

# **Video Analysis & Behavioral Coding in Experiments: Applications in Team Creativity**

**Time frame: 9 hours (1.5 days)**

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**Date:**

- **9:00 – 10:00, 7 February, 2023, Preliminary Online Session**
- **9:30 – 12:00, 14:00-17:00, 16 February, 2023**
- **Creative Dinner 19:00-21:00, 16 February, 2023**
- **9:00 – 12:00, 17 February, 2023**

**Location: Reichenhainer Campus, Chemnitz**

**Prerequisite: One laptop for each participant (should be able to run coding software BORIS)**

**Registration: Participation is limited (max. 15 participants).**

## **1. Purpose of the Workshop**

Experiments, Video Analysis and Behavioral Coding Workshop is an exchange learning platform for doctoral students on the theme of experiments, video analysis and behavioral coding methods and their application in team creativity research. Through a variety of interactive and cooperative learning methods, such as lectures, team experiments, behavioral coding practice and discussion, students are provided with an open learning environment, so that they can fully comprehend the concepts of

experiment, video data and behavioral coding method, comprehend the process of designing experimental paradigms, and master the behavioral coding method's in-depth operation and application. At the same time, they should also understand the application of experiments and behavioral coding methods in the research of team creativity, and offer their own ideas for how team creativity experimental settings and coding techniques might evolve in the future.

## 2. Content

### 2.0 Preliminary Online Session (1 hour)

- (1) readings sharing (in a cloud folder)
- (2) paper presentation assigning

### 2.1 Introduction (3 hours)

- (1) Kick-off. Introduction of the teacher and the students and the background. (0.5h)
- (2) Introduction and presentation of experiment and behavioral coding methods and literature. (1.0h)

The overall concepts of experiment, video analysis and behavioral coding methods will be introduced. **Students will read and make presentations about the following literature. There is a discussion following each presentation.**

- [1] Wilson, J. M., Fletcher, T. D., Pescosolido, T., Major, D. A. Extraversion and leadership emergence: differences in virtual and face-to-face teams. *Small Group Research*, 2021, 52(5): 535-564.
- [2] Waller, M. J., Kaplan, S. A. Systematic behavioral observation for emergent team phenomena: Key considerations for quantitative video-based approaches. *Organizational Research Methods*, 2018, 21(2): 500-515.
- [3] Lehmann-Willenbrock, N., Allen, J. A. How fun are your meetings? Investigating the relationship between humor patterns in team interactions and team performance. *Journal of Applied Psychology*, 2014, 99(6): 1278-1287.
- [4] Lehmann-Willenbrock, N., Meinecke, A. L., Rowold, J., Kauffeld, S. How transformational leadership works during team interactions: A behavioral process analysis. *The Leadership Quarterly*, 2015, 26(6): 1017-1033.

- (3) Presentation of team creativity research. (1.0h)

**Students will read and make presentations about the following literature of**

**experimental and behavioral coding in team creativity. There is a discussion following each presentation.**

- [1] Zhao, Y., Gui, HY., Hu, TJ., Xu, K. Cognitive Differences and the Coding Analysis of the Interaction Behavior Patterns in the Innovation Team. *Frontiers In Psychology*, 2022, 13: 918238. doi: 10.3389/fpsyg.2022.918238.
- [2] Michael, R., Parke, Myeong-Gu, S., Xiaoran, H., Sirkwoo, J. The Creative and Cross-Functional Benefits of Wearing Hearts on Sleeves: Authentic Affect Climate, Information Elaboration, and Team Creativity. *Organization Science*, 2021, 33(2): 600-623.
- [3] Xie, L., Han, S. J., Beyerlein, M., Lu, J., Vukin, L., Boehm, R. Shared leadership and team creativity: a team level mixed-methods study. *Team Performance Management: An International Journal*, 2021, 16(2): 466-492.

(4) Further reading of EEG related literature

- [1] Hu, Y., Pan, Y., Shi, X., Cai, Q., Li, X., Cheng, X. Inter-brain synchrony and cooperation context in interactive decision making. *Biological Psychology*, 2018, 133: 54-62.
- [2] Reinero, D. A., Dikker, S., Van Bavel, J. J. Inter-brain synchrony in teams predicts collective performance. *Social Cognitive and Affective Neuroscience*, 2021, 16(1-2): 43-57.

(5) Teacher summarizes the results of literature reading, Q&A, and discussion. (0.5 h)

**2.2 Experiment**

**(3 hours)**

- 1) Group forming, props distributing
- 2) Experiment recording equipment preparing & checking
- 3) Experiment rules explaining
- 4) Experiment conducting and video recording
- 5) Experiment guide book filling, questionnaire filling
- 6) Experiment paradigm explaining
- 7) Discussion, interaction, and suggestions

**Creative Dinner**

### **2.3 Coding Practice & Summarization**

**(3 hours)**

- 1) AIFI coding scheme introducing
- 2) Coding software BORIS training
- 3) Behavioral coding practice of team creativity experiment
- 4) Interaction, summarization, and suggestions for future research

**After the workshop, each PhD student should submit the coding result as an assignment.**