

The impact of learning supervision in dynamic face learning conditions

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INTRODUCTION

- ◆ Lab-based studies have shown that explicitly instructing participants to learn faces and exposing them to “within-person variability” (e.g., changes in appearance, lighting, context, and viewpoint) facilitates learning new faces^{1,2} and that face recognition improves with increasing exposure³. But in real life, people might not attempt to study faces of new people they meet which may affect the face learning process.
- ◆ In contrast, recent real-world data using famous actors indicate that stability in appearance supports early stages of learning⁴ and that changes in appearance disrupt recognition regardless of familiarity levels⁵.
- ◆ To gain insights into the face learning process, we conducted four experiments implementing both incidental (closer to real life situations in which faces are learned; Exp. 1) and explicit learning (Exp. 2,3,4) procedures with varying levels of exposure.
- ◆ We specifically manipulated variability in appearance and expected an advantage for stable faces with lower exposure levels. We hypothesized that increased levels of exposure would improve recognition performance, but less so for stable faces than for variable faces in which increased variations would encourage a more costly encoding of finer diagnostic details.

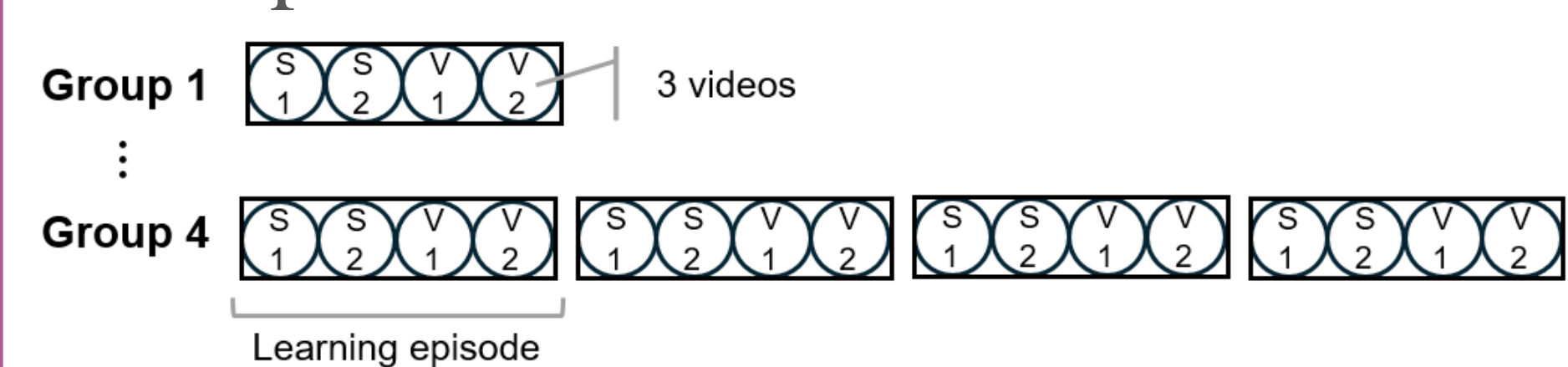
METHODS

Learning conditions: 2 stable faces, 2 variable faces.

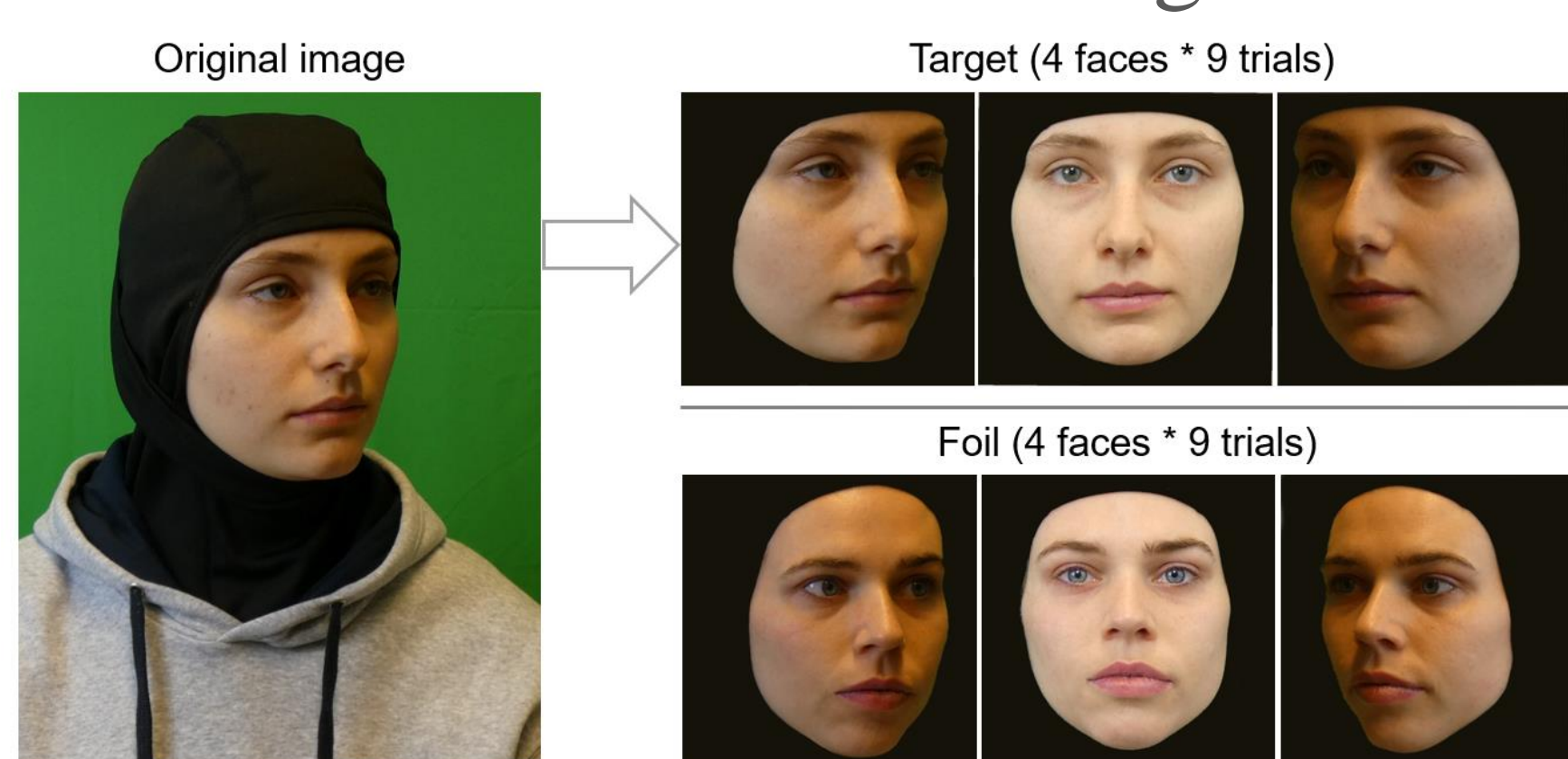
Stable condition Variable condition



Video presentation method:



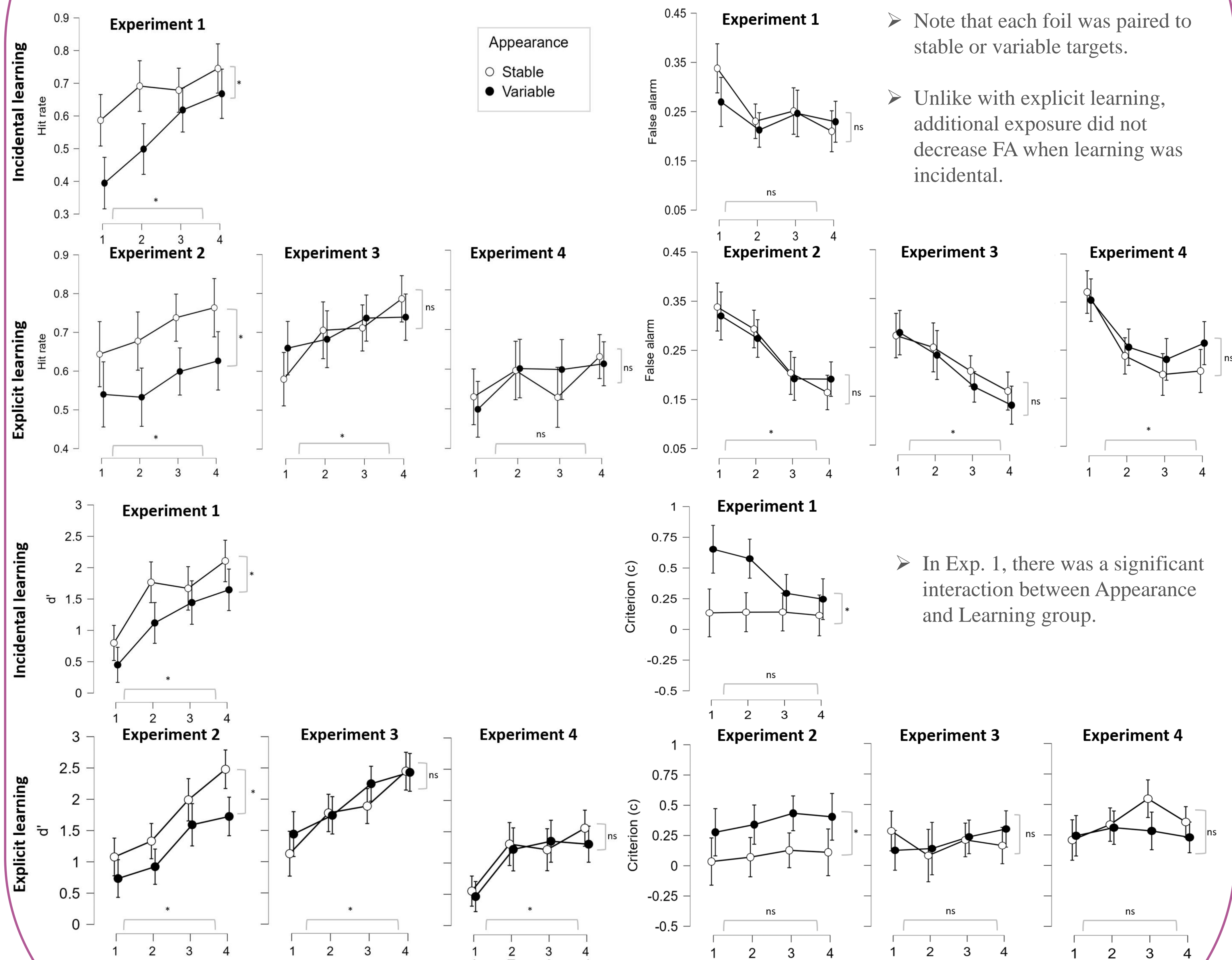
Test materials used in the recognition test:



Each experiment recruited 184 participants (46 per group), except for Experiment 1, which recruited 187 participants (48 in Group 1, 47 in Group 2).

RESULTS

- Groups 1, 2, 3, and 4 represent learning groups exposed to 3, 6, 9, and 12 videos per face, respectively.



➤ Note that each foil was paired to stable or variable targets.

➤ Unlike with explicit learning, additional exposure did not decrease FA when learning was incidental.

➤ In Exp. 1, there was a significant interaction between Appearance and Learning group.

- Recognition performance was higher for stable faces than for variable ones when test images were similar to the learning materials in the stable condition (Exp. 1 and 2).

CONCLUSIONS

Regardless of whether participants learned faces under incidental (Exp. 1) or explicit learning (Exp. 2), their recognition performance was comparable. However, FA rates did not significantly vary with exposure if learning was incidental. No interaction was observed between learning groups and appearance conditions on any measure, except for criterion c in Experiment 1. In learning conditions close to real life (i.e. involving motion, variations in lighting, viewpoint), stability can foster reliable face representations, whether faces are learned incidentally or explicitly.

REFERENCES

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