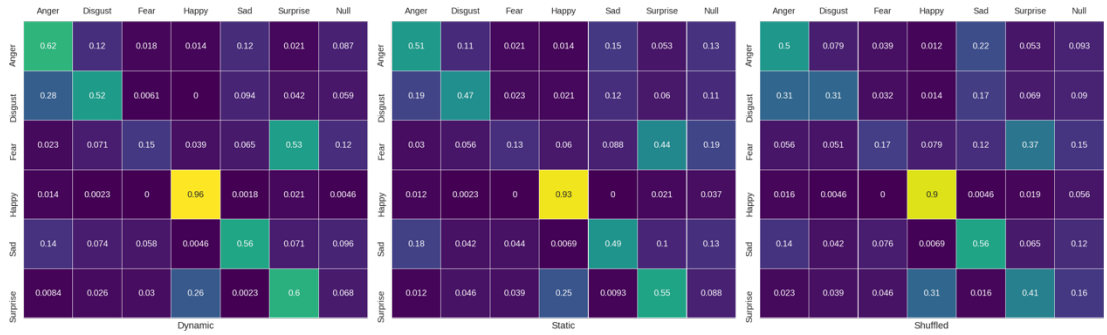
Supplementary results

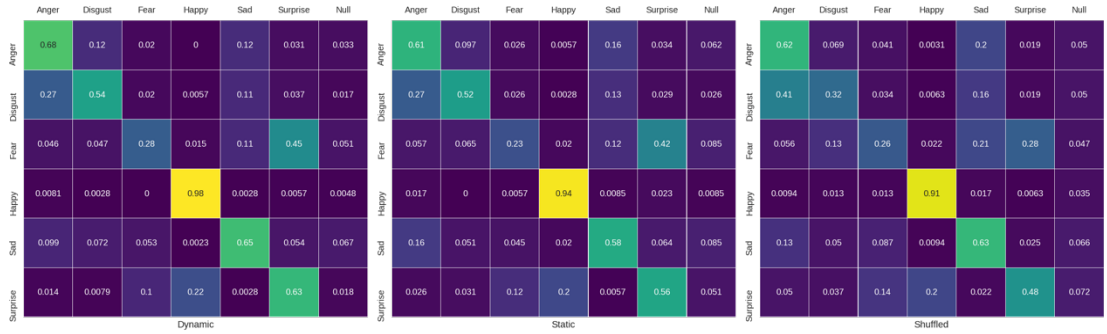
https://github.com/iBMLab/Static_dynamic

Supplementary Figures

5–6 age group



7–8 age group



9–10 age group

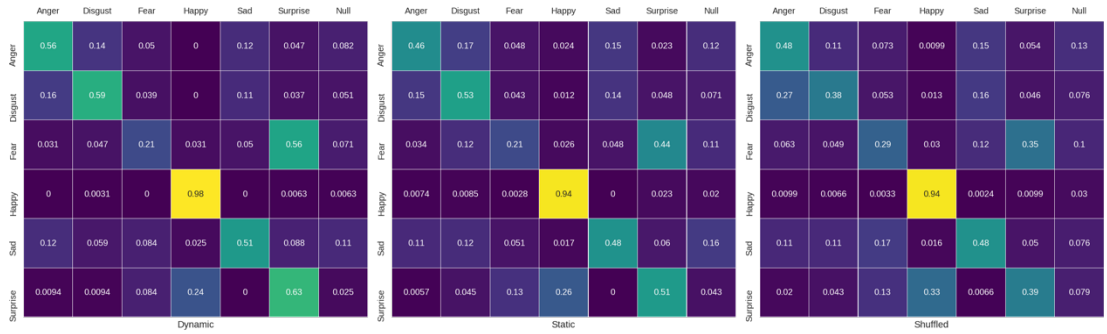
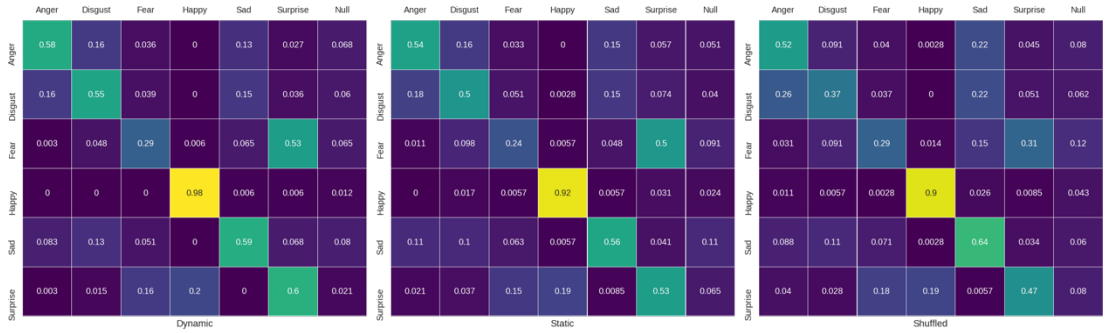


Figure 12A. Confusion matrices – Response classification errors. Each row displays one of the six presented facial expressions, while each column shows the average frequency of the

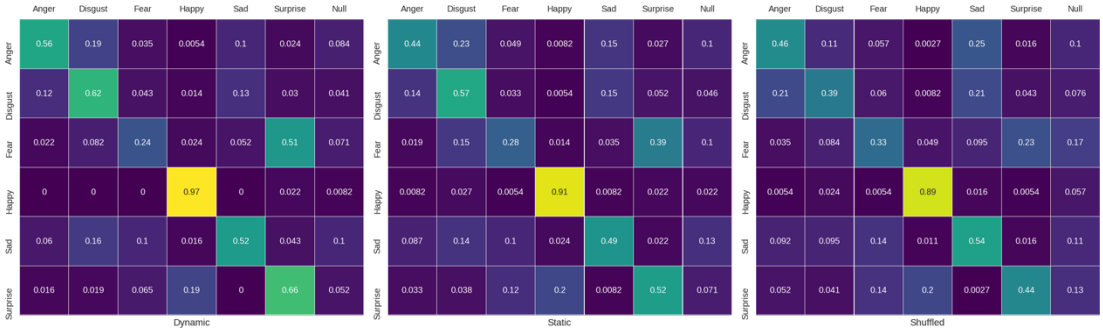
response given by the observers (Null indicates a "I don't know" response). For example, in the 5–6 age group, when presented with fear, the confusion rates observed for surprise reached up to 53% in the dynamic condition, 44% in the static, and 37% in the shuffled condition.

There is a correspondence between the colourmap and the numbers displayed in the matrix, with dark blue tones indicating low frequency while blue-to-green shades indicate high frequency. The values in the main diagonal indicate the recognition performance for each expression.

11–12 age group



13–14 age group



15–16 age group

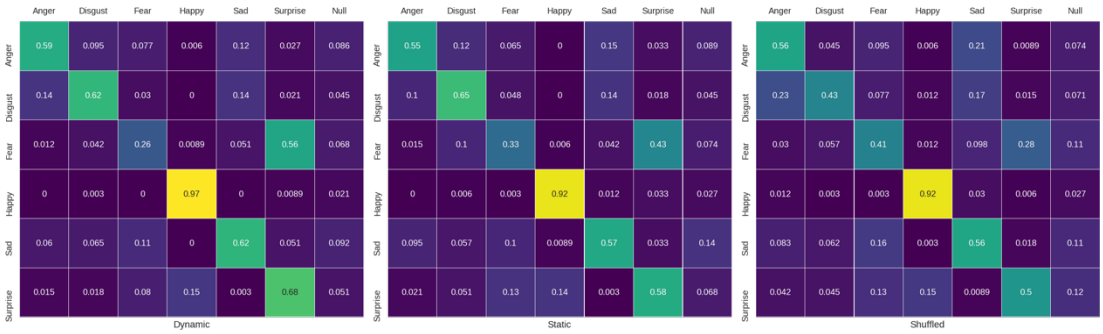
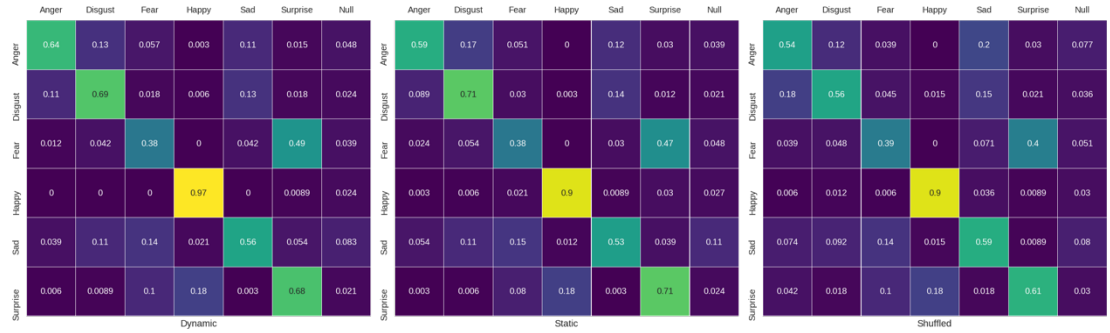


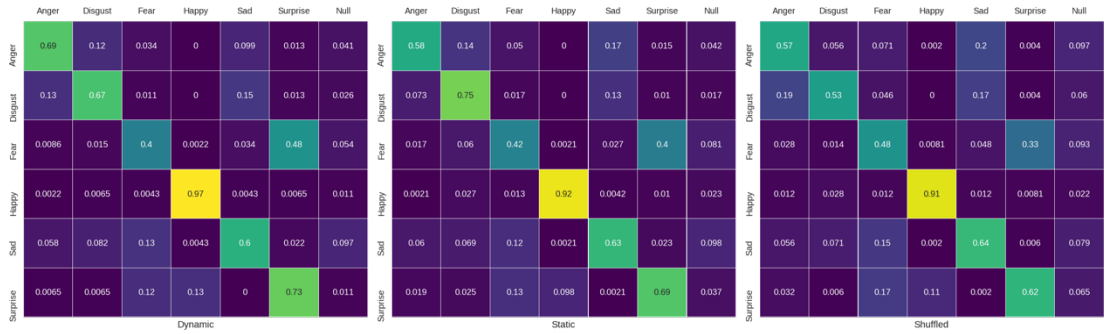
Figure 12B. Confusion matrices – Response classification errors. Each row displays one of the six presented facial expressions, while each column shows the average frequency of the response given by the observers (Null indicates a "I don't know" response).

There is a correspondence between the colourmap and the numbers displayed in the matrix, with dark blue tones indicating low frequency while blue-to-green shades indicate high frequency. The values in the main diagonal indicate the recognition performance for each expression.

17–18 age group



19–20 age group



21–30 age group

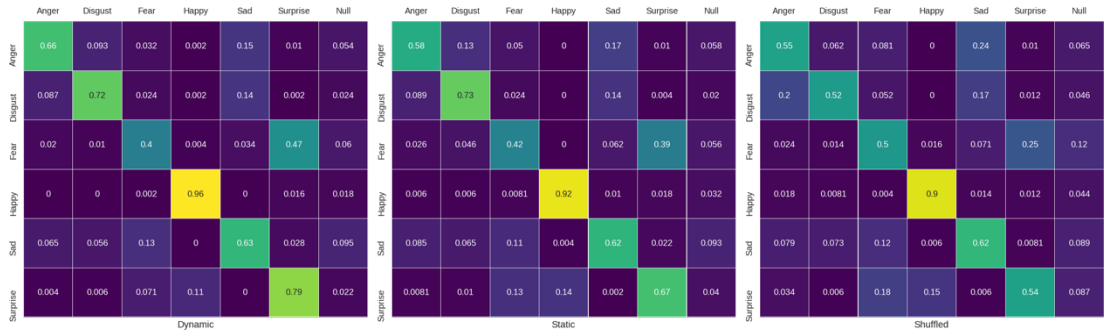
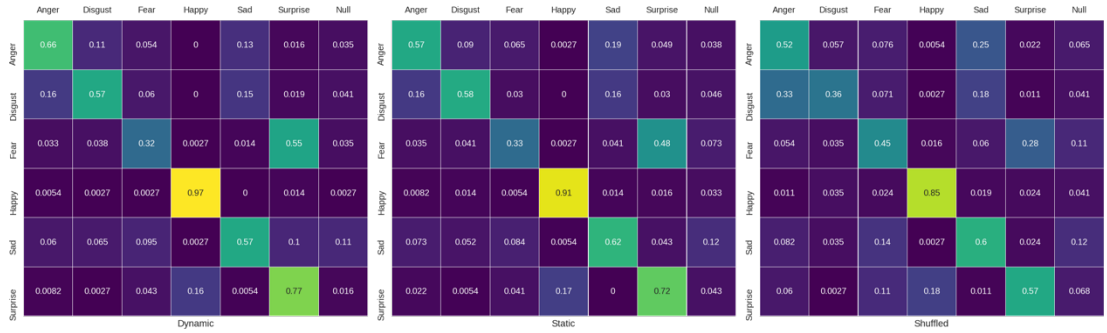


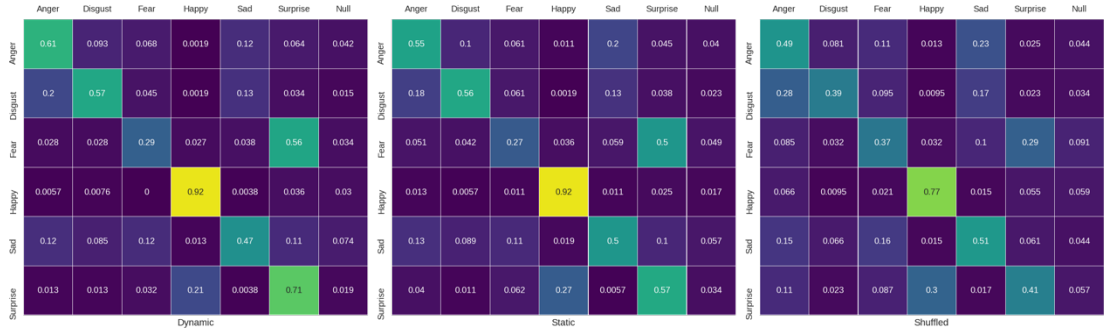
Figure 12C. Confusion matrices – Response classification errors. Each row displays one of the six presented facial expressions, while each column shows the average frequency of the response given by the observers (Null indicates a "I don't know" response).

There is a correspondence between the colourmap and the numbers displayed in the matrix, with dark blue tones indicating low frequency while blue-to-green shades indicate high frequency. The values in the main diagonal indicate the recognition performance for each expression.

31–40 age group



41–50 age group



51–60 age group

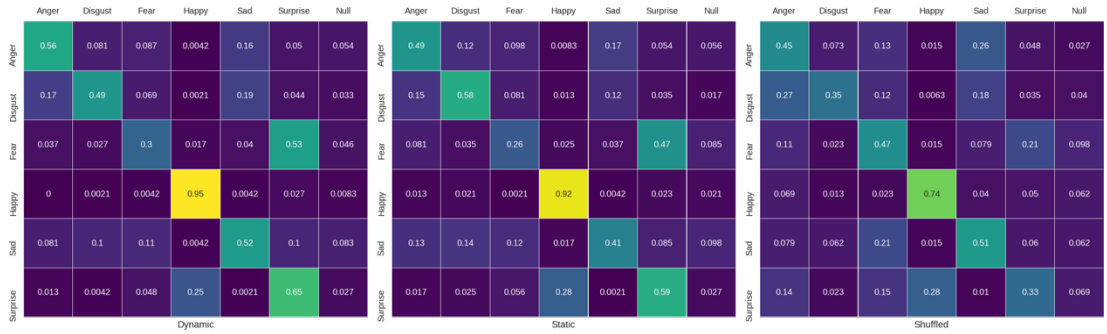
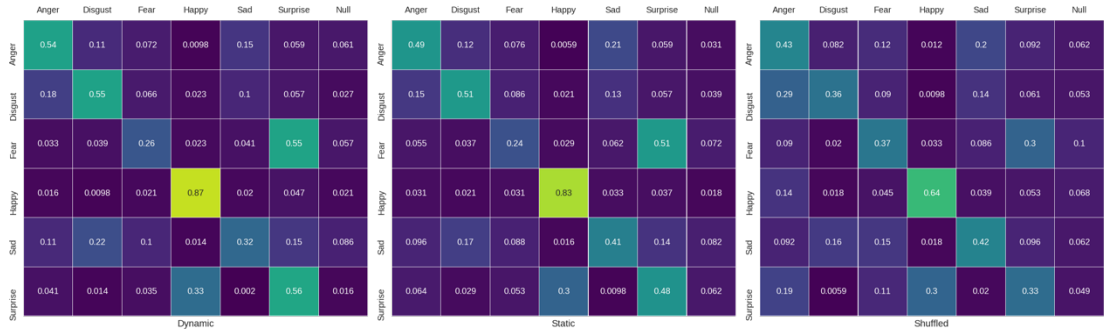


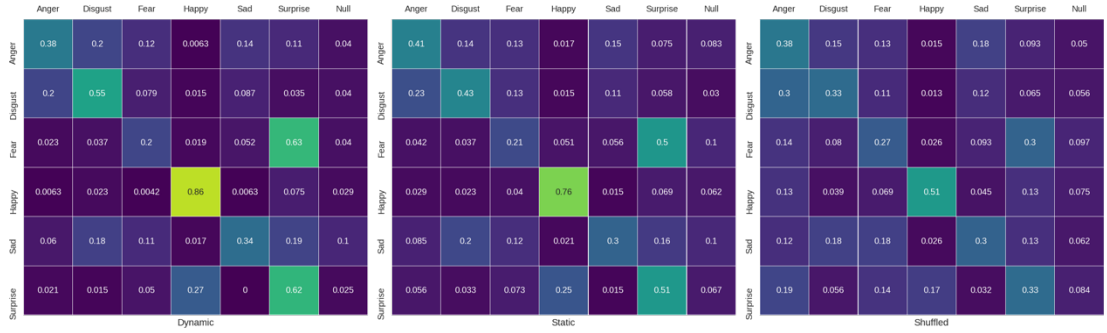
Figure 12D. Confusion matrices - Response classification errors. Each row displays one of the six presented facial expressions, while each column shows the average frequency of the response given by the observers (Null indicates a "I don't know" response).

There is a correspondence between the colourmap and the numbers displayed in the matrix, with dark blue tones indicating low frequency while blue-to-green shades indicate high frequency. The values in the main diagonal indicate the recognition performance for each expression.

61–70 age group



71–80 age group



81–90 age group

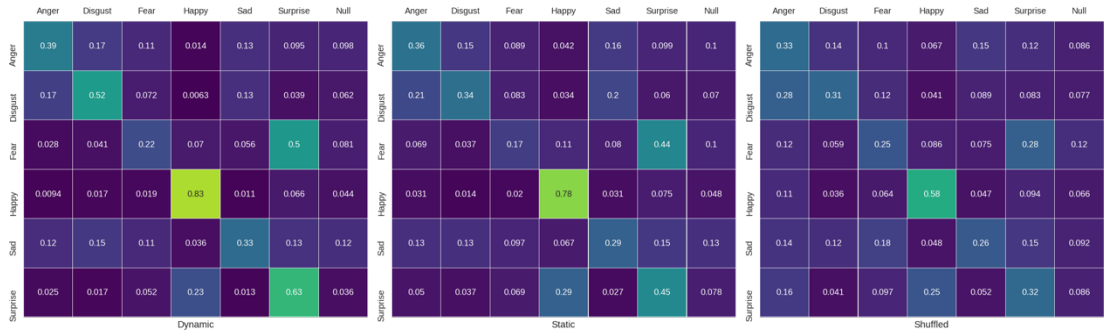


Figure 12E. Confusion matrices - Response classification errors. Each row displays one of the six presented facial expressions, while each column shows the average frequency of the response given by the observers (Null indicates a "I don't know" response).

There is a correspondence between the colourmap and the numbers displayed in the matrix, with dark blue tones indicating low frequency while blue-to-green shades indicate high frequency. The values in the main diagonal indicate the recognition performance for each expression.

Supplementary Table

Table 1. Recognition performance for surprise between the dynamic and static conditions at peak efficiency and above the age of 80.

	Dynamic	Static	**Condition effect (Δ= Dynamic – static)**
PE	75.8%	70%	**5.8%**
> 80	62.8%	45%	**17.8%**
Age effect on the conditions (Δ=PE - >80)	**13%**	**25%**	

Note. PE = recognition performance at peak efficiency; > 80 = recognition performance for all the observers above the age of 80 (N = 41).

As shown in Table 1, we observed an overall advantage for the processing of the dynamic facial expression of surprise over the static one. This advantage was even more marked for the above 80-year-old observers (Δ Dynamic – static). Importantly, the recognition performance of the dynamic expression of surprise decreased from 75.8% at peak efficiency to 62.8% after the age of 80 (Δ = 13%). For the static expression of surprise, the recognition performance dropped from 70% at peak efficiency to 45% after the age of 80 (Δ = 25%). When the performance of the observers above the age of 80 is compared to the performance at the peak efficiency (ΔPE – >80), then the difference in the static condition is nearly twice as large that in the dynamic condition. This pattern of results favors the view that the dynamic advantage for the recognition of facial expressions of emotion is driven by a suboptimal performance for static stimuli.