

# The role of variability in appearance in dynamic face learning conditions

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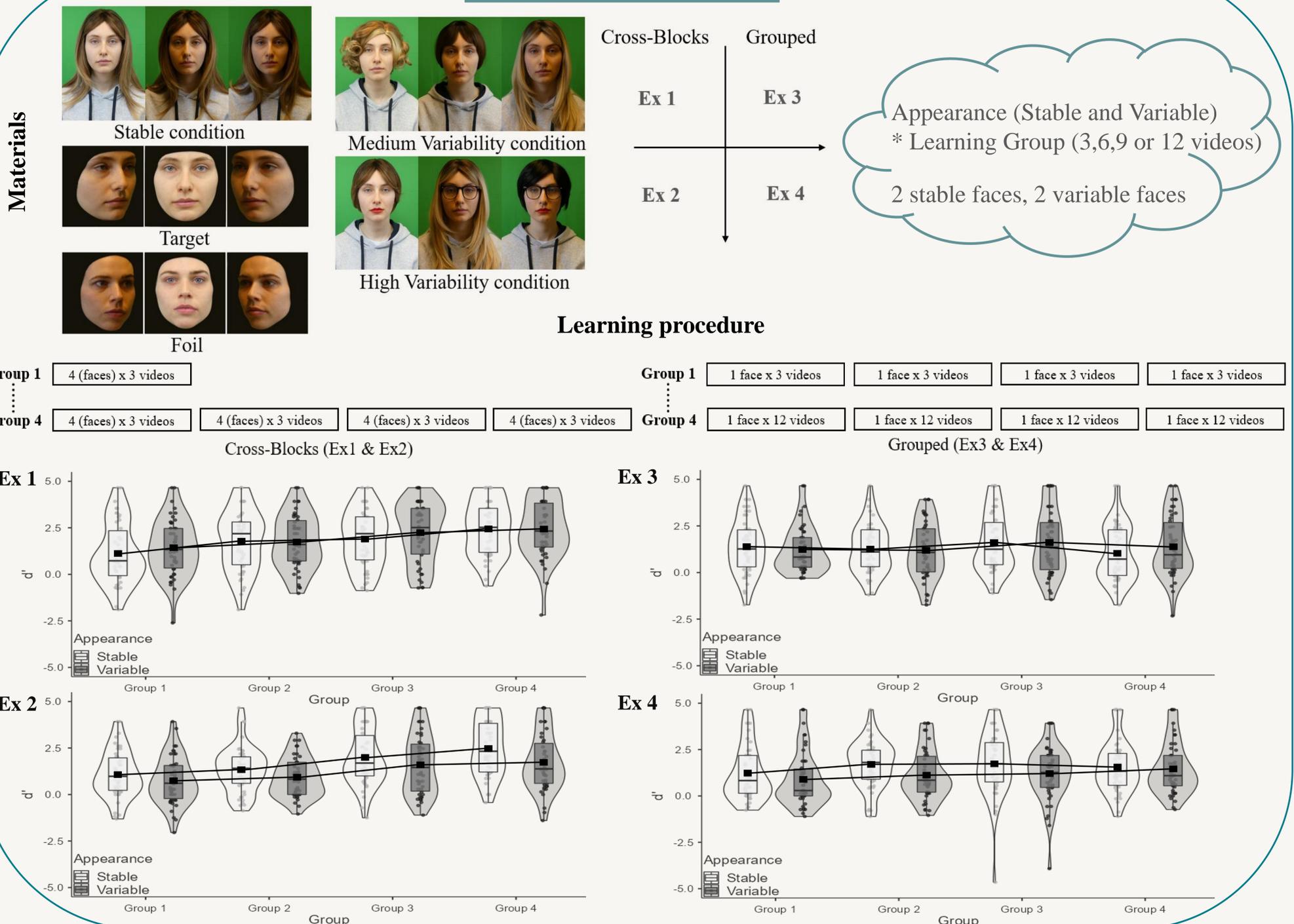
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## INTRODUCTION

- ◆ Lab-based studies have shown that exposure to “with-person variability” (i.e. appearance, light, context, viewpoint) is a crucial factor in facilitating face learning<sup>1,2</sup> and that face recognition improves with increasing exposure<sup>3</sup>.
- ◆ However, the learning mechanism itself is unclear as multiple factors vary in ambient images they use<sup>4</sup>.
- ◆ Recent data suggest that in the real world, stability in appearance specifically facilitates learning during early stages<sup>5</sup>.
- ◆ To reconcile these data, we propose a dynamic and cost-efficiency face learning mechanism through which diagnostic facial information would be stored following a coarse-to-fine encoding mechanism.
- ◆ 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 & RESULTS



## CONCLUSIONS

- Unexpectedly, recognition performance was consistently higher under stable conditions, especially when the test images were similar to the learning materials in the stable condition (Experiments 2 and 4).
- No interaction was observed between learning groups and appearance conditions.
- In conditions close to real life (i.e. motion, variations in lighting, viewpoint), stability helps build reliable face representations.

## REFERENCES

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