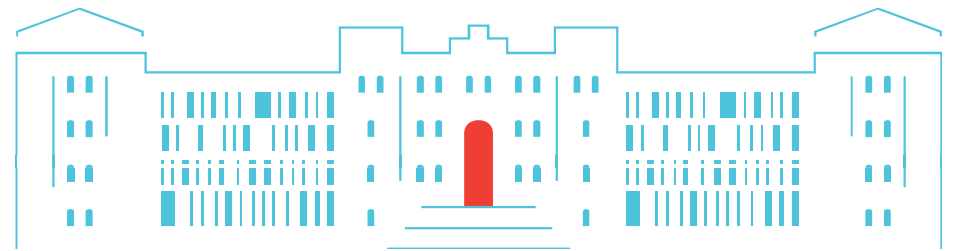
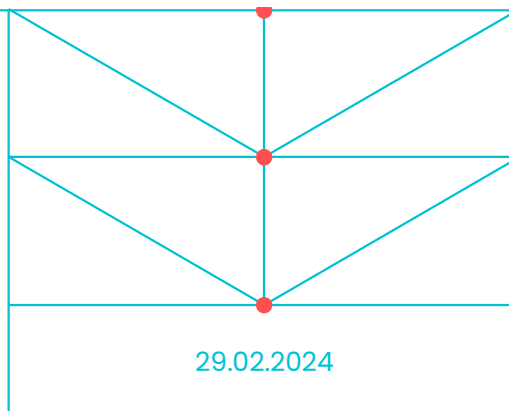


# Fraud Dynamics and Controls in Organizations

–

## A Replication and Social-Norm-Theory Extension

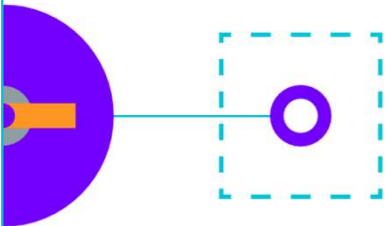
**TUHH**  
Hamburg  
University of  
Technology



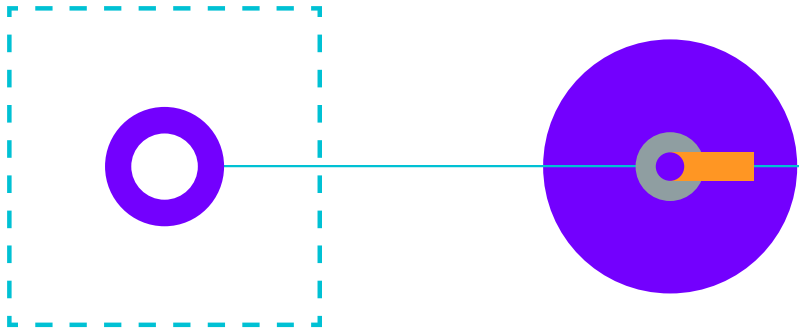
Alexandra Eckert and Matthias Meyer

# Overview

1. Purpose and Motivation
2. Research Questions and Methodology
3. Results
4. Contribution



# 1. Purpose and Motivation



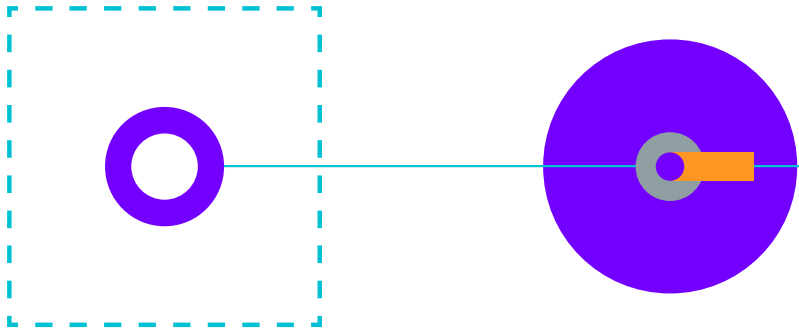
# Why Doing Research on Fraud Control?



		
<p>lost ca. <b>10 million €*</b> due to metal theft</p>	<p><b>3 top executives**</b> to leave company</p>	<p><b>1 worker and 5 subcon workers*</b> sentenced</p>

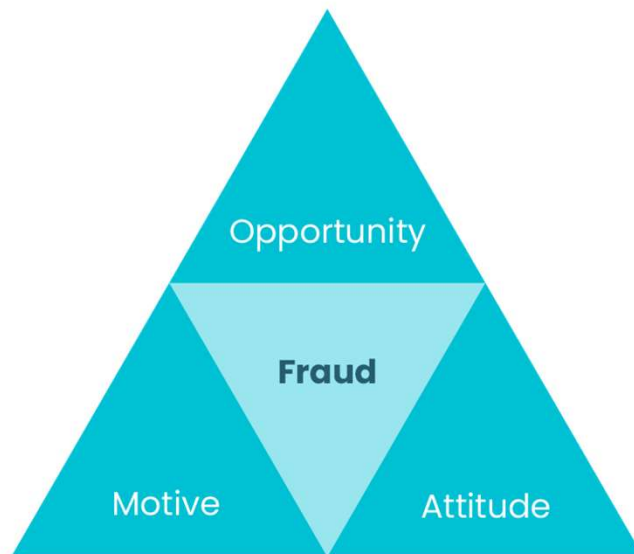
Image source: Aurubis official products website, \* Figures taken from Aurubis press release on 23 February 2024, \*\* Figures taken from Aurubis press release on 23 January 2024 (all sources accessed at <https://www.aurubis.com> on 28 February 2024)

## 2. Research Questions and Methodology

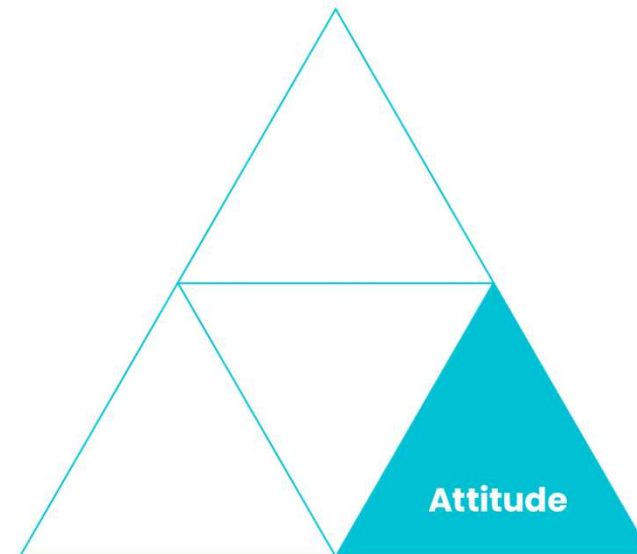


Given the same motive and opportunity, what makes some individuals commit fraud and others do not?\*

Fraud Dynamics and Controls Model by Davis and Pesch (2013)



if **Opportunity = Motive = Attitude = 1**  
agent commits fraud



**Attitude** is determined during  
social interaction

\* adapted from Wells, J. T. (2004). New approaches for fraud deterrence. *Journal of Accountancy*, 197(2): 72–76.  
Davis, J. S., and H. L. Pesch. 2013. "Fraud Dynamics and Controls in Organizations." *Accounting, Organizations and Society* 38 (6-7): 469–83.

## Davis and Pesch's (2013) Study

Assumptions:

honest  pro-fraud



individuals are susceptible to **social influence** and **unbiased**

Method:

simulation experiments

Findings:

**low**

fraud dynamics

**high**

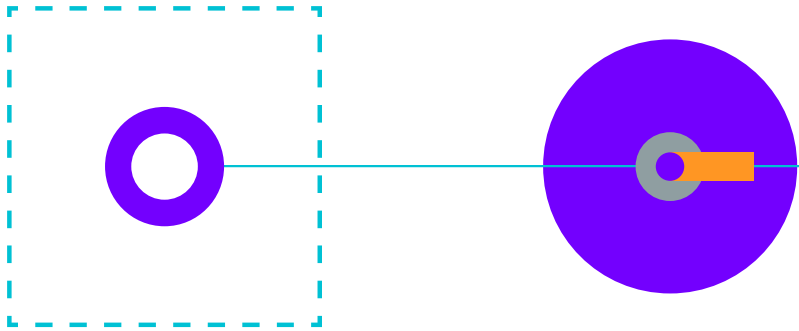
**Detection**  
is highly effective

**Asym. influence**  
is highly effective

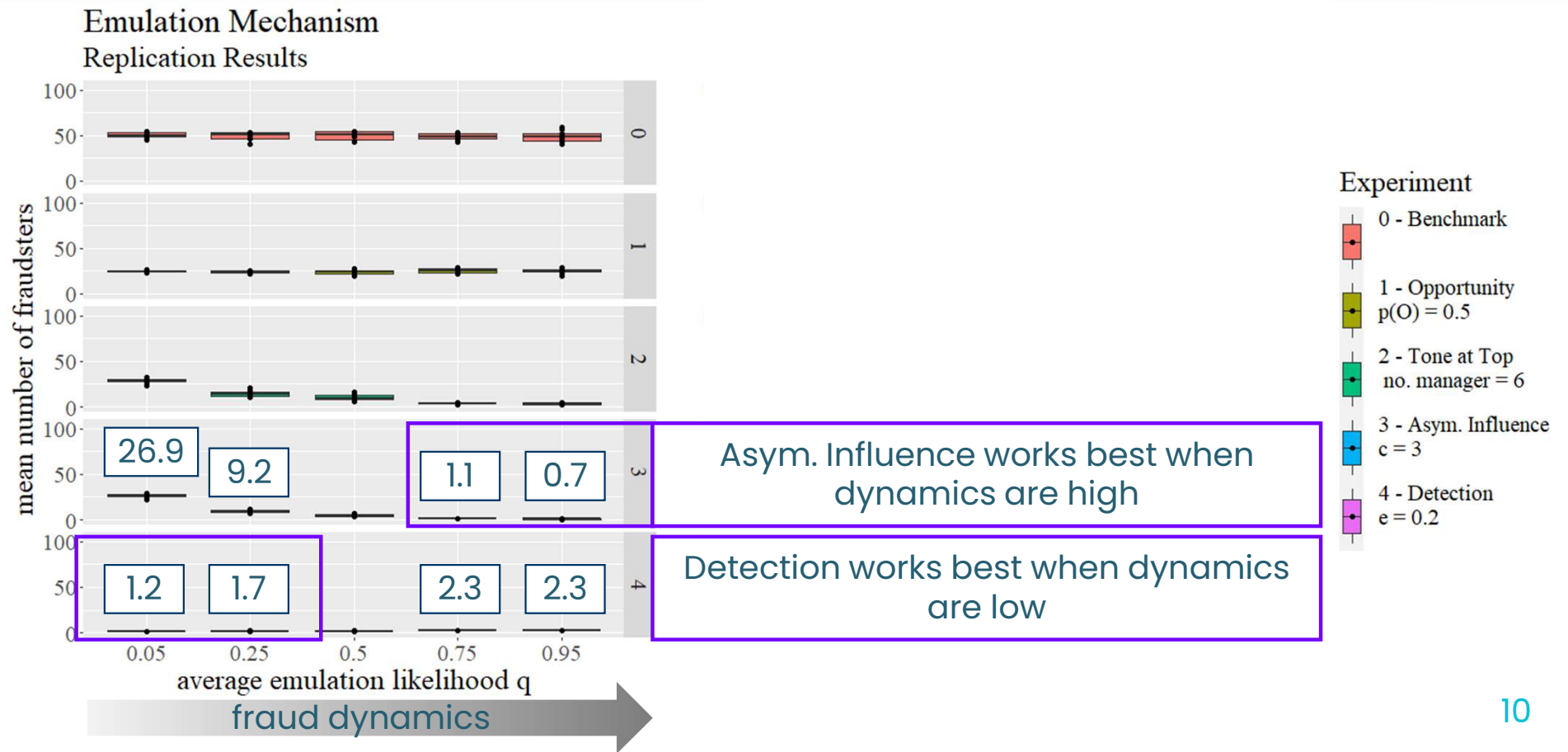
# Overview on Research Questions and Methodology

Research question	Method
<p><b>1. Are the results by Davis and Pesch (2013) internally valid?</b></p> <ul style="list-style-type: none"> <li>• Descriptive statistics</li> <li>• Qualitative findings</li> </ul>	<p><b>Close replication</b></p> <ul style="list-style-type: none"> <li>✓ Re-implement conceptual model</li> <li>✓ Re-run computer experiments</li> <li>✓ Compare results</li> </ul>
<p><b>2. Can external validity be increased?</b></p> <ul style="list-style-type: none"> <li>• Robustness to a change in the social influence mechanism</li> </ul>	<p><b>Extension</b></p> <ul style="list-style-type: none"> <li>✓ Modify social influence mechanism [emulation → social norm]</li> <li>✓ Re-run computer experiments</li> <li>✓ Analyze results</li> </ul>

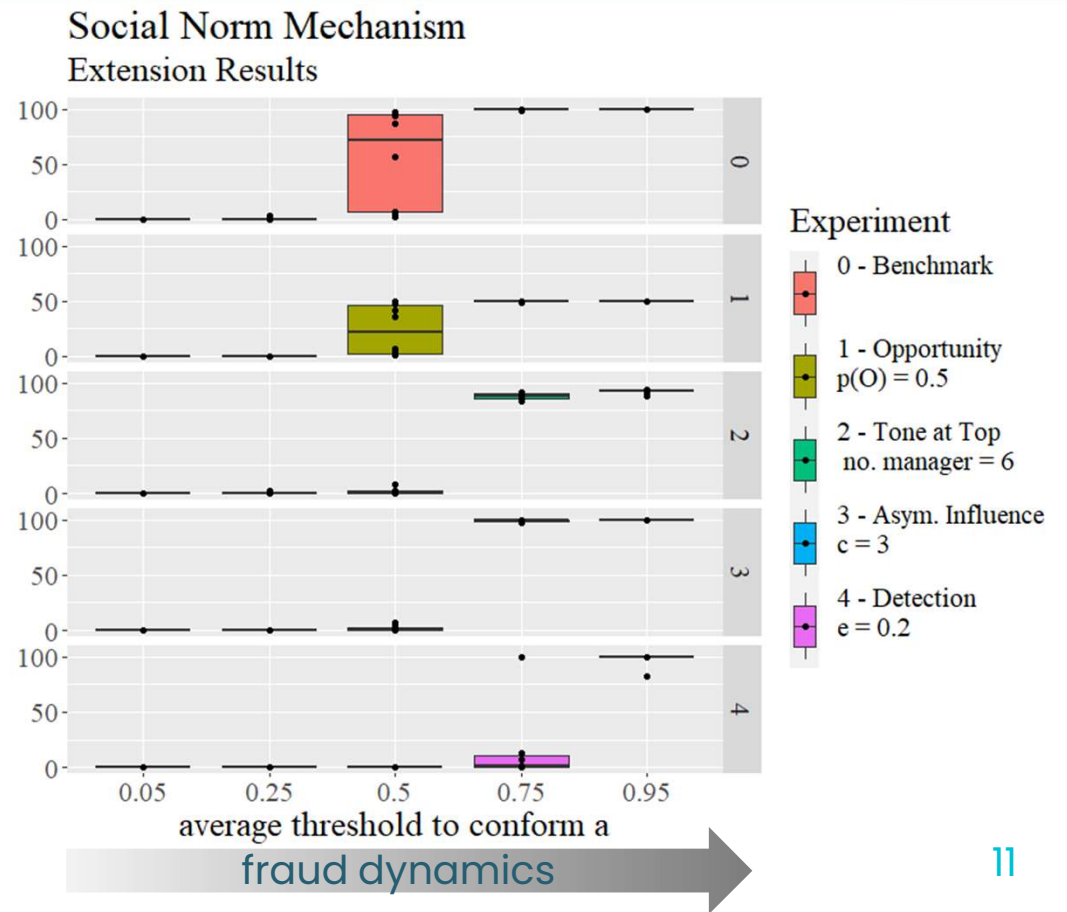
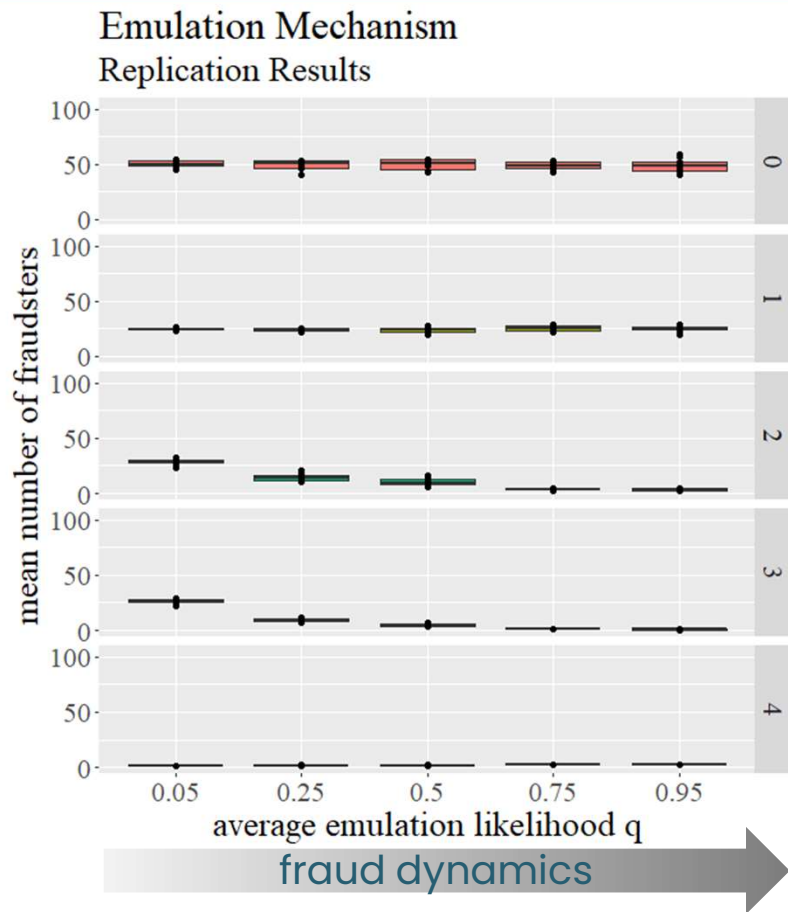
# 3. Results



# Internal Validation in Terms of Qualitative Findings

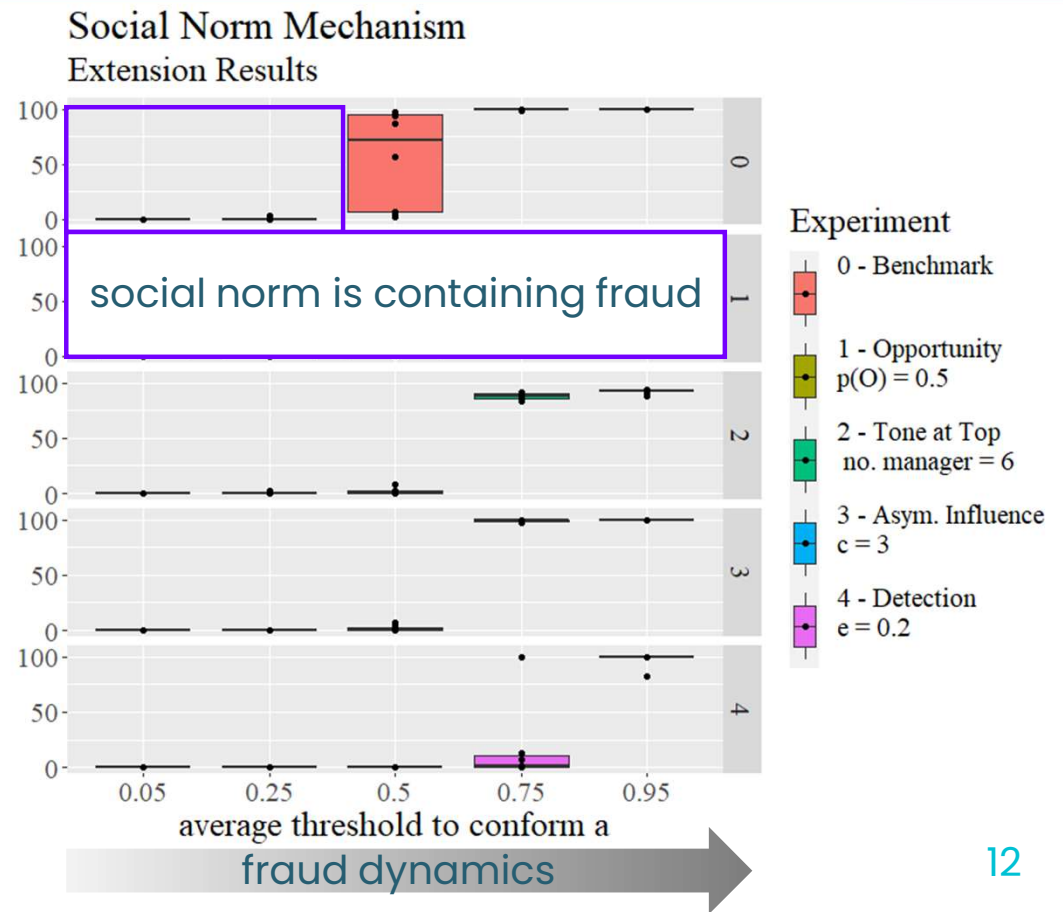
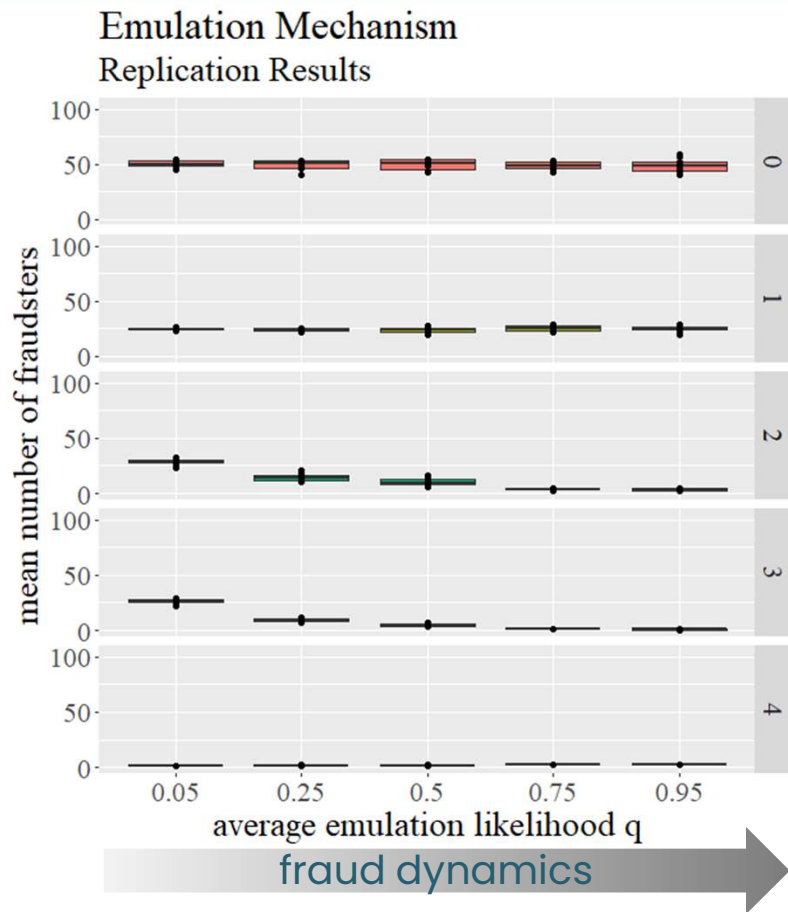


# Effectivity of Anti-Fraud Interventions in Comparison



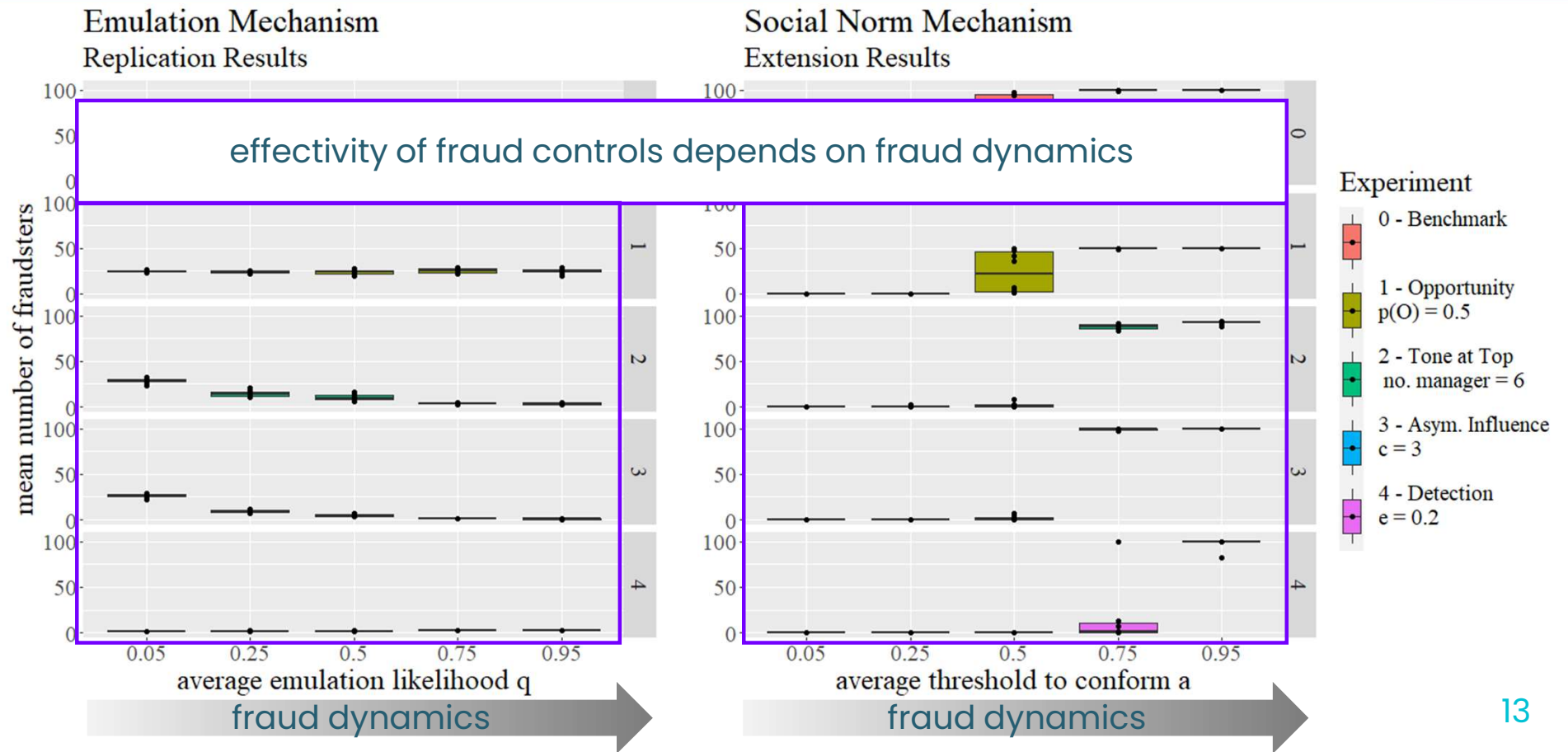
- Experiment
- 0 - Benchmark
  - 1 - Opportunity  $p(O) = 0.5$
  - 2 - Tone at Top no. manager = 6
  - 3 - Asym. Influence  $c = 3$
  - 4 - Detection  $e = 0.2$

# Effectivity of Anti-Fraud Interventions in Comparison

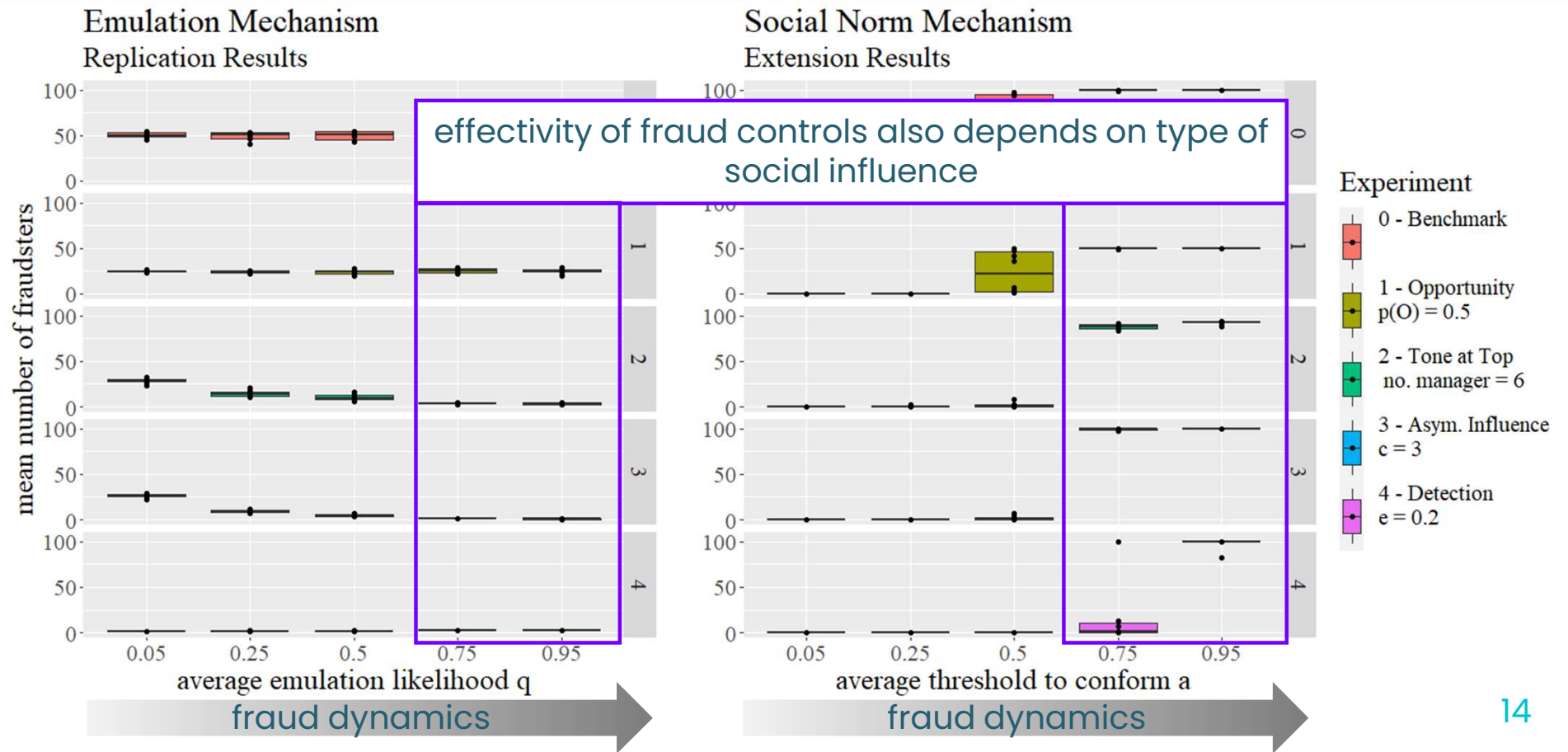


- Experiment
- 0 - Benchmark
  - 1 - Opportunity  $p(O) = 0.5$
  - 2 - Tone at Top no. manager = 6
  - 3 - Asym. Influence  $c = 3$
  - 4 - Detection  $e = 0.2$

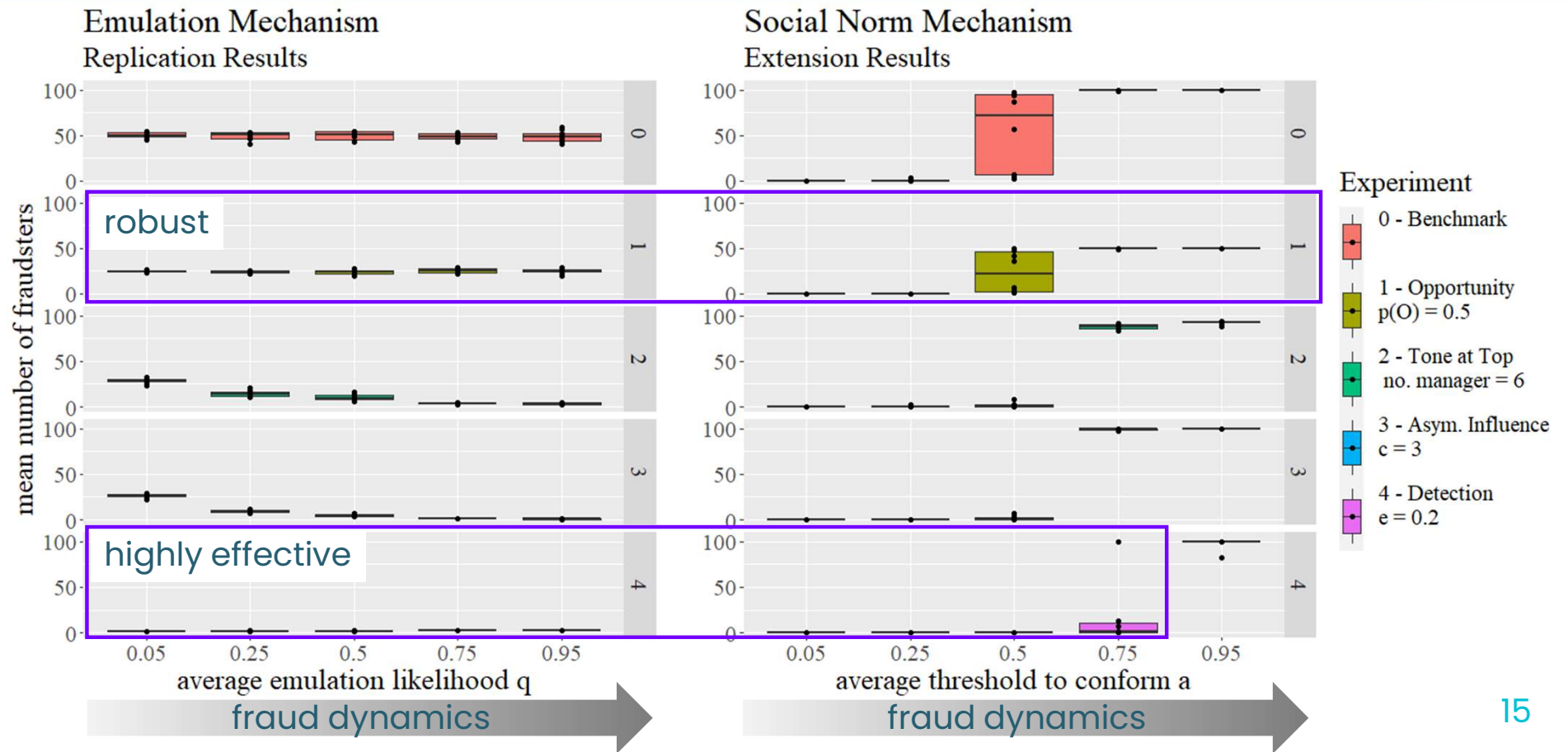
# Effectivity of Anti-Fraud Interventions in Comparison



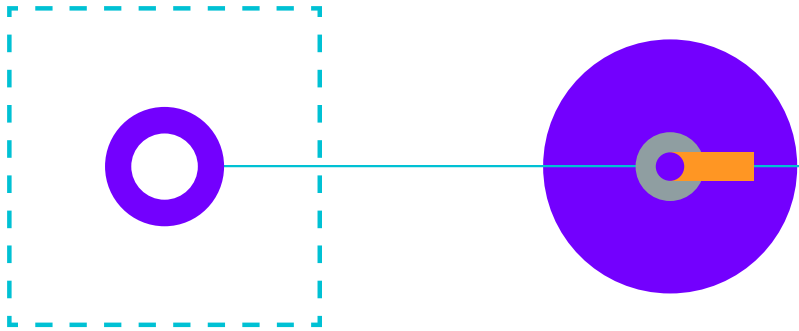
# Effectivity of Anti-Fraud Interventions in Comparison



# Effectivity of Anti-Fraud Interventions across Conditions



# 4. Contribution



## Contributions to Theory and Practice

1. We **test internal validity** of Davis and Pesch's (2013) (DP) model and their reported results and **increase confidence** in their model and findings
2. We **extend** the DP model with a **social norm** mechanism and **compare** the results
  - **identify** social norm as a potential anti-fraud intervention
  - **confirm** that effectivity of fraud controls depends on **fraud dynamics**
  - **find out** that effectivity of fraud controls also depends on **type of social influence** (i.e., unbiased/emulation vs. biased/social norm)
3. We derive further practical implications for containing fraud:
  - nourishing a **social norm** may constitute a **potential lever** in its own right
  - In case of doubt:
    - **detection** is a **highly effective lever** across **all but one** condition investigated
    - **opportunity** is an **effective lever** across **all** conditions investigated

# Thank you!

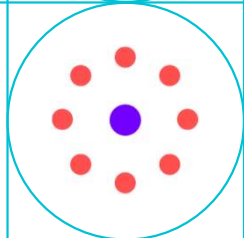
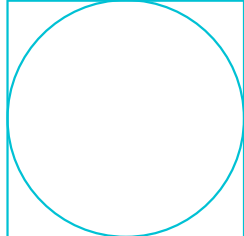
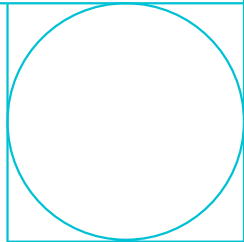
We would also like to thank:

**Clara Robertson** – for implementing the replication and the extension models in R as well as for her analytical support.

**Magdalena Michalka** – for designing the info grafics used and adapted for the purposes of this presentation.

Possible errors are entirely ours.

[tuhh.de](http://tuhh.de)



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