<table>
<thead>
<tr>
<th>Panel</th>
<th>Parameter</th>
<th>Fixations to Distractors</th>
<th>Fixations to Targets</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Saccade Duration ($dt$) (ms)</td>
<td>30.0 ([27.0 34.0])</td>
<td>29.5 ([25.5 33.0])</td>
<td>0.6907</td>
</tr>
<tr>
<td>A</td>
<td>Horizontal Saccade Amplitude ($dx$) (deg)</td>
<td>0.433 ([0.124 0.994])</td>
<td>0.525 ([[-0.197 0.864])</td>
<td>0.7487</td>
</tr>
<tr>
<td>A</td>
<td>Vertical Saccade Amplitude ($dy$) (deg)</td>
<td>0.274 ([[-0.033 0.362])</td>
<td>0.049 ([[-0.183 0.506])</td>
<td>0.5847</td>
</tr>
<tr>
<td>B</td>
<td>Saccade Duration ($dt$) (ms)</td>
<td>30.0 ([27.0 34.0])</td>
<td>29.5 ([27.8 34.5])</td>
<td>0.7419</td>
</tr>
<tr>
<td>B</td>
<td>Horizontal Saccade Amplitude ($dx$) (deg)</td>
<td>0.453 ([0.027 1.079])</td>
<td>0.427 ([0.200 0.973])</td>
<td>0.9451</td>
</tr>
<tr>
<td>B</td>
<td>Vertical Saccade Amplitude ($dy$) (deg)</td>
<td>0.136 ([[-0.033 0.687])</td>
<td>0.230 ([[-0.049 0.739])</td>
<td>0.8363</td>
</tr>
<tr>
<td>B</td>
<td>Fixation Position within the sequence of saccades</td>
<td>10.0 ([8.0 11.0])</td>
<td>10.0 ([8.0 10.6])</td>
<td>0.8066</td>
</tr>
<tr>
<td>C</td>
<td>Saccade Duration ($dt$) (ms)</td>
<td>32.0 ([28.0 36.2])</td>
<td>32.0 ([28.0 34.5])</td>
<td>0.8075</td>
</tr>
<tr>
<td>C</td>
<td>Horizontal Saccade Amplitude ($dx$) (deg)</td>
<td>0.268 ([0.062 1.347])</td>
<td>0.577 ([0.200 1.347])</td>
<td>0.4486</td>
</tr>
<tr>
<td>C</td>
<td>Vertical Saccade Amplitude ($dy$) (deg)</td>
<td>0.230 ([[-0.256 0.608])</td>
<td>0.396 ([[-0.049 0.739])</td>
<td>0.4695</td>
</tr>
<tr>
<td>C</td>
<td>Previous Fixation Duration (ms)</td>
<td>500.0 ([436 528])</td>
<td>464 ([415 502])</td>
<td>0.2703</td>
</tr>
<tr>
<td>D</td>
<td>Saccade Duration ($dt$) (ms)</td>
<td>33.0 ([32.0 40.0])</td>
<td>34.0 ([31.8 40.5])</td>
<td>1.0000</td>
</tr>
<tr>
<td>D</td>
<td>Horizontal Saccade Amplitude ($dx$) (deg)</td>
<td>1.590 ([1.350 3.27])</td>
<td>1.870 ([1.564 2.832])</td>
<td>0.6459</td>
</tr>
<tr>
<td>D</td>
<td>Vertical Saccade Amplitude ($dy$) (deg)</td>
<td>0.388 ([[-0.355 0.611])</td>
<td>0.036 ([[-0.325 0.871])</td>
<td>0.4131</td>
</tr>
</tbody>
</table>

*Supplementary Table 1: Comparison between matched parameters in the analysis of the Supplementary Figure 3.*
Supplemental Figure 2:
Supplemental Figure 3: Early discrimination between Targets and Distractors, filtering fixations by different eye movements parameters.
Window-based statistic

FREE VIEWING

REPLAY

ODDBALL

Cluster-based statistic

FREE VIEWING

REPLAY

ODDBALL

Supplementary Figure 4: Discrimination between Targets and Distractors assessed with the window-based statistic (see Methods and Figure 4) and the cluster-based statistic implemented in FieldTrip.
Supplementary Figure 5: Discrimination between Targets and Distractors assessed only with the 11 participants which are contained in all the matching categories.