**Supplementary Materials to accompany**

**The Role of Selective Attention in Value-Modulated Attentional Capture**

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**What is the size of the VMAC effect compared to previous studies?**

In the main text, given our use of Linear Mixed Models, where there is no easy way for standardizing coefficients (Judd et al., 2017), we presented results in the raw RTs scale. However, to understand the practical implications of the present results, we performed a meta-analysis on previous studies employing the same design and settings. Specifically, this task is an almost exact replication of the task employed in Garre-Frutos et al. (2024), and the present study derives from the results of Garre-Frutos, Lupiáñez et al. (2025). We compared our results with the standardized effect sizes observed in those studies. Additionally, to get a sense of how effect sizes in this specific task design relate to the overall literature, we compared our effect sizes to the meta-analytical estimate from the study of Rusz et al. (2020), a meta-analysis aiming to characterize the size of reward-driven distraction across a wide range of experimental paradigms.

Regarding the calculation of effect sizes, as in Rusz et al. (2020), we estimated the *Standardized Mean Difference* (*SMD*) as an effect size of the VMAC effect through the following formula:

where and are mean and standard deviation in each condition, and represented the correlation between conditions. And the sampling variance was defined as:

The meta-analytical effect size was calculated, including a moderator coding whether participants were encouraged to attend to the reward-predictive feature, via explicit instructions in previous studies, or task demands (color vs. location reporting) in the present study. This was made to take into account the effect of instructions on the VMAC effect (Garre-Frutos, Lupáñez et al., 2025), and also accounting for our a priori preregistered hypothesis (<https://osf.io/z5vpx>) about the role of selective attention, namely, that selective attention would mediate the effect of instructions on VMAC.

Results from the present analysis are reported in Fig.3 in the main text. As can be seen, there are significant differences between the two sets of studies (*β* = 0.284, *z* = 3.34, *p* < .001), and critically, no significant heterogeneity in effect sizes between them (*Q*(4) = 2.94, *p* = 0.568).

**Do the observed Group** × **VMAC interactions meet our a priori expectations?**

Another important question is: do our a priori preregistered expectations regarding the Group × VMAC interaction meet in the present study? From our understanding, researchers rarely ask this question after performing an experiment. Again, as standardized effect sizes could not be easily computed in the context of a multilevel model, we compared the effect size from the interaction observed in the present study to that of the study by Garre-Frutos et al. (2025), the study we used to estimate the number of participants necessary in the present study. As explained in the introduction, Garre-Frutos et al. (2025) showed that when manipulating between-groups instructions regarding the relevant color-reward contingencies, only the group instructed with such contingencies showed a significant VMAC effect. As preregistered (https://osf.io/z5vpx), we hypothesized that instruction would direct selective attention to the specific reward-predictive feature (color), and that manipulating selective attention through dual-task demands (as in the present study) would have the same effect, independent of specific knowledge of the stimulus-reward contingencies.

From an estimation point of view, it is interesting to see if our manipulation had a similar effect to the interaction observed in Garre-Frutos, Lupiáñez et al. (2025), which would also be evidence of whether our manipulation could completely explain the effect of instructions. So, we meta-analyzed the interaction observed in the present study together with the interaction from Garre-Frutos, Lupiáñez et al. (2025). Additionally, Garre-Frutos et al. (2025) performed a meta-analysis regarding the moderating effect of instructing participants about the color-reward contingencies. To increase the interpretability of the present result, we also compared the standardized effect sizes encountered in both studies, together with the moderating effect of instruction in the broad VMAC literature.

We estimated the effect size for this interaction as the difference between observed effect sizes in the color vs. location groups in the present study, and as the difference between uninstructed vs. instructed groups in Experiment 2 of Garre-Frutos, Lupiáñez et al. (2025). Specifically, we calculated the VMAC effect for each group in each experiment, and we estimated the effect size for the VMAC ×Group interaction as

where and represents the mean and standard deviation in the VMAC effect in the instructed group of Experiment 2 from Garre-Frutos, Lupiáñez et al. (2025) and the group performing the color task in the present study, while and indicates the same information for the uninstructed group in Garre-Frutos, Lupiáñez et al. (2025) and the group performing the location task on the present study. We estimated the sampling variance following the same sampling variance formular reported in the above meta-analysis.

**Figure S1**

*Meta-analysis of the interaction observed in the present study*

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*Note*. Meta-analysis for the effect of instructions on VMAC (Garre-Frutos, Lupiáñez et al., 2025) and selective attention (present study). The purple dashed line indicates the meta-analytic moderating effect of the meta-analysis reported in Garre-Frutos, Lupiáñez et al. (2025).

As we show in Fig.S1, effect sizes are almost the same in both studies, and the meta-analytic overall effect of manipulating selective attention (present study) or instructions (Experiment 2 from Garre-Frutos, Lupiáñez et al., 2025) coincides almost perfectly with the meta-analytic estimate of the manipulation of instructions reported in the same study (*SMD = 0.349*). In other words, the effect sizes we observed in the present study match our preregistered expectations almost perfectly.

**References**

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