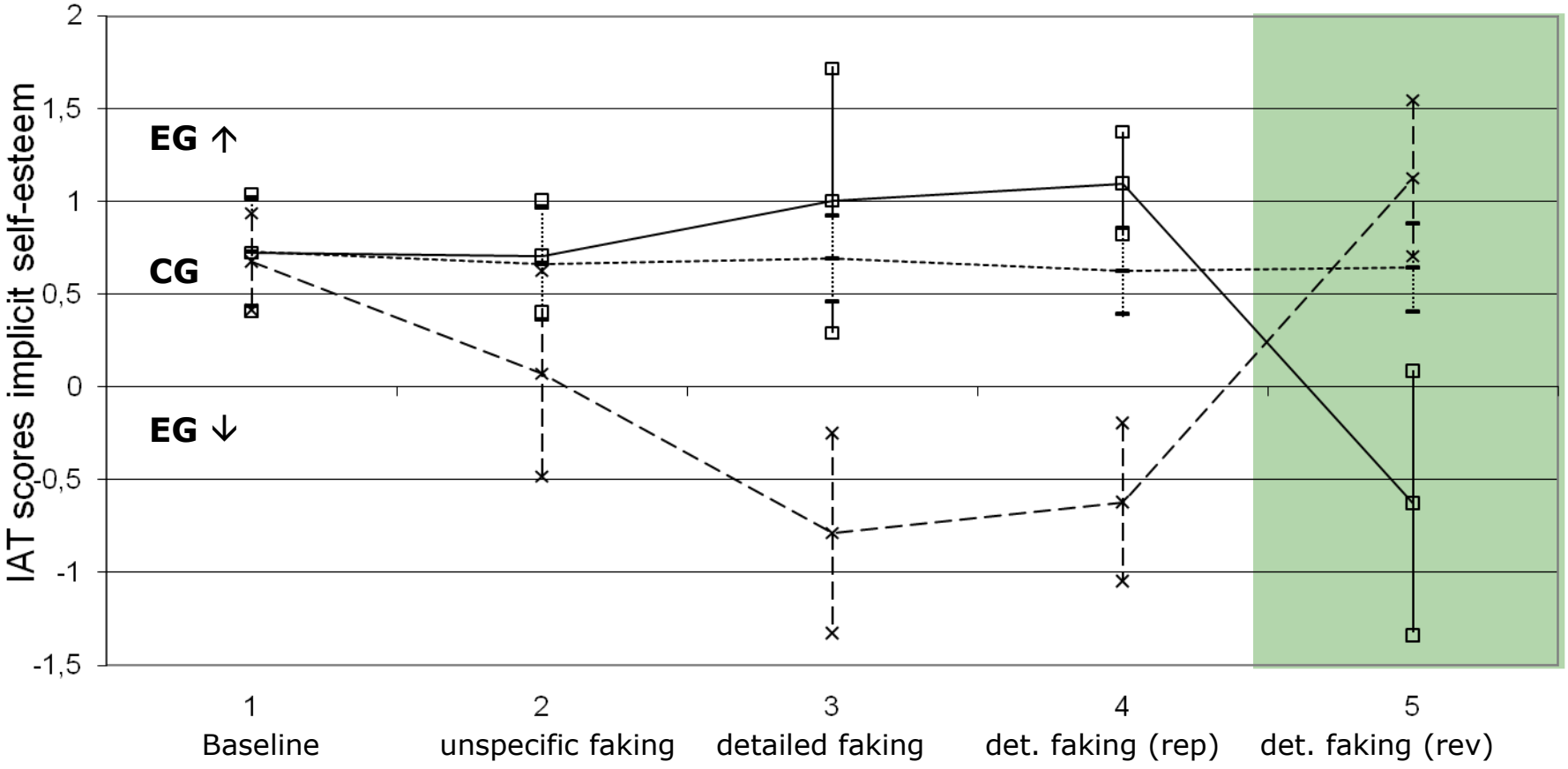
Self-Esteem IAT (detailed faking instructions)



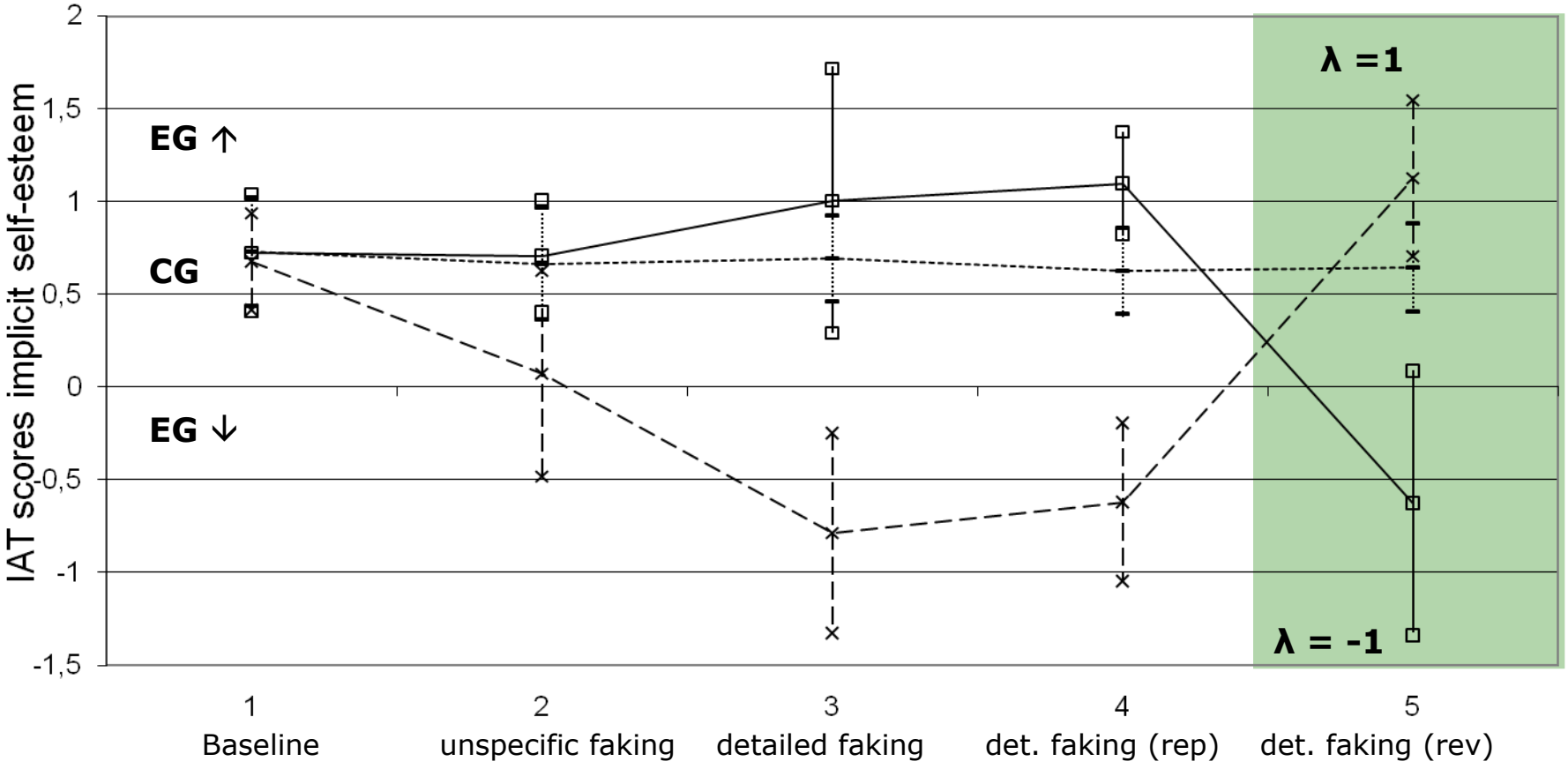
Self-Esteem IAT (detailed faking instructions)



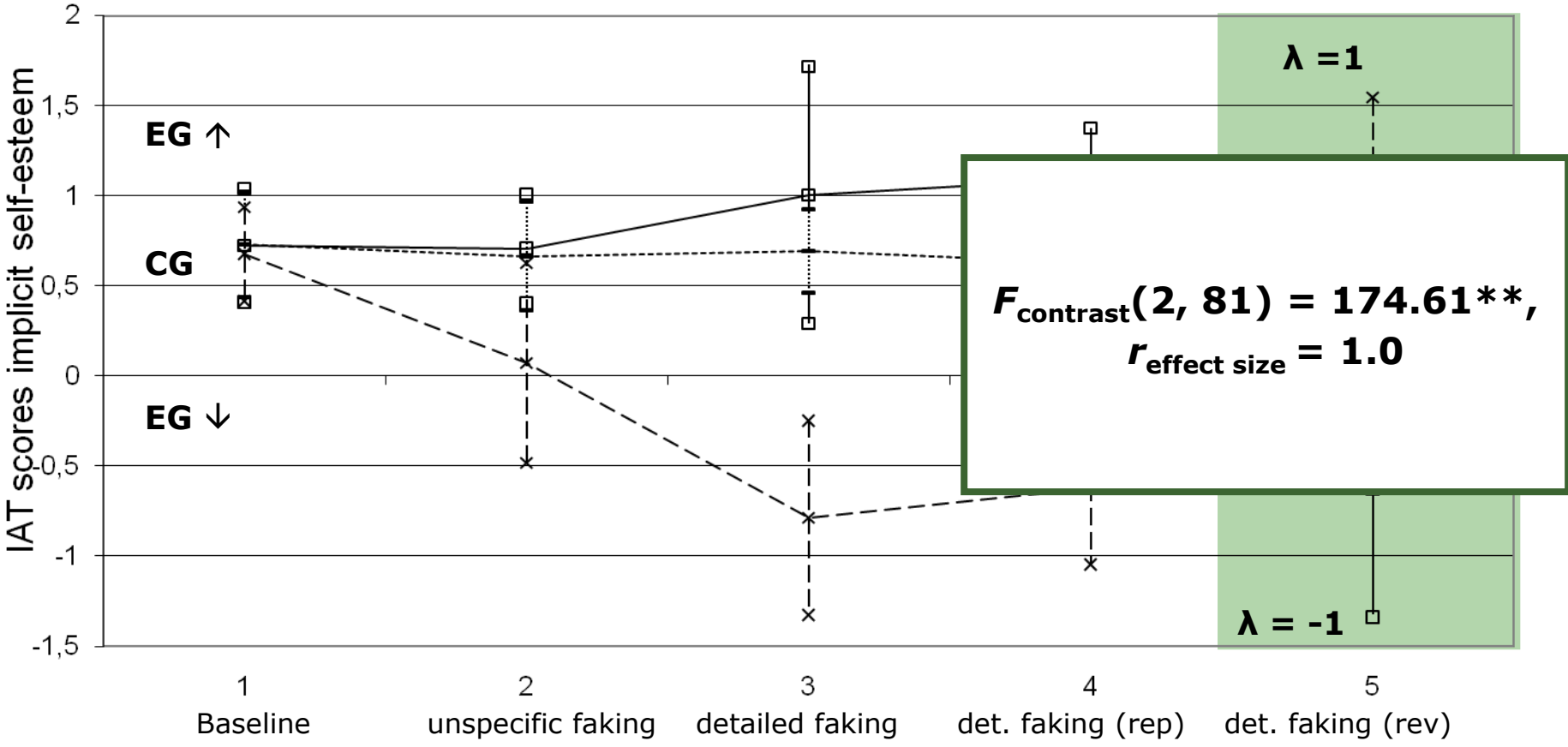
Self-Esteem IAT (reversed faking)



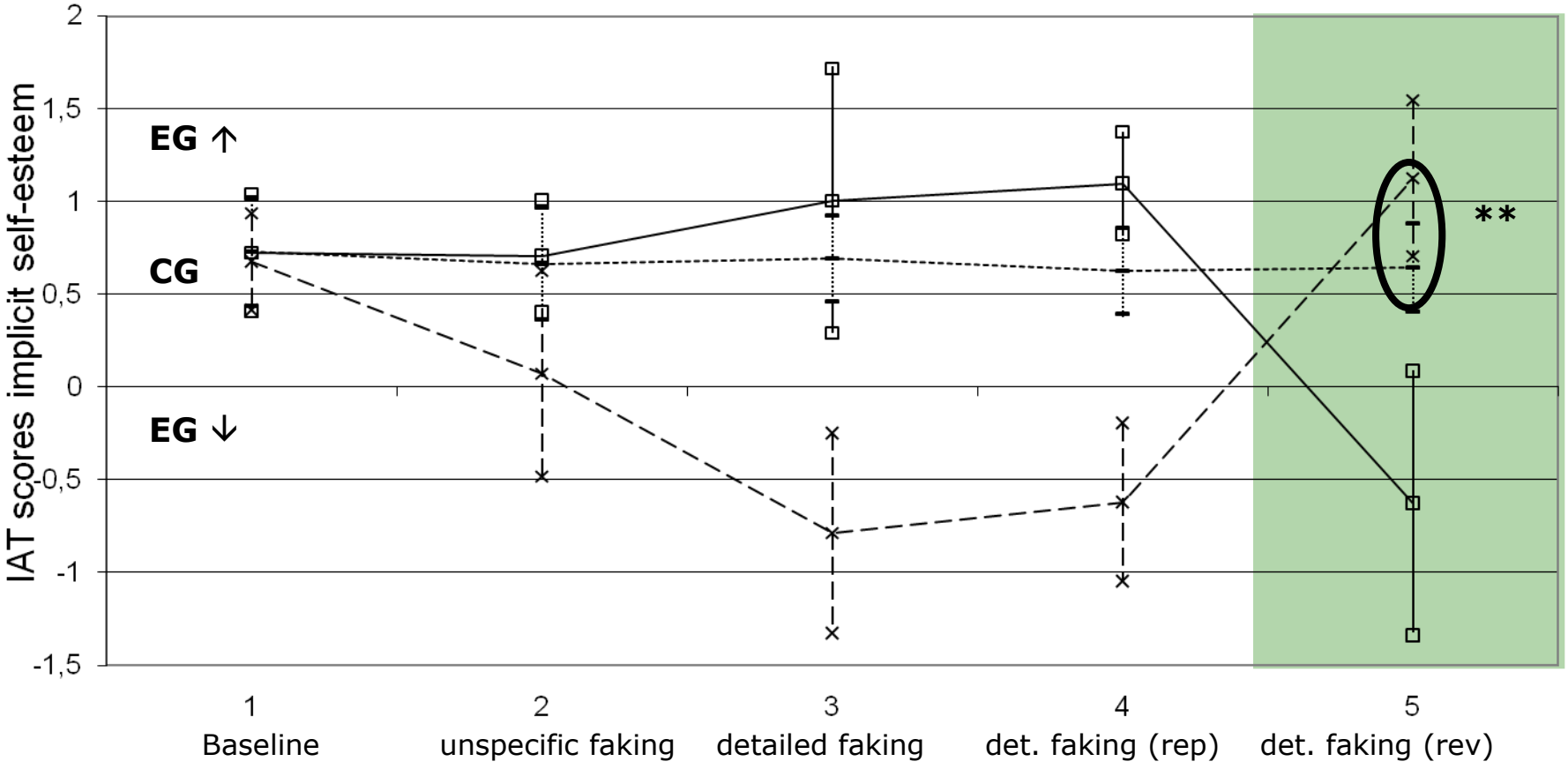
Self-Esteem IAT
Contrast Analysis (between)



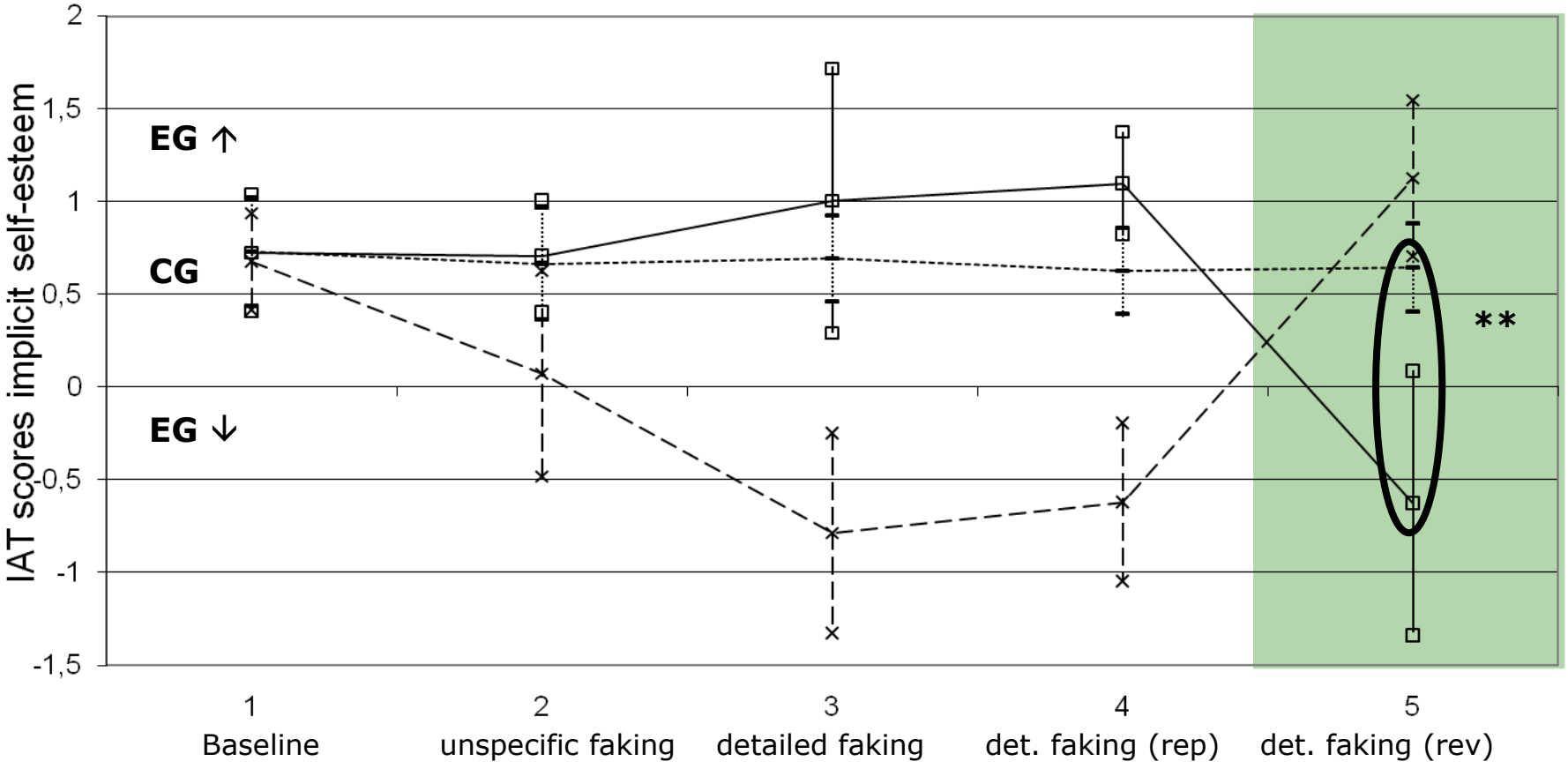
Self-Esteem IAT
Contrast Analysis (between)



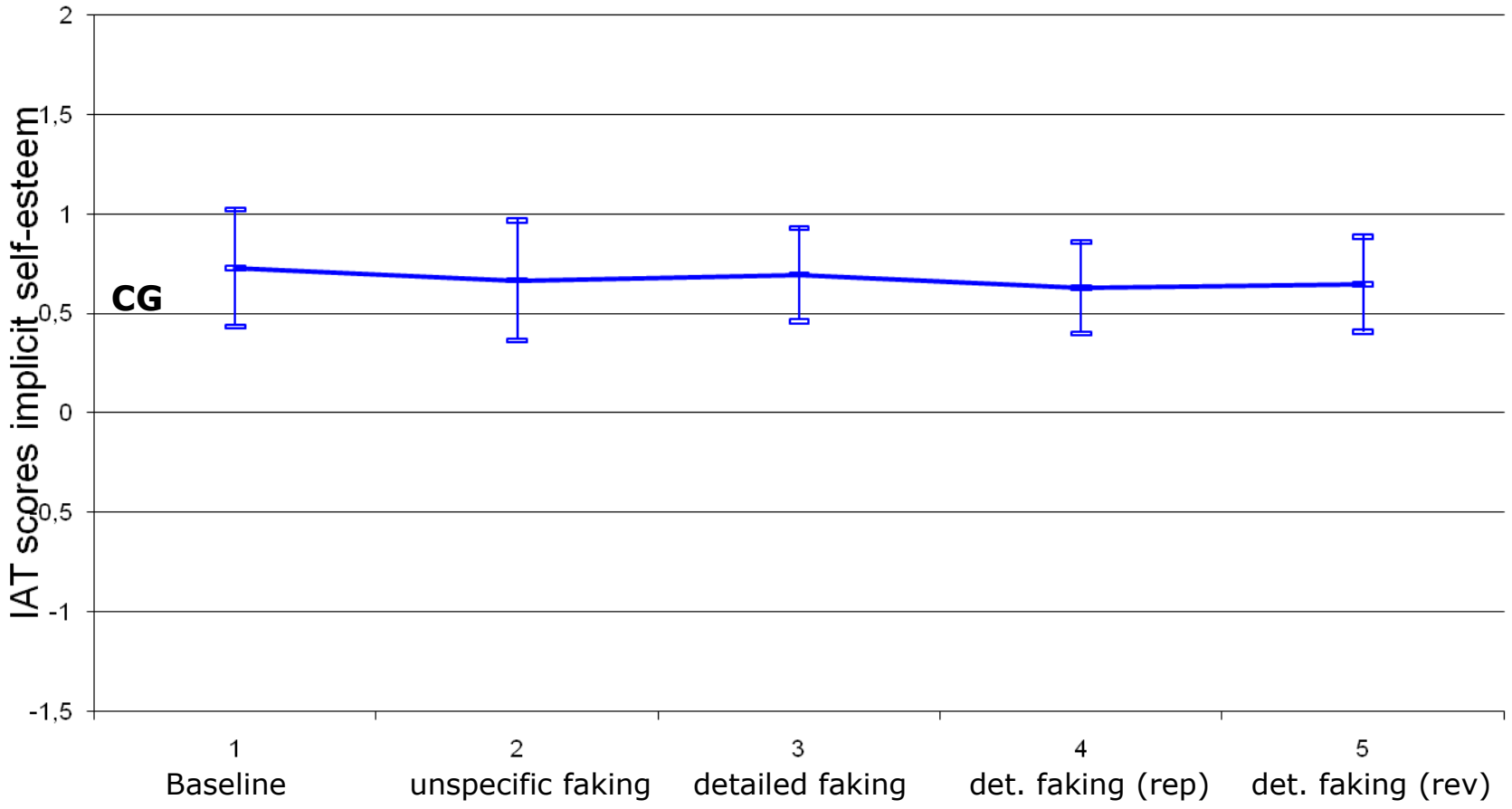
Self-Esteem IAT (reversed faking)



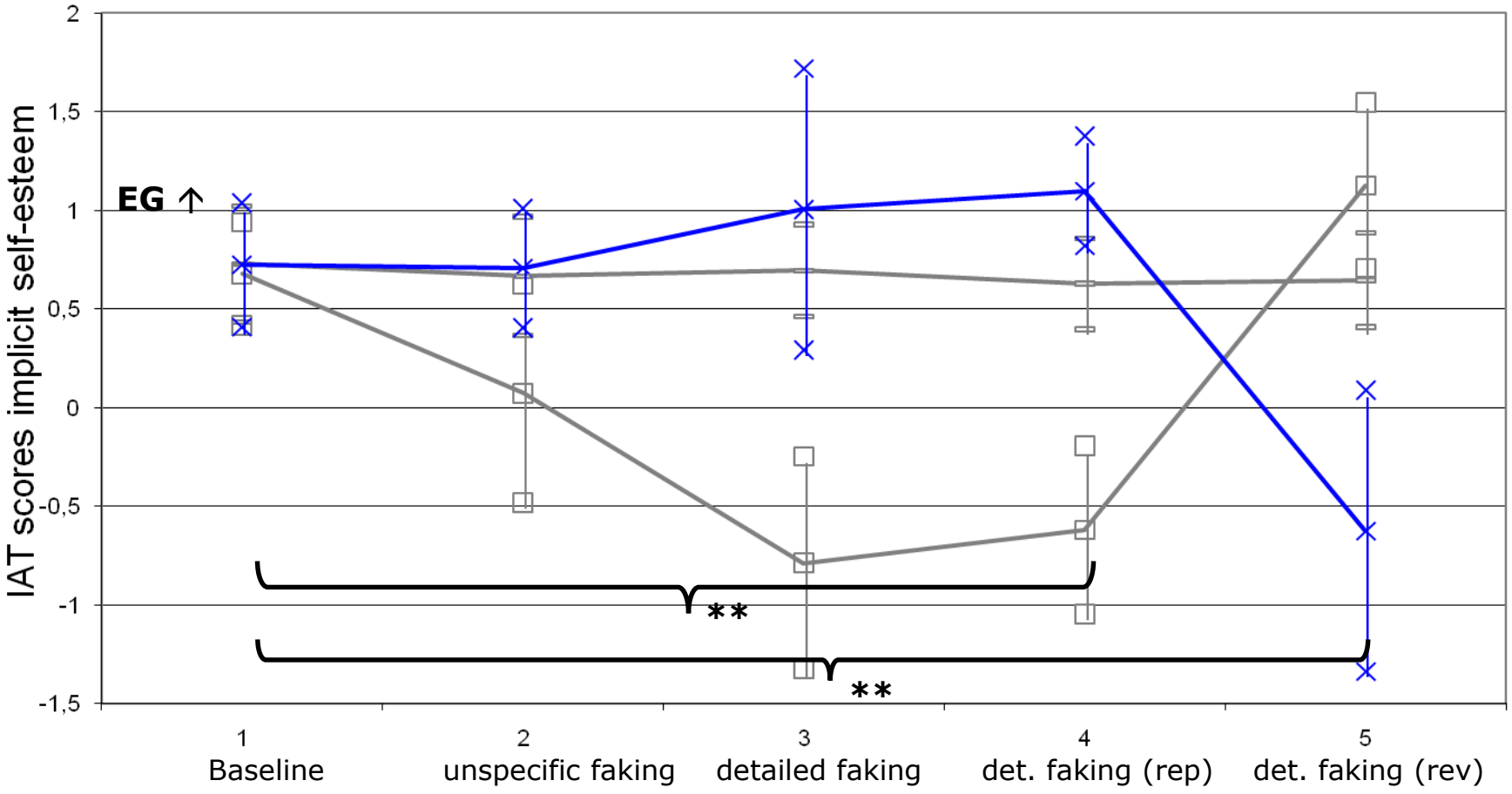
Self-Esteem IAT (reversed faking)



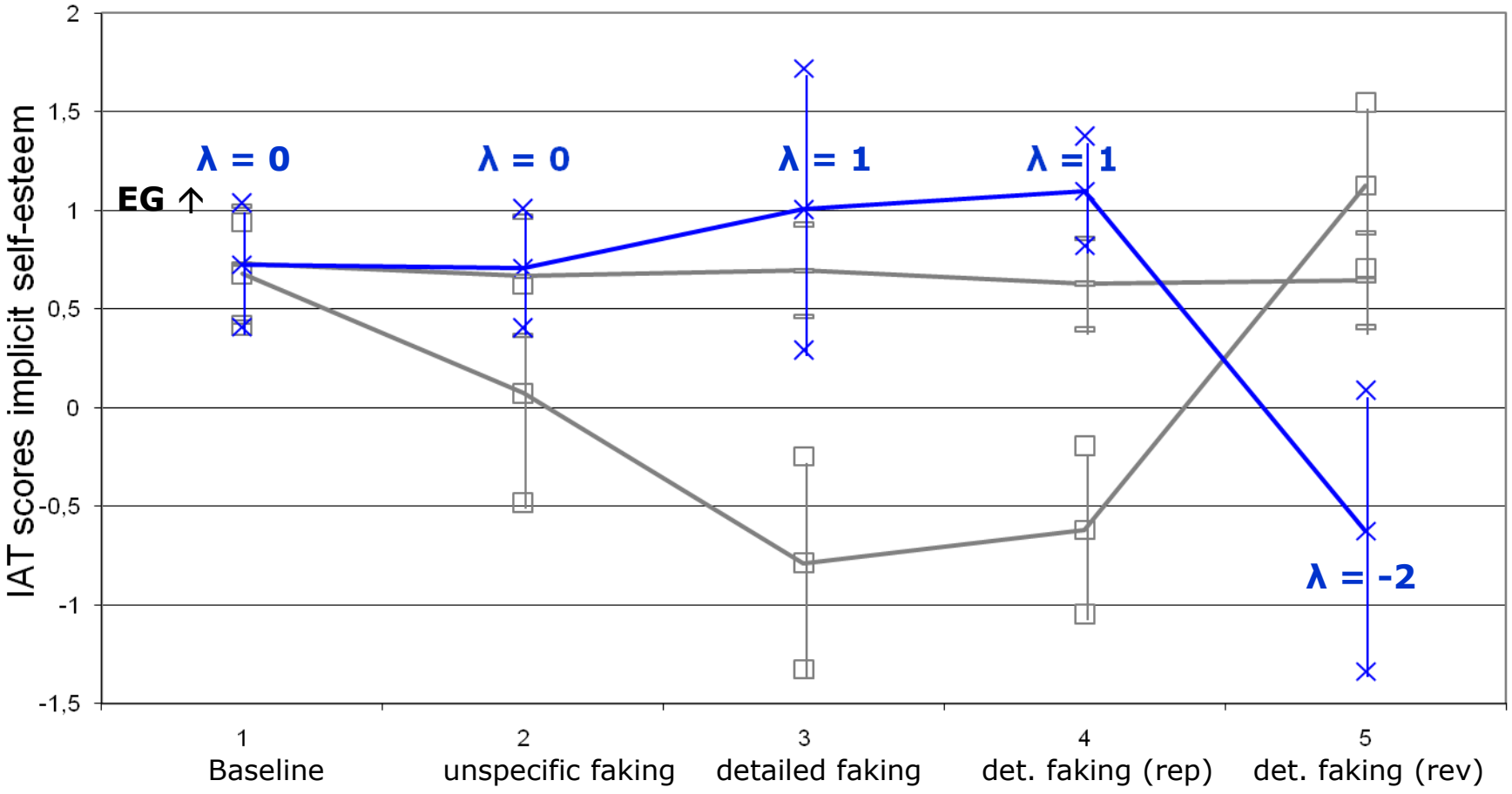
Self-Esteem IAT
Within Comparison



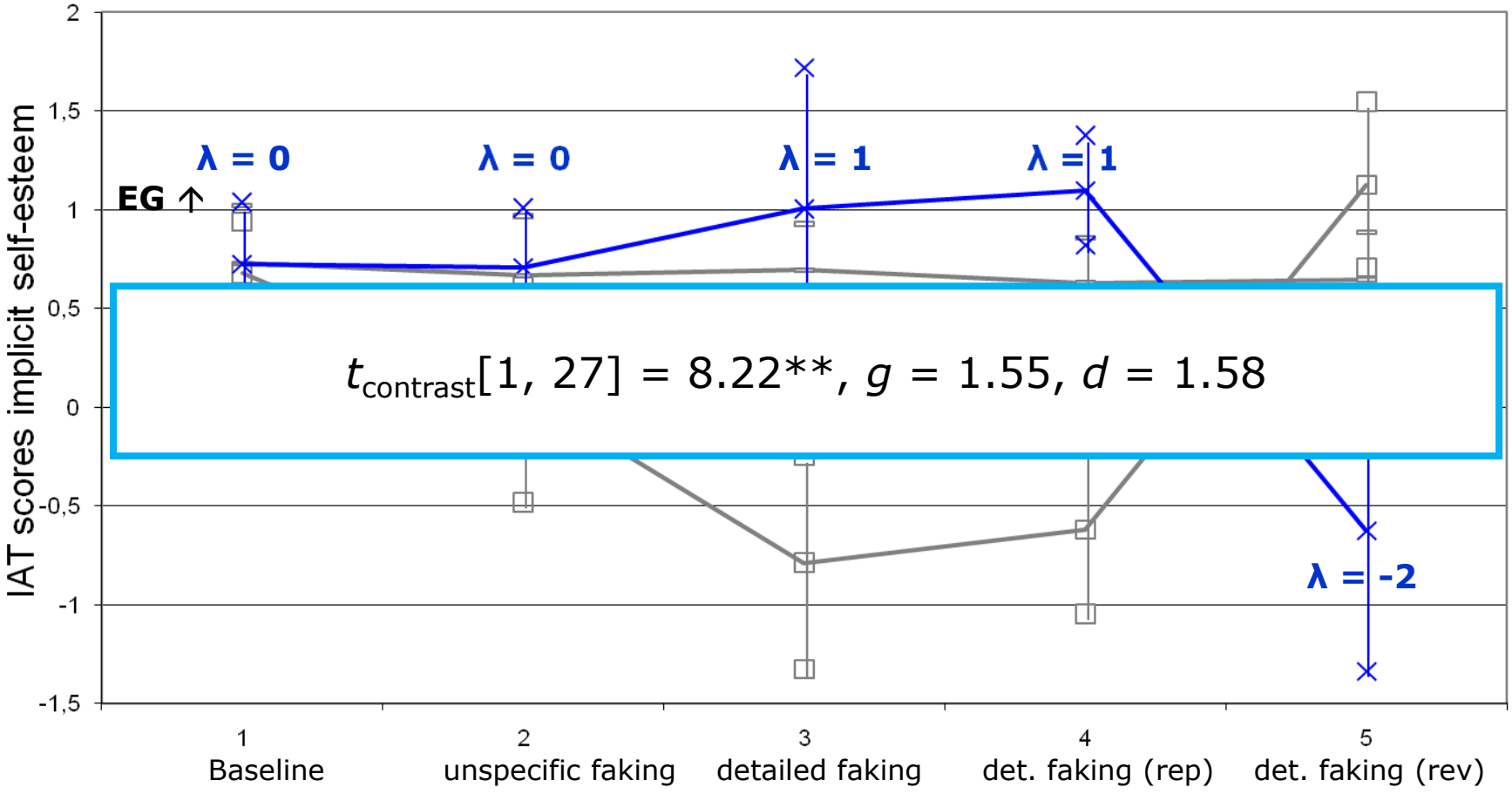
Self-Esteem IAT (faking high self-esteem first)



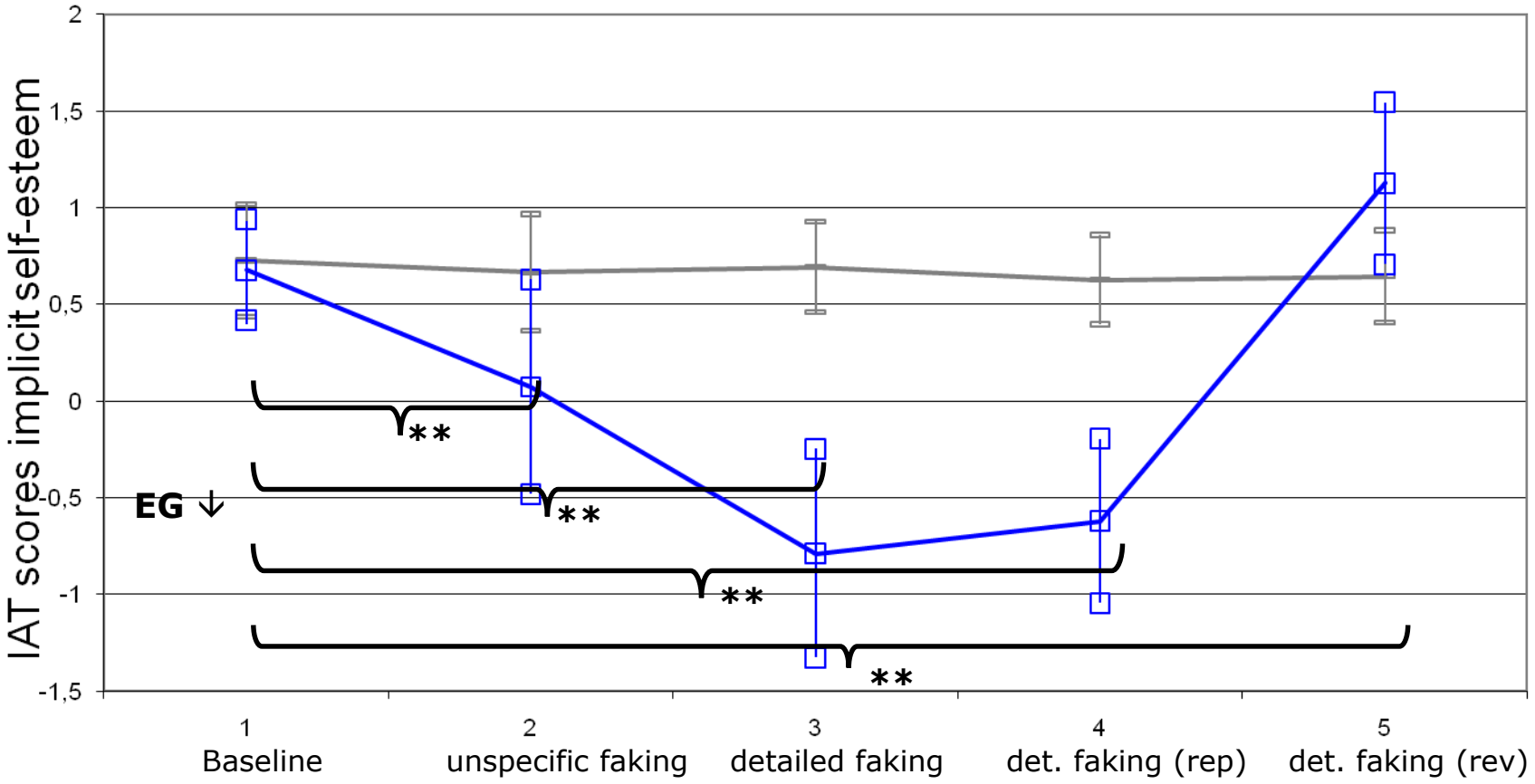
Self-Esteem IAT
Contrast Analysis (within)



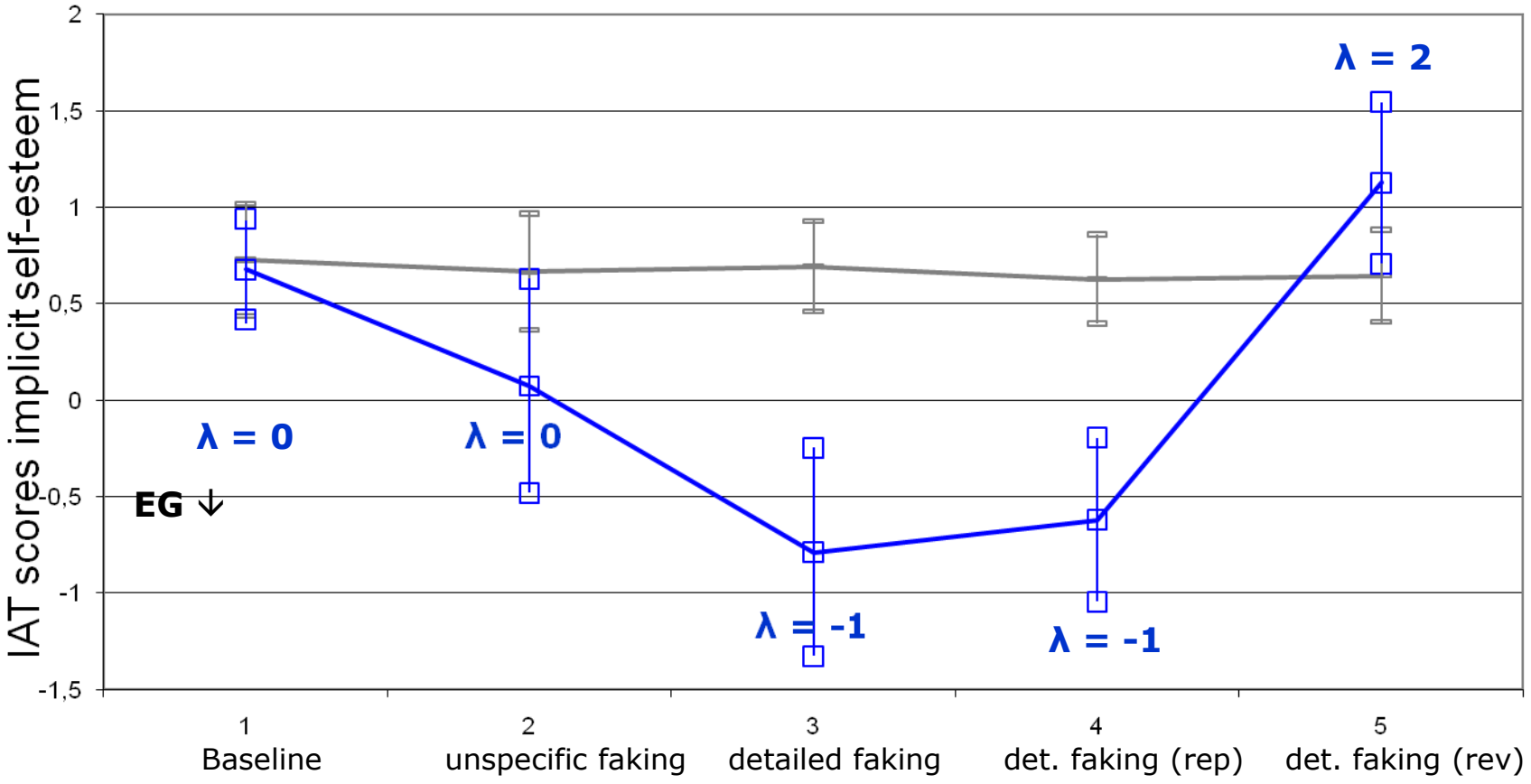
Self-Esteem IAT
Contrast Analysis (within)



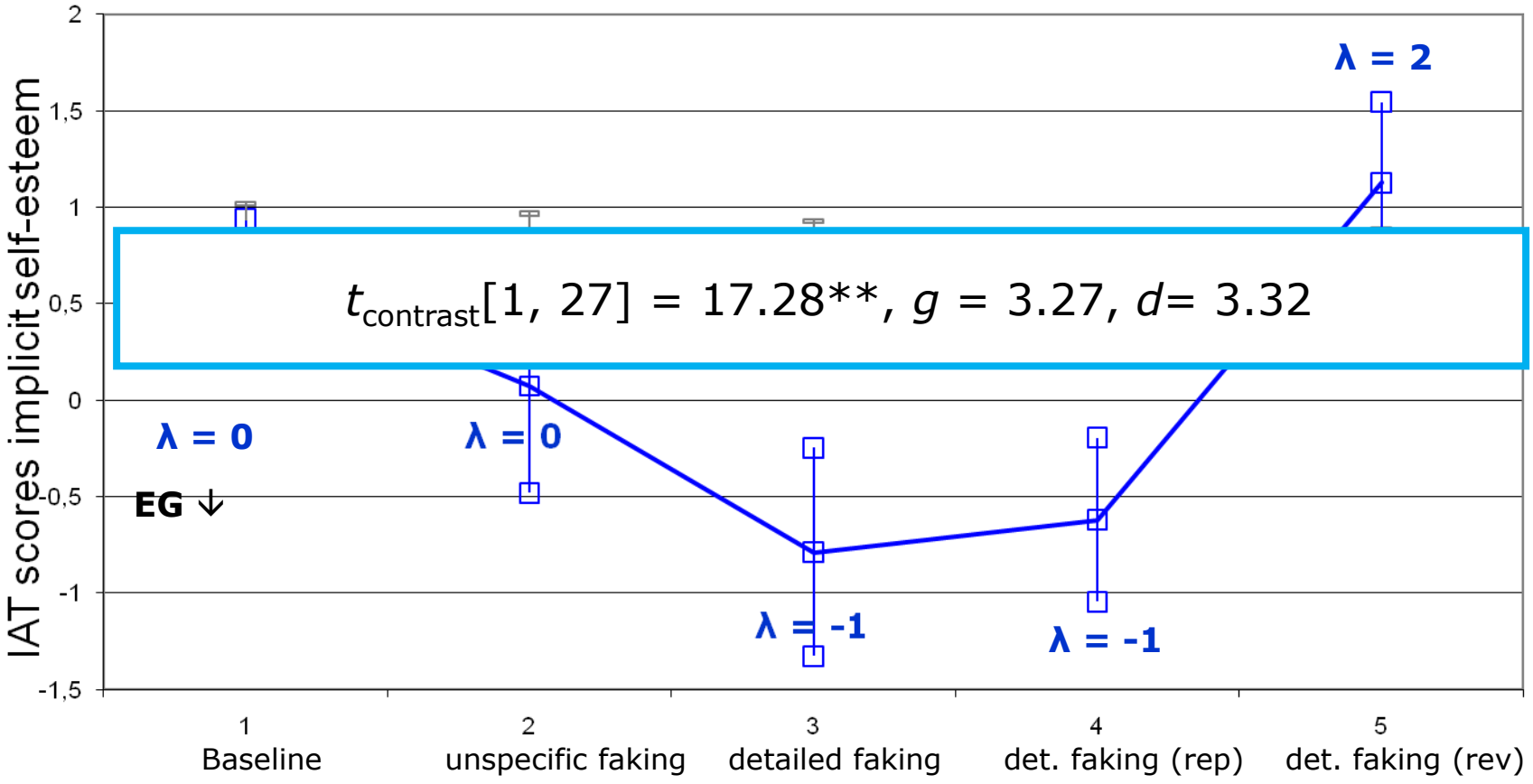
Self-Esteem IAT (faking low self-esteem first)



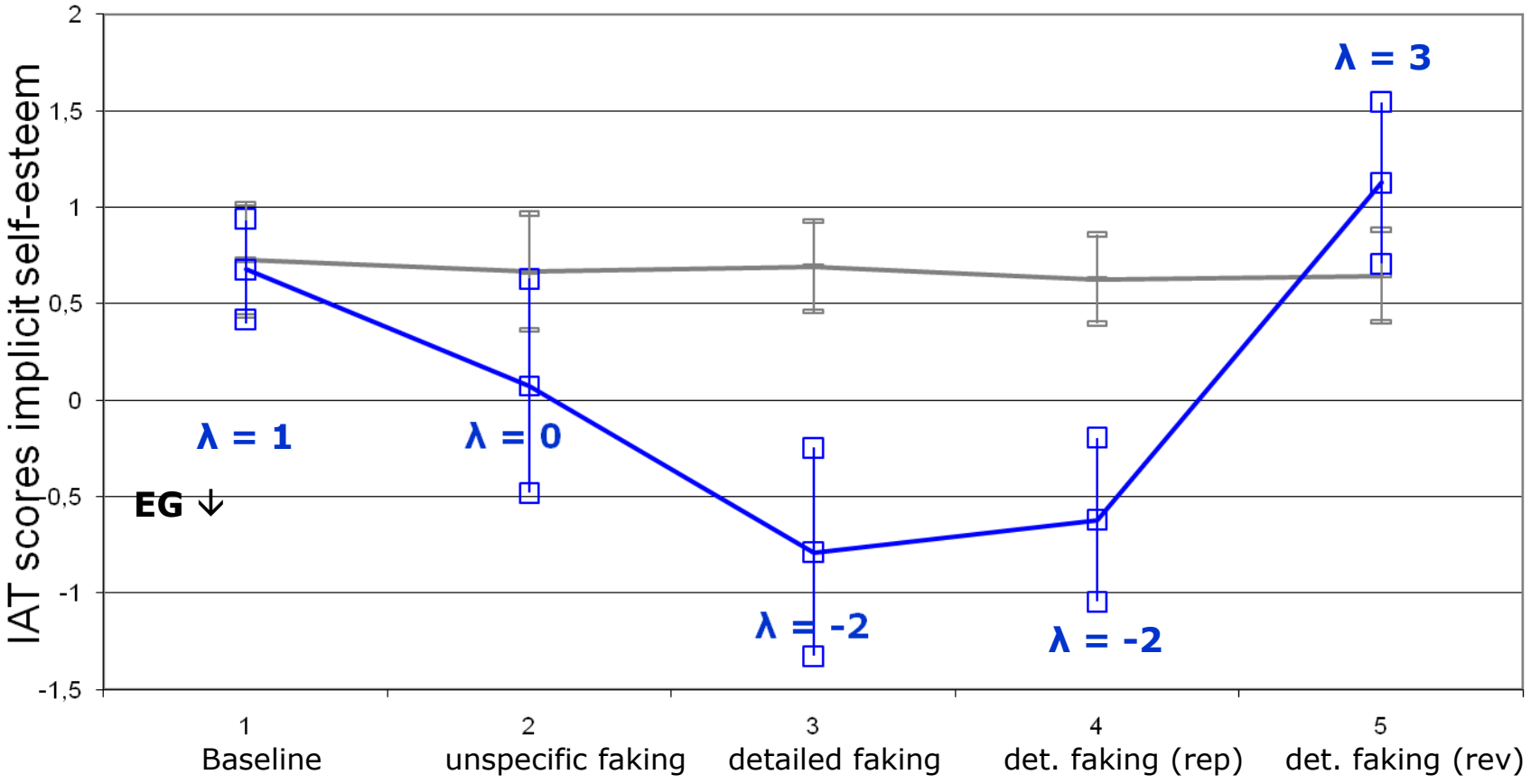
Self-Esteem IAT
Contrast Analysis (within)



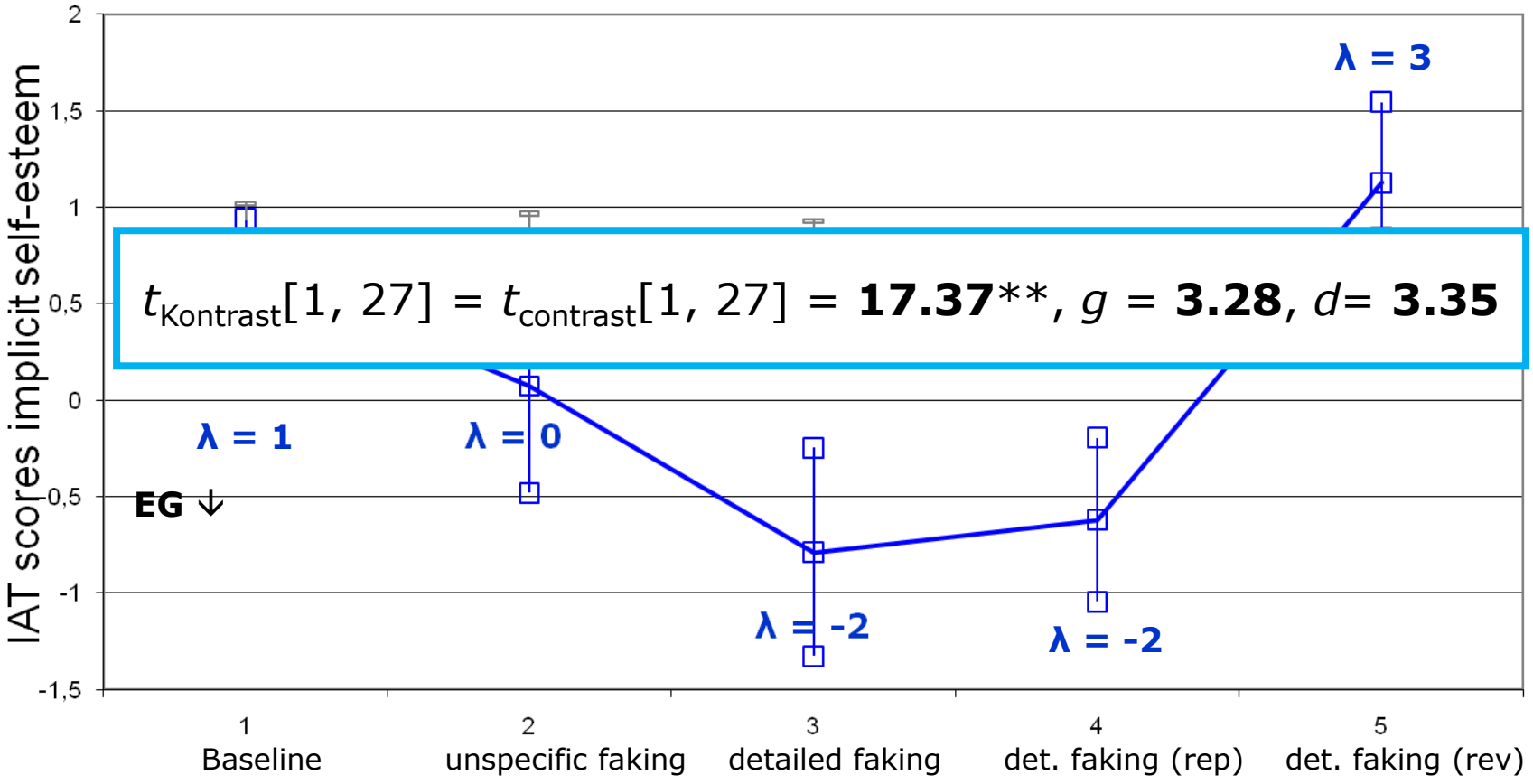
Self-Esteem IAT
Contrast Analysis (within)



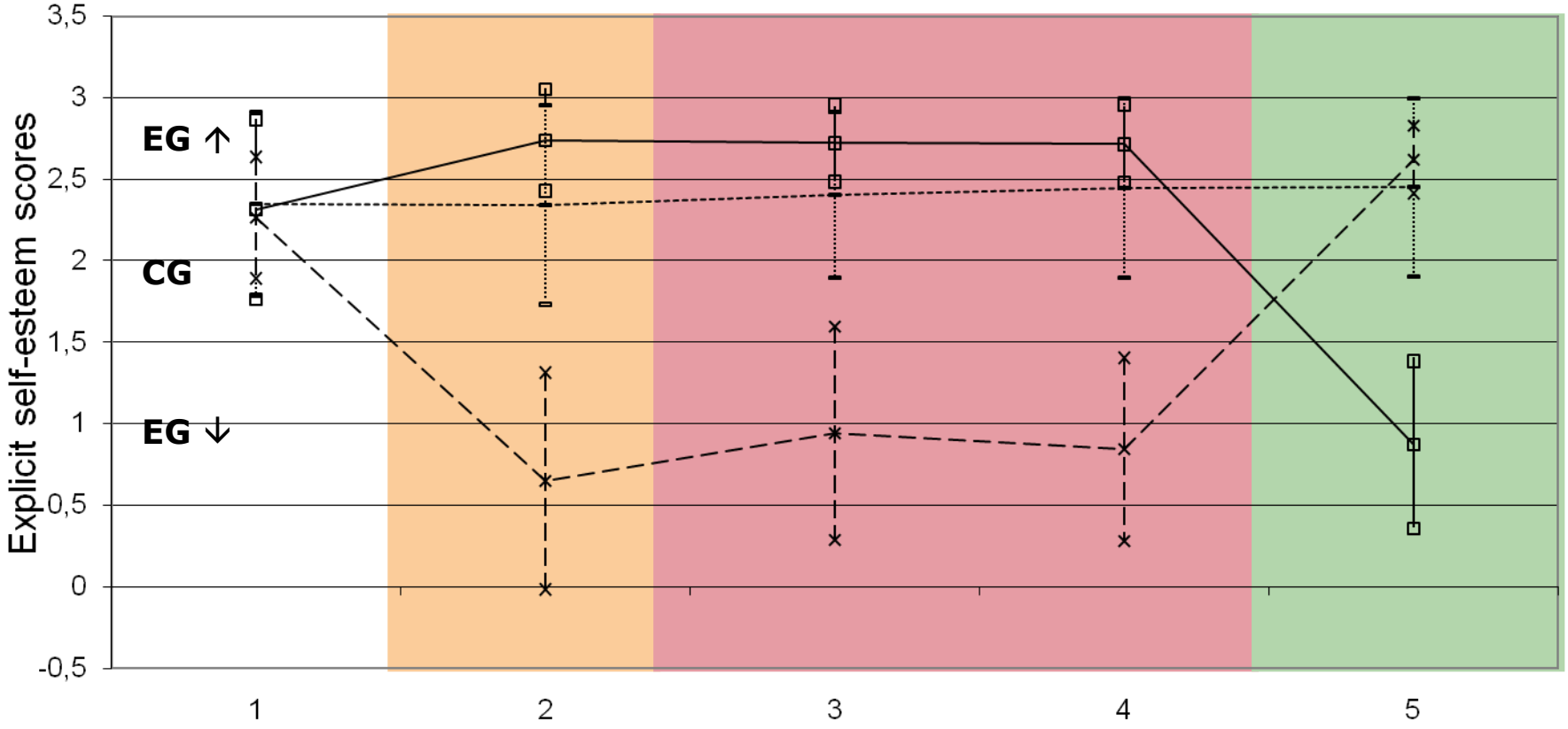
Self-Esteem IAT
Contrast Analysis (within)



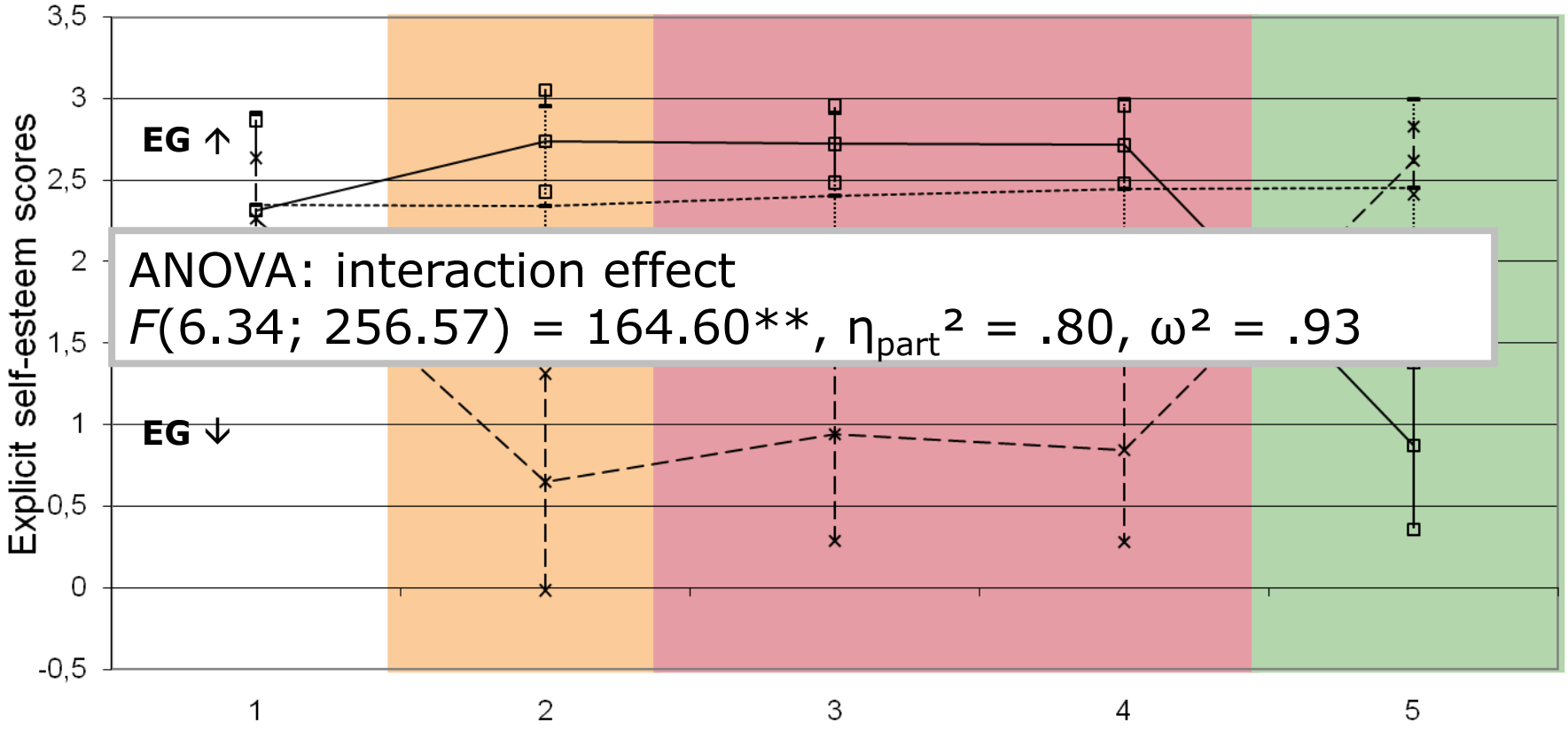
Self-Esteem IAT
Contrast Analysis (within)



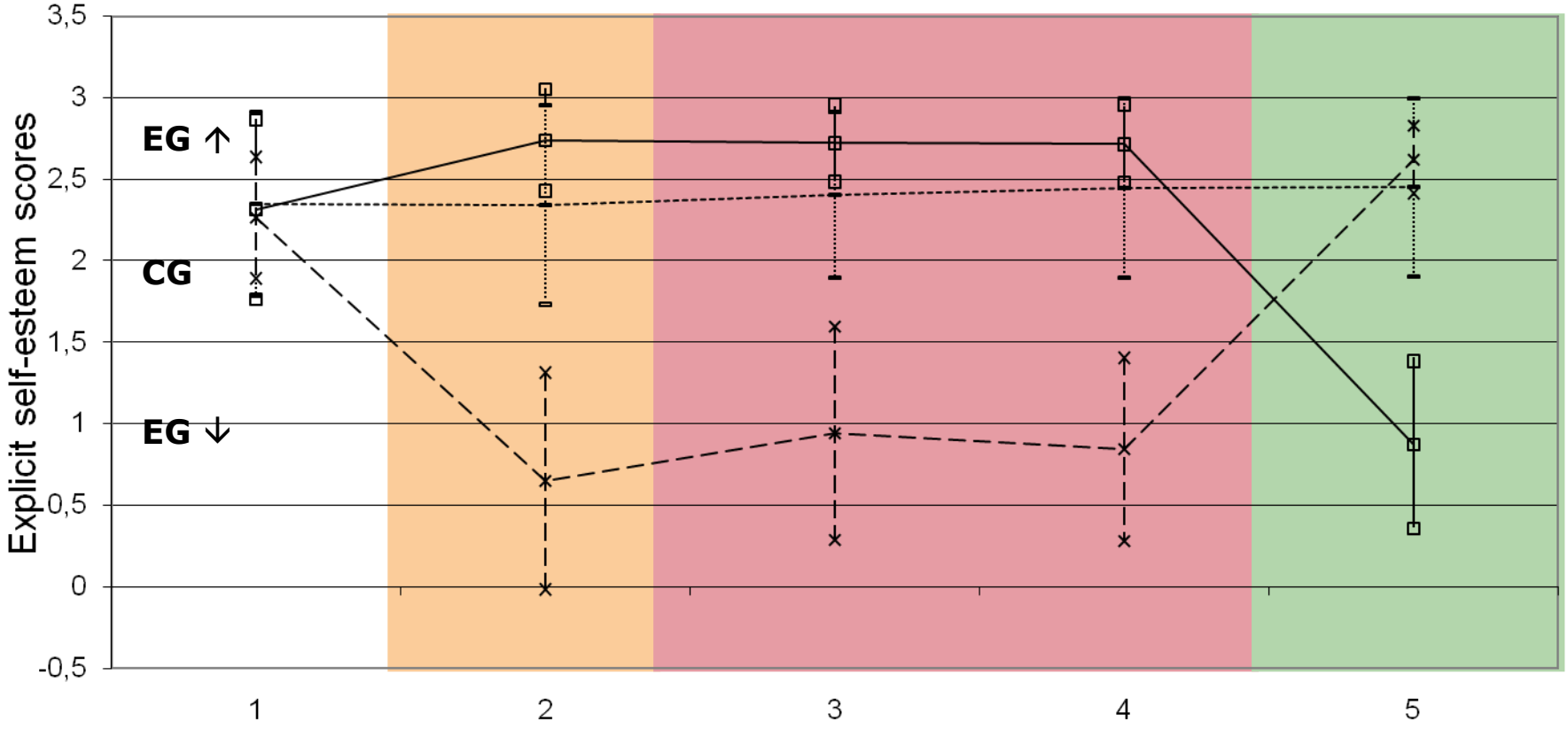
Explicit Self-Esteem



Explicit Self-Esteem



Explicit Self-Esteem



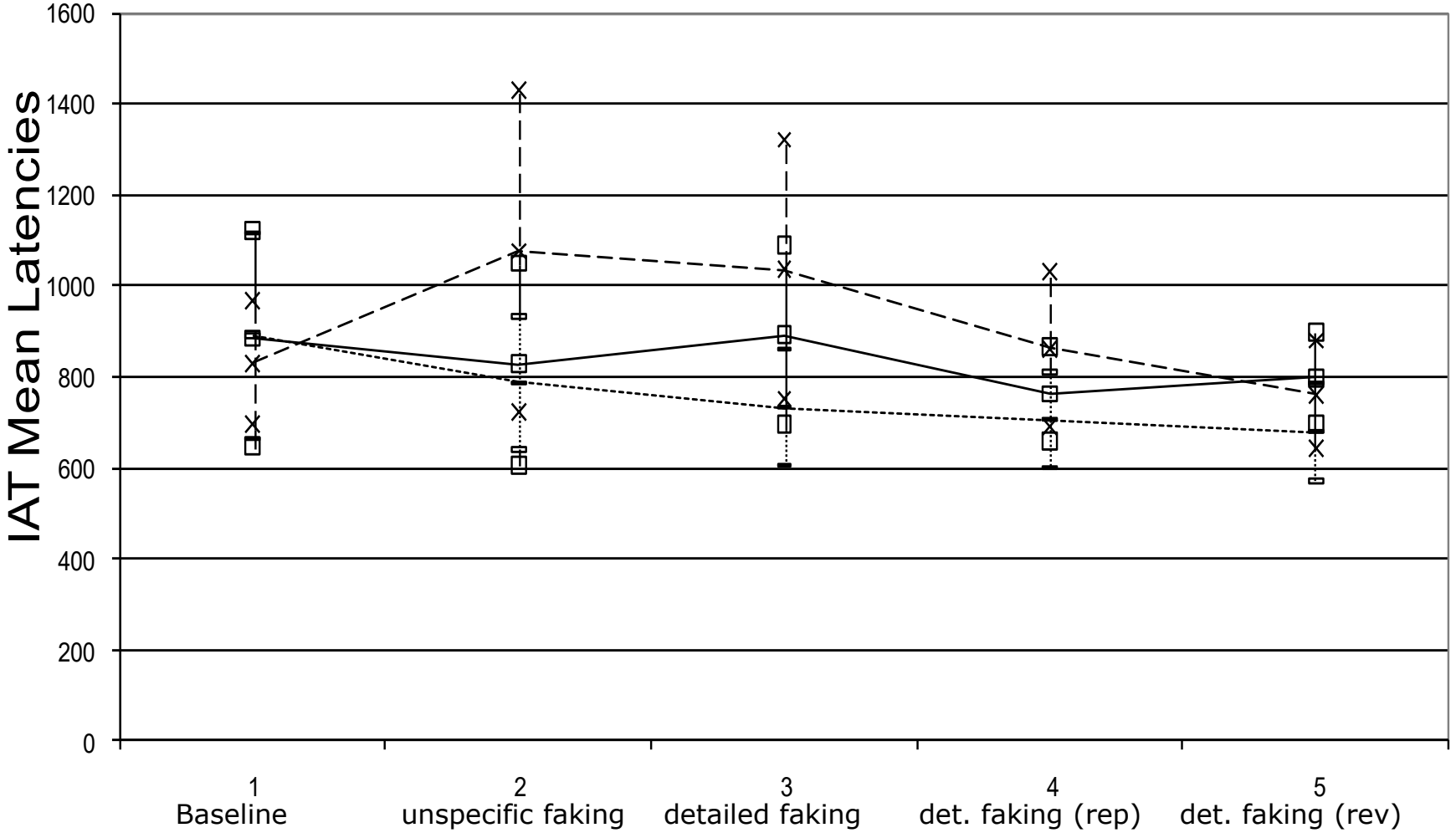
Results – Summary 1

- Expected differences in IAT scores between and within experimental groups were significant
- Larger effect sizes when faking low self-esteem compared to faking high self-esteem (ceiling effects; cf. explicit self-esteem)
- Only weak indication of practice effects for repeated faking
- Participants were able to fake *low* implicit self-esteem even without detailed faking instructions

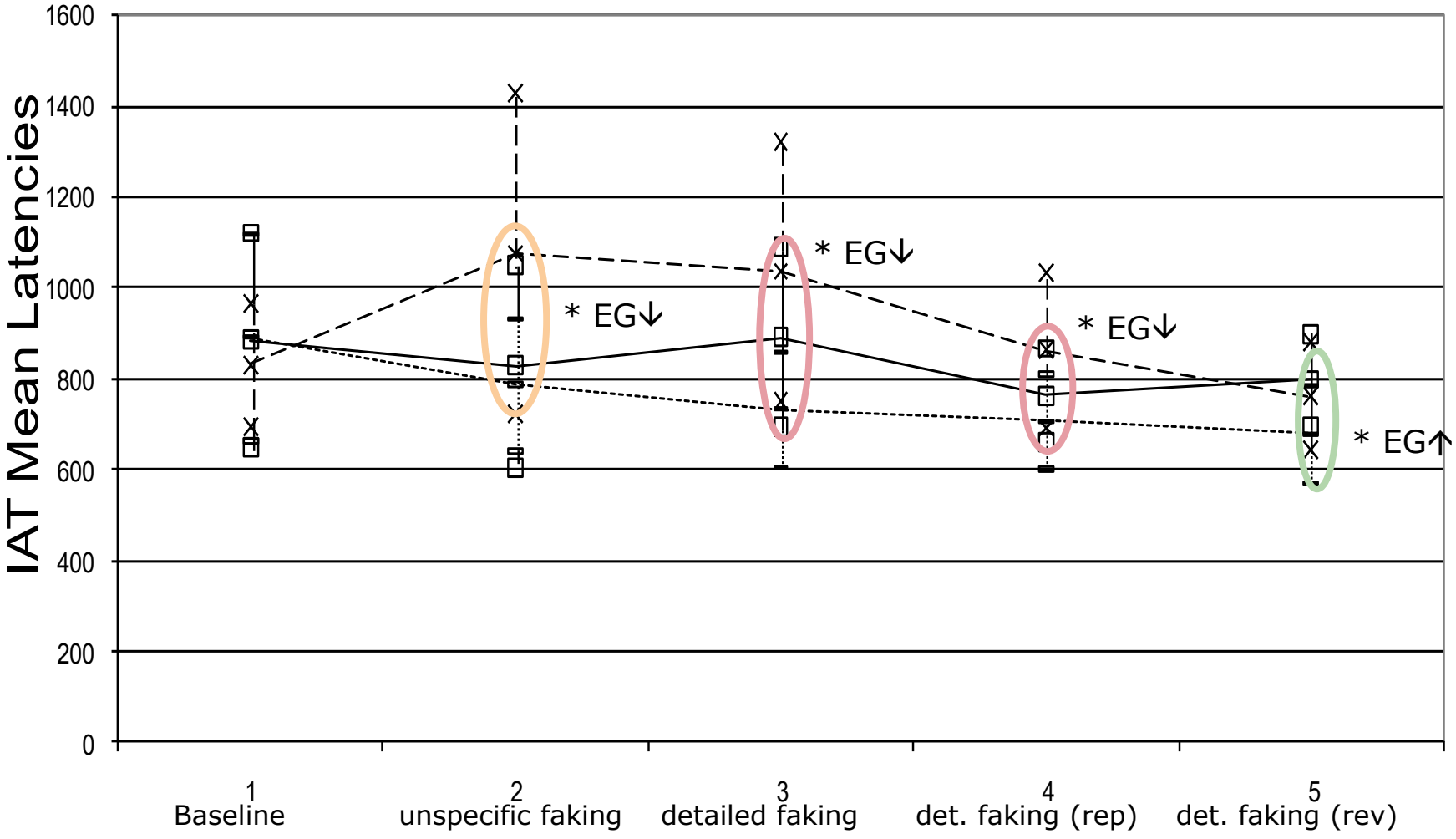
→IAT is fakable!

→but is it possible to identify faking?

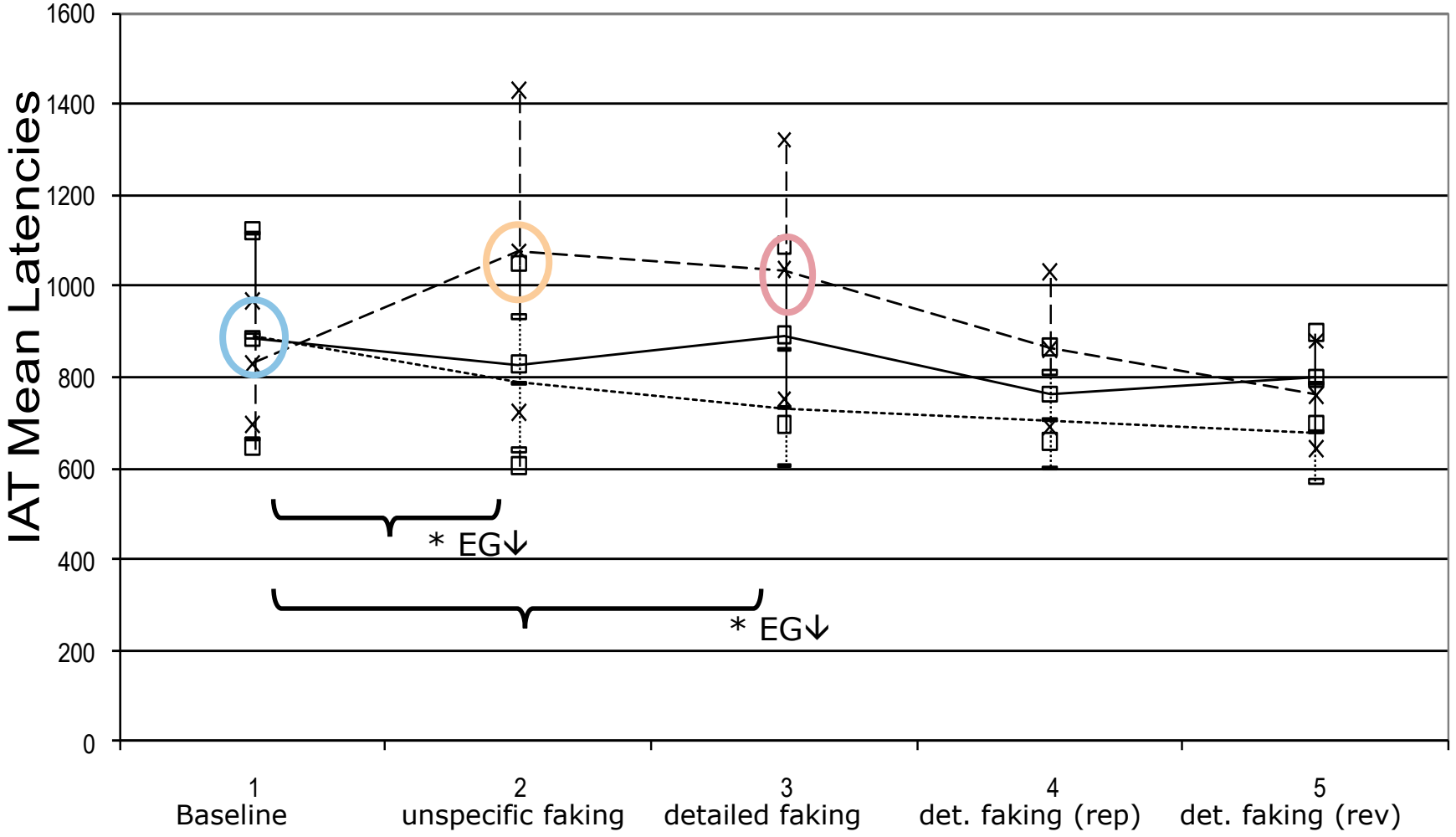
IAT Mean Latencies



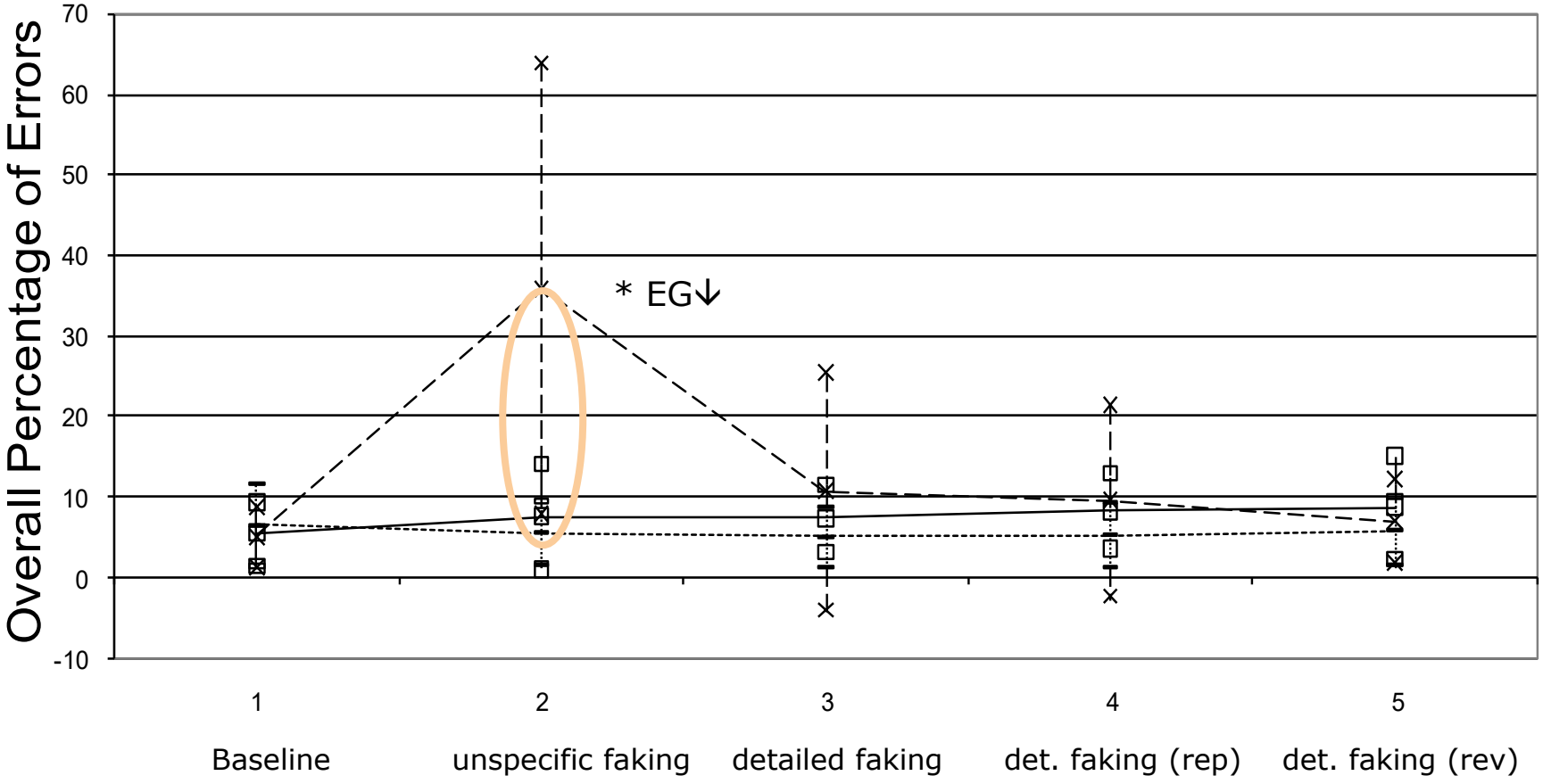
IAT Mean Latencies (between)



IAT Mean Latencies (within)



Overall Percentage of Errors



Results – Summary 2

- Higher latencies when faking low implicit self-esteem
- More overall errors when faking low implicit self-esteem with unspecific faking instructions

→identification of faking depending on errors and overall latencies only under specific circumstances (faking low implicit self-esteem; unspecific instructions), but not after some practice with detailed faking instructions

Discussion

Take Home Message

- IAT is fakable with detailed faking instructions (without much practice)
- Faking is possible even without detailed faking instructions
- When IAT effect is not 0 (e.g. positivity bias) → easier to fake in the opposite direction
- Latencies and error scores to identify faking, but only for first faking attempts

Directions for further research

- What strategies do participants use to fake the IAT without instructions?
  - Imagining to be like the target person?
  - Number of errors
- How to identify faking in practical (and research) settings without complex repeated measurement designs?

Thank you!

Extraversion IAT