

Abstract

N1 print tuning effect was prevalently found in different languages. To test if this effect is different within different language systems, a meta-analysis (7 studies, N=138 participants) was conducted. This study compared the N1 print tuning effect between N1 onset and offset in order to capture the dynamics of this effect within the N1 time window. Besides, a moderation analysis was conducted to examine whether visual similarity of stimuli could influence the N1 print tuning effect. An alternative factor which might also play a role is writing system. The results showed that the included studies displayed effect sizes in two different directions: studies in alphabetic languages using symbols as control stimuli did not show significant difference in N1 print tuning effect between N1 onset and offset, while studies (in alphabetic or logographic languages) using false-fonts or unfamiliar words as control stimuli displayed significantly more pronounced N1 print tuning effect in N1 onset as compared to N1 offset. The results might suggest that N1 print tuning effect starts similarly in both groups of studies, but it remains mainly in N1 onset in studies using false-font and unfamiliar word as control stimuli, whereas for studies using symbols as control stimuli, it lasts longer until N1 offset. The moderation analysis showed insignificant moderation effect of visual similarity, and a significant moderation effect of writing system, suggesting that stimuli from different writing systems might involve different dynamics of N1 print tuning effect.

Keywords: Visual word processing, Reading, N1 print tuning effect