

[Home](#) > [Journal](#) > [Social Sciences & Humanities](#) > [PSYCH](#)[Indexing](#) [View Papers](#) [Aims & Scope](#) [Editorial Board](#) [Guideline](#) [Article Processing Charges](#)

PSYCH &gt; Vol.3 No.10, October 2012

OPEN ACCESS

## Cue Duration Affects Attentional Capture without Modulating Inhibition of Return

PDF (Size: 416KB) PP. 899-905 DOI: 10.4236/psych.2012.310135

### Author(s)

Yukihisa Matsuda, Syoichi Iwasaki

### ABSTRACT

In the cueing paradigm, an abrupt onset of the cue brings about both the facilitation effect and inhibition of return (IOR) depending on the cue-target interval. Previous studies showed that physical properties of the cue such as duration affect the occurrences of facilitation effect and IOR. However, other study indicated that cue duration did not affect these two effects. The first aim of this study was to clarify how cue duration affects the facilitation effect. The results showed that the temporal properties of the cue influenced the facilitation effect. The second aim of this study was to examine the relationship between the magnitude of the facilitation effect and that of IOR with the results in Experiment 1 and 2. There were four findings that suggested discrepancies in the effect of spatial cueing between the facilitation effect and IOR. In conclusion, these two processes were driven by distinct mechanisms.

### KEYWORDS

Attentional Mechanism; Attentional Capture; Inhibition of Return; Cue Duration; Brightness Change

### Cite this paper

Matsuda, Y. & Iwasaki, S. (2012). Cue Duration Affects Attentional Capture without Modulating Inhibition of Return. *Psychology*, 3, 899-905. doi: 10.4236/psych.2012.310135.

### References

- [1] Berger, A., Dori, H., & Henik, A. (1999). Peripheral non-informative cues do induce early facilitation of target detection. *European Journal of Cognitive Psychology*, 11, 119-137. doi:10.1080/713752304
- [2] Berlucchi. (2006). Inhibition of return: A phenomenon in search of a mechanism and a better name. *Cognitive Neuropsychology*, 23, 1065- 1074. doi:10.1080/02643290600588426
- [3] Collie, A., Maruff, P., Yucel, M., Danckert, J., & Currie, J. (2000). Spatiotemporal distribution of facilitation and inhibition of return arising from the reflexive orienting of covert attention. *Journal of Experimental Psychology: Human Perception and Performance*, 26, 1733-1745. doi:10.1037/0096-1523.26.6.1733
- [4] Gibson, B.S., & Egeth, H. (1994). Inhibition and disinhibition of return: Evidence from temporal order judgments. *Perception & Psychophysics*, 56, 669-680. doi:10.3758/BF03208360
- [5] Jonides, J., & Yantis, S. (1988). Uniqueness of abrupt onset in capturing attention. *Perception & Psychophysics*, 43, 346-354. doi:10.3758/BF03208805
- [6] Klein, R.M. (2000). Inhibition of return. *Trends in Cognitive Science*, 4, 138-147. doi:10.1016/S1364-6613(00)01452-2
- [7] Maruff, P., Yucel, M., Danckert, J., Stuart, G., & Currie, J. (1999). Facilitation and inhibition arising from the exogenous orienting of covert attention depends on the temporal properties of spatial cues and targets. *Neuropsychologia*, 37, 731-744. doi:10.1016/S0028-3932(98)00067-0
- [8] Maylor, E.A. (1985). Facilitatory and inhibitory components of orienting in visual space. In M. I. Posner, & O. S. M. Martin (Eds.), *Attention and Performance XI* (pp. 184-204). Hillsdale, NJ: Erlbaum.

[Open Special Issues](#)[Published Special Issues](#)[Special Issues Guideline](#)[PSYCH Subscription](#)[Most popular papers in PSYCH](#)[About PSYCH News](#)[Frequently Asked Questions](#)[Recommend to Peers](#)[Recommend to Library](#)[Contact Us](#)

Downloads: 247,320

Visits: 543,100

[Sponsors >>](#)

- [9] McAuliffe, J., & Pratt, J. (2005). The role of temporal and spatial factors in the covert orienting of visual attention tasks. *Psychological Research*, 69, 285-291. doi:10.1007/s00426-004-0179-4
- [10] O' Donnell, C., & Pratt, J. (1996). Inhibition of return along the path of attention. *Canadian Journal of Experiment Psychology*, 50, 386-392. doi:10.1037/1196-1961.50.4.386
- [11] Posner, M.I. (1978). *Chronometric explorations of mind*. Hillsdale, NJ: Erlbaum.
- [12] Posner, M.I. (1980). Orienting of attention. *Quarterly Journal of Experimental Psychology*, 32, 3-25. doi: 10.1080/00335558008248231
- [13] Posner, M.I., & Cohen, Y. (1984). Components of attention. In H. Bouma, & D. Bowhuis (Eds.), *Attention and Performance X* (pp. 531-556). Hillsdale, NJ: Erlbaum.
- [14] Posner, M.I., Rafal, R.D., Choate, L., & Vaughan, J. (1985). Inhibition of return: Neural basis and function. *Cognitive Neuropsychology*, 2, 211-228. doi:10.1080/02643298508252866
- [15] Pratt, J., Hillis, J., & Gold, J.M. (2001). The effect of the physical characteristics of cues and targets on facilitation and inhibition. *Psychonomic Bulletin & Review*, 8, 489-495. doi: 10.3758/BF03196183
- [16] Rafal, R.D., Calabresi, P.A., Brennan, C.W., & Sciolto, T.K. (1989). Saccade preparation inhibits reorienting to recently attended locations. *Journal of Experimental Psychology: Human Perception and Performance*, 15, 673-685. doi:10.1037/0096-1523.15.4.673
- [17] Reuter-Lorenz, P.A., Jha, A.P., & Rosenquist, J.N. (1996). What is inhibited in inhibition of return? *Journal of Experimental Psychology: Human Perception & Performance*, 22, 367-378. doi:10.1037/0096-1523.22.2.367
- [18] Tassinari, G., & Berlucchi, G. (1992). Sensory and attentional components of slowing of manual reaction time to non-fixated visual targets by ipsilateral primes. *Vision Research*, 33, 1525-1534. doi:10.1016/0042-6989(93)90145-M
- [19] Taylor, T.L., & Klein R.M. (1998). On the causes and effects of inhibition of return. *Psychonomic Bulletin & Review*, 5, 625-643. doi:10.3758/BF03208839
- [20] Wright, R.D., & Richard, C.M. (2003). Sensory mediation of stimulus-driven attentional capture in multiple-cue displays. *Perception & Psychophysics*, 65, 925-938. doi:10.3758/BF03194824
- [21] Yantis, S., & Jonides, J. (1984). Abrupt visual onsets and selective attention: Evidence from visual search. *Journal of Experimental Psychology: Human Perception & Performance*, 10, 601-621. doi:10.1037/0096-1523.10.5.601.