

Effect of age and gender on face scanning during affect recognition in immersive virtual reality

Supplementary Material A. Summaries of viewing time results by emotion and age

Table A.1. Summary of the viewing time results by emotion in young adults.

NEUTRAL	Hits	Misses
Most viewed AOIs	EY (30.98%), FH (20.04%) MT (18.12%)	EY (39.09%), MT (27.17%)
Statistical significance	Yes ($\chi^2(5) = 45.885, p < 0.001$) for <ul style="list-style-type: none"> • EY > FH ($p = 0.002$), EY > CH ($p = 0.002$), EY > MT ($p = 0.013$), EY > BG ($p < 0.001$) • BG < NS ($p = 0.001$), BG < MT ($p = 0.022$) 	No ($\chi^2(5) = 7.581, p = 0.181$)
SURPRISE	Hits	Misses
Most viewed AOIs	EY (31.90%) FH (19.09%)	EY (30.67%), FH (24.94%)
Statistical significance	Yes ($\chi^2(5) = 50.501, p < 0.001$) for <ul style="list-style-type: none"> • EY > FH ($p = 0.006$), EY > CH ($p = 0.003$), EY > MT ($p = 0.028$), EY > BG ($p < 0.001$) • BG < FH ($p = 0.036$), BG < NS ($p < 0.001$), BG < MT ($p = 0.009$) 	No ($\chi^2(5) = 7.441, p = 0.190$)
FEAR	Hits	Misses
Most viewed AOIs	EY (28.79%), FH (24.18%)	EY (29.78%), FH (20.90%) NS (19.31%)
Statistical significance	Yes ($\chi^2(5) = 41.086, p < 0.001$) for <ul style="list-style-type: none"> • EY > CH ($p = 0.011$), EY > MT ($p = 0.017$), EY > BG ($p < 0.001$) • BG < FH ($p = 0.007$), BG < NS ($p < 0.001$) 	Yes ($\chi^2(5) = 42.298, p < 0.001$) for <ul style="list-style-type: none"> • EY > MT ($p = 0.031$), EY > BG ($p < 0.001$) • NS > BG ($p < 0.001$)
ANGER	Hits	Misses
Most viewed AOIs	EY (27.50%) FH (19.02%), NS (18.99%)	EY (40.14%) NS (19.37%)
Statistical significance	Yes ($\chi^2(5) = 37.841, p < 0.001$) for <ul style="list-style-type: none"> • EY > FH ($p = 0.007$), EY > CH ($p = 0.007$), EY > BG ($p < 0.001$) • NS > BG ($p < 0.001$) 	No ($\chi^2(5) = 10.630, p = 0.059$)
DISGUST	Hits	Misses
Most viewed AOIs	EY (27.87%) NS (19.48%), MT (18.25%)	EY (28.56%), FH (26.03%), NS (20.22%)
Statistical significance	Yes ($\chi^2(5) = 36.826, p < 0.001$) for <ul style="list-style-type: none"> • EY > FH ($p = 0.065$), EY > CH ($p = 0.022$), EY > MT ($p = 0.036$), EY > BG ($p = 0.006$) • NS > BG ($p < 0.001$) 	Yes ($\chi^2(5) = 23.354, p < 0.001$) for <ul style="list-style-type: none"> • EY > BG ($p = 0.017$) • NS > BG ($p = 0.031$)
JOY	Hits	Misses
Most viewed AOIs	EY (24.15%), MT (23.13%), NS (21.71%)	EY (30.26%) MT (19.09%), NS (18.86%), CH (18.42%)
Statistical significance	Yes ($\chi^2(5) = 47.560, p < 0.001$) for <ul style="list-style-type: none"> • EY > FH ($p = 0.001$), EY > BG ($p < 0.001$) • NS > FH ($p = 0.001$), NS > BG ($p < 0.001$) • BG < CH ($p = 0.028$), BG < MT ($p = 0.006$) 	No ($\chi^2(5) = 10.541, p = 0.061$)
SADNESS	Hits	Misses
Most viewed AOIs	EY (31.43%) FH (17.70%), NS (17.16%)	EY (24.95%), MT (24.09%) FH (19.72%), NS (18.14%)
Statistical significance	Yes ($\chi^2(5) = 40.909, p < 0.001$) for <ul style="list-style-type: none"> • EY > FH ($p = 0.028$), EY > CH ($p < 0.001$), EY > MT ($p = 0.022$), EY > BG ($p < 0.001$) • NS > BG ($p = 0.001$) 	Yes ($\chi^2(5) = 25.424, p = 0.001$) for <ul style="list-style-type: none"> • EY > BG ($p = 0.002$) • NS > BG ($p = 0.006$)

Table A.2. Summary of the viewing time results by emotion in middle-aged adults.

NEUTRAL	Hits	Misses
Most viewed AOIs	EY (22.15%), FH (21.23%), MT (20.40%) NS (17.47%)	FH (33.33%), BG (30.44%), MT (23.76%)
Statistical significance	Yes ($\chi^2(5) = 27.304, p < 0.001$) for <ul style="list-style-type: none"> • EY > BG ($p < 0.001$) • NS > BG ($p = 0.003$) 	No ($\chi^2(5) = 2.660, p = 0.752$)
SURPRISE	Hits	Misses
Most viewed AOIs	EY (21.93%) MT (19.76%), FH (19.10%)	FH (29.81%), EY (27.68%) NS (17.31%)
Statistical significance	Yes ($\chi^2(5) = 15.092, p = 0.010$) for <ul style="list-style-type: none"> • EY > CH ($p = 0.022$), EY > BG ($p = 0.015$) 	No ($\chi^2(5) = 8.565, p = 0.128$)
FEAR	Hits	Misses
Most viewed AOIs	EY (24.30%), FH (24.01%) MT (16.65%), BG (14.71%)	EY (26.43%) FH (19.01%)
Statistical significance	Yes ($\chi^2(5) = 24.490, p < 0.001$) for <ul style="list-style-type: none"> • EY > CH ($p < 0.001$), EY > BG ($p = 0.022$) • FH > CH ($p = 0.036$) 	Yes ($\chi^2(5) = 17.658, p = 0.003$) for <ul style="list-style-type: none"> • EY > BG ($p = 0.003$)
ANGER	Hits	Misses
Most viewed AOIs	EY (24.10%) FH (20.58%), MT (18.58%)	FH (22.92%), EY (21.56%), MT (20.80%) NS (14.03%)
Statistical significance	Yes ($\chi^2(5) = 22.685, p < 0.001$) for <ul style="list-style-type: none"> • EY > CH ($p = 0.025$), EY > BG ($p < 0.001$) 	Yes ($\chi^2(5) = 14.465, p = 0.013$) for <ul style="list-style-type: none"> • The pairwise comparison did not find differences among the AOIs.
DISGUST	Hits	Misses
Most viewed AOIs	EY (24.27%) NS (17.17%), MT (16.79%), FH (16.65%)	EY (26.40%) FH (19.35%)
Statistical significance	Yes ($\chi^2(5) = 14.774, p = 0.011$) for <ul style="list-style-type: none"> • EY > BG ($p = 0.006$) 	Yes ($\chi^2(5) = 20.313, p < 0.001$) for <ul style="list-style-type: none"> • EY > CH ($p = 0.009$), EY > BG ($p = 0.005$)
JOY	Hits	Misses
Most viewed AOIs	MT (24.29%) EY (19.89%), NS (18.36%)	BG (41.14%), MT (28.01%)
Statistical significance	Yes ($\chi^2(5) = 21.753, p < 0.001$) for <ul style="list-style-type: none"> • EY > BG ($p = 0.009$) • BG < NS ($p = 0.012$), BG < MT ($p = 0.032$) 	Yes ($\chi^2(5) = 21.086, p < 0.001$) <ul style="list-style-type: none"> • The pairwise comparison did not find differences among the AOIs.
SADNESS	Hits	Misses
Most viewed AOIs	EY (24.37%) FH (19.82%)	MT (26.43%), EY (20.95%) FH (19.51%)
Statistical significance	Yes ($\chi^2(5) = 25.466, p < 0.001$) for <ul style="list-style-type: none"> • EY > CH ($p = 0.017$), EY > BG ($p = 0.002$) • NS > CH ($p = 0.046$), NS > BG ($p = 0.005$) 	No ($\chi^2(5) = 8.243, p = 0.143$)

Table A.3. Summary of the viewing time results by emotion in older adults.

NEUTRAL	Hits	Misses
Most viewed AOIs	EY (27.55%), FH (20.71%), BG (20.17%)	EY (43.83%), MT (21.75%)
Statistical significance	Yes ($\chi^2(5) = 16.943, p = 0.005$) for • EY > CH ($p = 0.009$), EY > BG ($p = 0.035$)	No ($\chi^2(5) = 5.036, p = 0.412$)
SURPRISE	Hits	Misses
Most viewed AOIs	EY (25.27%), BG (22.04%) FH (19.61%)	BG (30.82%), EY (26.59%)
Statistical significance	Yes ($\chi^2(5) = 14.102, p = 0.015$) for • EY > CH ($p = 0.005$)	No ($\chi^2(5) = 5.911, p = 0.315$)
FEAR	Hits	Misses
Most viewed AOIs	EY (25.44%), FH (21.13%) BG (19.21%)	BG (27.29%), EY (22.42%)
Statistical significance	Yes ($\chi^2(5) = 14.345, p = 0.014$) for • EY > CH ($p = 0.023$)	No ($\chi^2(5) = 10.127, p = 0.072$)
ANGER	Hits	Misses
Most viewed AOIs	EY (24.54%), BG (23.73%) FH (18.64%)	EY (25.90%), BG (24.58%) NS (19.02%)
Statistical significance	No ($\chi^2(5) = 9.832, p = 0.080$)	No ($\chi^2(5) = 9.135, p = 0.104$)
DISGUST	Hits	Misses
Most viewed AOIs	EY (23.04%), BG (22.39%) FH (18.75%), NS (16.35%)	BG (25.80%), FH (25.58%), EY (21.45%)
Statistical significance	Yes ($\chi^2(5) = 16.199, p = 0.006$) for • EY > CH ($p = 0.011$), EY > MT ($p = 0.017$)	No ($\chi^2(5) = 5.342, p = 0.376$)
JOY	Hits	Misses
Most viewed AOIs	EY (24.12%), BG (21.72%) NS (17.20%), MT (17.08%)	BG (27.35%), FH (23.10%) EY (19.69%), MT (19.60%)
Statistical significance	Yes ($\chi^2(5) = 15.635, p = 0.008$) for • EY > CH ($p = 0.007$)	No ($\chi^2(5) = 7.258, p = 0.202$)
SADNESS	Hits	Misses
Most viewed AOIs	BG (22.05%), EY (21.77%) FH (19.64%)	EY (28.56%), BG (25.90%)
Statistical significance	Yes ($\chi^2(5) = 11.422, p = 0.044$) for • The pairwise comparison did not find differences among the AOIs.	Yes ($\chi^2(5) = 12.626, p = 0.027$) for • The pairwise comparison did not find differences among the AOIs.