Introduction

Previous studies have shown that East Asians differ from Westerners in their visual strategies for face processing. Notably, they present different patterns of eye movements and a preference for lower spatial frequencies (SF)¹⁻³. While many theories have been proposed to explain these differences, the lack of diversity of samples makes it hard to identify which aspect of culture is related to these differences. The present study has aimed to extract SF and spatial orientation (SO) tunings for a much larger sample, including 8 distinct cultural sub-samples, in hopes of contributing to the identification of potential underlying mechanisms for these differences.

Method

- 550 participants, divided across cultural regions proposed by;
 - African countries (n = 70)
 - East Asia (n = 45)
 - Eastern Europe (n = 83)
 - English speaking countries (n = 63)
 - Latin America (n = 89)
 - Middle East (n=50)
 - Southern Asia (n=72)
 - Western Europe (n=78)
- Same/Different face matching task.
- Stimuli filtered with SFO Bubbles⁴
- Study run online through Prolific, *Figure 2*. Stimuli filtering process using Vpixx Pack & Go⁵ to stream **Références** the experiment.



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Results



Filtered face

Broadband face

10 00

and

Fourier amplitude

FFT

- .05). Southern Western .025).

This study replicated previous results, revealing differences in SF tunings between Eastern and Western cultures. Lower sample size for the East Asian group may have led to decreased statistical power. We plan to replicate this study and investigate how the filtering method could affect the results, as well as potential underlying mechanisms for this trend.

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SFO Bubbles

When collapsing across SO, a trend can be observed where certain show different cultures patterns of use peaking at 18 cycles per face (See Figure 3b; F_{crit} = 3.95, *p* <

A significant difference can be observed between Asians and ^{a)} Europeans (Figure 4a; $T_{crit} = 2.3, p <$ Though nonsignificant, the same trend can be observed with East Asians.

Spatial Frequency (Cycles per Face cultures.



Conclusion







Figure 3. a) Spatial frequency tunings for all cultures, collapsed across orientations. b) ANOVA across all

Figure 4. a) Spatial frequency tunings of Western Europeans and Southern Asians. b) Spatial frequency tunings of Western Europeans and Eastern Asians.

