**Title:**

**Abstract:**

We tested the task and strategic conditions under which the irrelevant sound effect (ISE) disrupts working memory (WM). Across two experiments (N = 149), participants completed WM tasks under quiet, steady-state, or changing-state sound. Strategy use was assessed prospectively by task. Changing-state sounds significantly impaired performance relative to quiet and steady-state sounds (Exp 1: F(2,114) = 12.176, p < .001; Exp 2: F(2,86) = 3.16, p = .047). Effects emerged across tasks, including free recall, which has no ordered output demands (Exp 2, changing-state vs. quiet: t(43) = 2.48, p = .017, d = .37). In free recall (Exp 1), changing-state sounds impaired performance for rehearsers (t(31) = -3.301, p = .002, d = .585) and non-rehearsers (t(66) = -2.524, p = .014, d = .308). In delayed serial recall (Exp 2), similar effects emerged for both groups (rehearsers: t(13) = 5.37, p < .001, d = 1.4; non-rehearsers: t(29) = 3.5, p = .001, d = .65). Additionally, rehearsal did not amplify disruption (Exp 2 strategy × sound interaction: F(2,260) = 2.85, p = .75). These findings challenge rehearsal-disruption accounts of ISE and instead suggest that ISE may stem from broader task–strategy–sound interactions.