The Adaptive and Maladaptive Consequences of Rule-Following

Ama Kissi

Ama.Kissi@ugent.be

Outline

1. The Consequences of Rule-Following
2. The Insensitivity Effect - assumptions
3. Empirical support
4. Study: The insensitivity effect as a function of Pliance/Tracking in healthy subjects
5. Future directions

The Consequences of Rule-Following

The **Bright** Side (Törneke, 2010)

 = Govern behavior without prior experience with the contingencies specified in the rule

- *E.g., "If you wear your jacket you will feel warm"*
- *E.g., "If you study hard, you will increase your chances of finding a good job"*
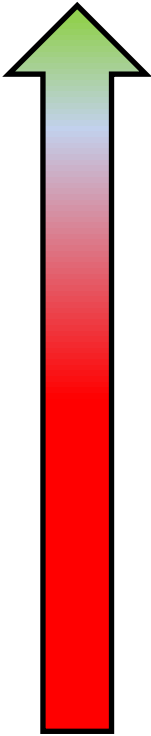- *E.g., "If I do good for another, I will go to heaven when I die"*

The **Dark** Side

= Difficulties to adapt to changes in contingencies

- ***"The Insensitivity Effect"*** (e.g., Hayes 1986)

The Insensitivity Effect - assumptions

Depends on the type of rule-governed behavior (Zettle & Hayes,1982) :

- Tracking: under the control of a correspondence between the contingencies specified in the rule and the way the world is arrranged.
  - E.g., *"Go right on the next street and you will find your house."*

- Pliance: under the control of speaker-mediated consequences for a correspondence between the rule and the relevant behaviour.
  - E.g., *"You can have dessert after you eat your vegetables."*

- Augmenting: under the control of changes in the capacity of events to function as reinforcers or punishers.
  - *E.g., "Wouldn't an ice cold beer go good right now?" (Motivative)*
  - *E.g., "That paper is worth a lot of money" (Formative)*

Ama Kissi - Ghent University

The Insensitivity Effect - assumptions

Depends on the population:

– Clinical vs non-clinical populations:

≠ in the extent to which one is preoccupied with following rules which allows one to avoid aversive thoughts, feelings, sensations, memories, … (Hayes, Strosahl, & Wilson, 1999)

Empirical support

Research evidence concerning the insensitivity effect:

- As a function of rule-type
- As a function of population

Is scarce and inconsistent (e.g.,

McAuliffe et al., in press & Baruch et al., 2007) !!

The insensitivity effect as a function of Pliance/Tracking: **Aims**

Investigating the insensitivity effect as a function of pliance and tracking in:

- – Non-clinical subjects
- – Chronic pain patients

=> more empirical clarity!

The insensitivity effect as a function of Pliance/Tracking in healthy subjects

- Replicate + extend previous findings (i.e. McAuliffe et al.,in press & Baruch et al., 2007) in healthy subjects (n=75).

- **Research Questions**:
    - Will we observe an insensitivity effect as a function of rule-following?
    - Will this rule-based insensitivity effect be moderated by:
        - the type of rule presented
        - and its accuracy?

Procedure

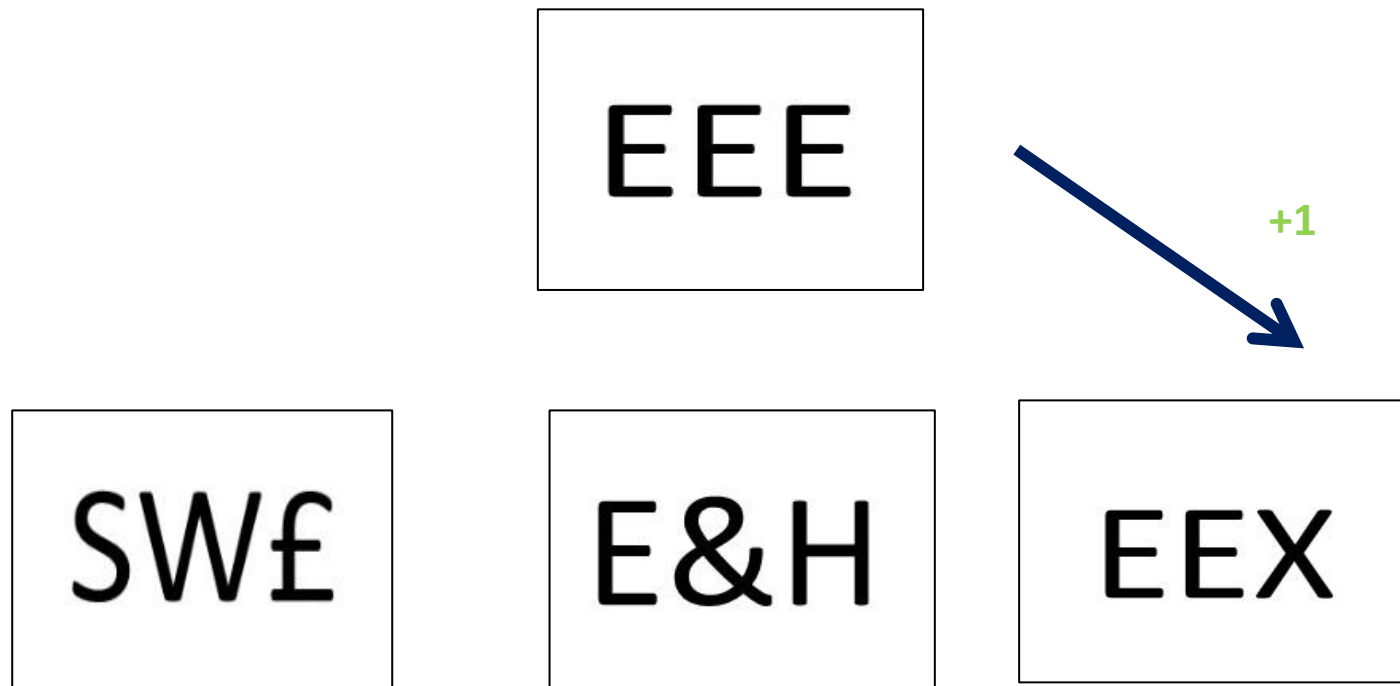## 1. General information about the task

- Stimuli

- Contingencies in the task

  - Correct response = +1

  - Wrong response= -1

Total score is <u>always</u> presented on the screen

2. Example of a trial in a Matching To Sample task

= A conditional discrimination task

Example of a Matching to Sample trial

Procedure

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2. Example of a trial in a Matching To Sample task

= A conditional discrimination task

3. Actual Matching to Sample task

Manipulations in the Matching to Sample task:

Five conditions via:

- Manipulation of **type** of instruction
    - Ply : *"I want you to select the symbol that is most like/least like the symbol at the top of the screen. Remember: I (the researcher) will be checking your performance at the end of every session".*
    - Track : *"If you want to gain points then select the symbol that is most like/ least like the symbol at the top of the screen".*
    - Contingency shaped/no instruction group
- Manipulation of **accuracy** of the instruction:
    - The extent to which there is a correspondence between the rule and the contingencies in the task

Manipulations in the Matching to Sample task

Contingencies
- 6 blocks of each 20 trials
  - **Blocks 1-3 = first half**:

    Selecting the stimulus with the **most** similarities = correct (+1)

  Reversal of the contingencies

  - **Blocks 4-6 = second half:**

    Selecting the stimulus with the **least** similarities = correct (+1)

Example of the contingencies


Blocks 4-6 (least like)

Blocks 1-3 (most like)

+1

+1

EEE

SW£   E&H   EEX

Overview of the 5 conditions

First Half (most like)	Second Half (least like)	Participants per condition
1. Ply – accurate: Most like	Ply- inaccurate: Most like	N= 15
2. Ply – inaccurate: Least like	Ply - accurate: Least like	N=15
3. Track - accurate: Most like	Track – Inaccurate: Most like	N=17
4. Track – inaccurate: Least like	Track – accurate: Least like	N=15
5. Contingency shaped	Contingency shaped	N=13

Results
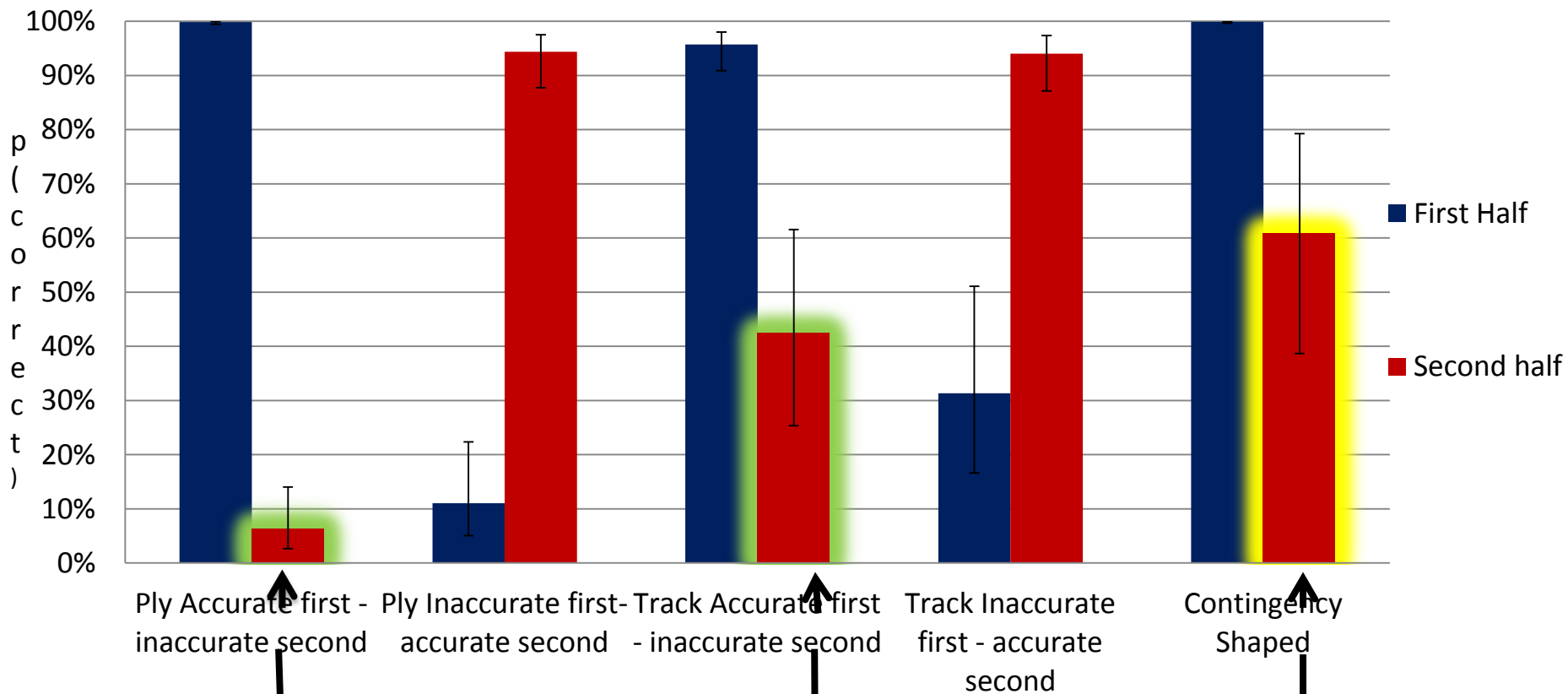
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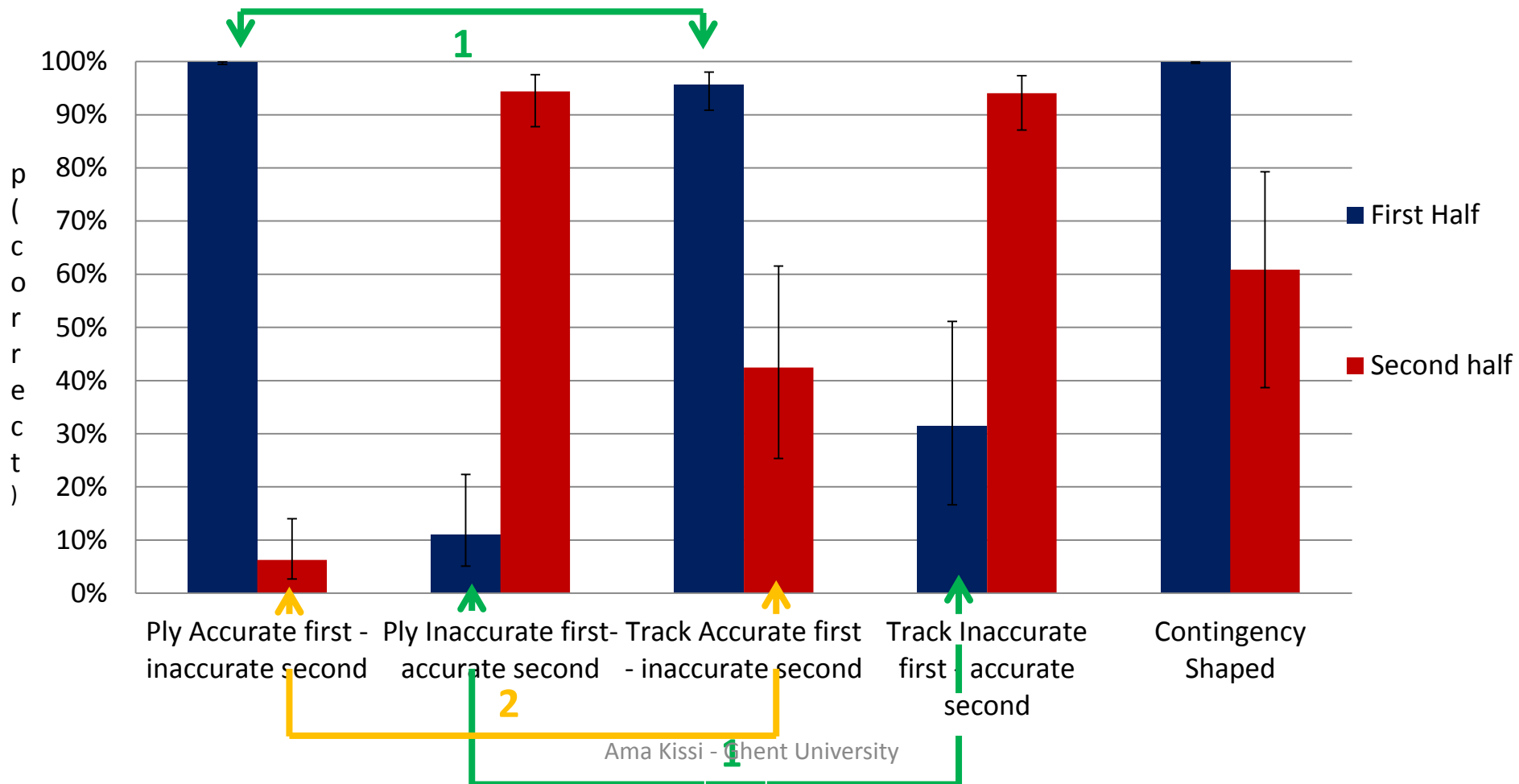
Discussion

- Indications for differences in the rule-based insensitivity effect as a function of:
  - The instruction type (ply versus track)
  - Accuracy of the instruction (accurate versus inaccurate)
- Likely that rules play a role in the contingency shaped group!

Limitations

- **Preliminary results!**
  - Ceiling effects
    - Possible explanations:
      - Effect of instructions in general were very strong
      - Task was too easy (contingency shaped group)
  - Operational issues:
    - Manipulation of pliance and tracking was not so clear
      - I.e. difference between speaker mediated versus non-speaker mediated consequences

Future Directions

More research about the insensitivity effect as a function of the type of instructions (+accuracy):

- ≠ paradigms
- ≠ populations (clinical versus non-clinical populations)
  - In a context in which rule-following is contingent upon the avoidance of painful stimuli

Thank you for your attention!