

Nagy, T., Janku, F., Kopacz, K-B., Jakus, D., Sándor, A. V. (2025, July 8-11.). THE ROLE OF AROUSAL IN COGNITIVE FATIGUE RECOVERY. 22nd World Congress of Psychophysiology. Kraków, Poland.

Media consumption is often used as a means of recovering from stress and cognitive exhaustion. Interestingly, prior research suggests that activities inducing emotional stress—such as engaging films or cognitively demanding video games—can paradoxically promote recovery. In this study, we examined whether physiological arousal plays a role in facilitating this recovery process.

We hypothesized that emotional experiences aid stress recovery most effectively when accompanied by heightened physiological arousal, as this may disrupt habitual thought patterns that contribute to mental fatigue. To test this, we conducted a preregistered, double-blind laboratory experiment with 366 participants. Participants received either caffeine or a placebo before completing a cognitively demanding attention task designed to induce stress and fatigue. Following this, they either watched an emotionally engaging video (positive stand-up comedy, negative horror, or a neutral documentary) or simply waited. Our results showed that caffeine increased subjective arousal and reduced mental fatigue, particularly after the cognitive task, compared to the placebo condition. Additionally, all video conditions independently facilitated recovery, regardless of caffeine intake. Notably, the horror film led to the greatest mental recovery. However, we found no evidence that physiological arousal and media-induced emotional experiences interacted to enhance recovery beyond their individual effects.

These findings suggest that both emotional media experiences and heightened arousal can independently support stress recovery, but their effects do not appear to be additive. This challenges the assumption that arousal must accompany emotional engagement for effective recovery.