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Effects of chronotype and circadian alignment on face recognition: preliminary results

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Abstract

Face recognition is critical in everyday life, particularly in legal contexts such as eyewitness identification. This study examined whether circadian factors influence face recognition performance by testing chronotype effects (morning vs. evening types) under circadian-aligned and misaligned conditions. University students (all sharing similar class schedules) completed two testing sessions, one aligned and one misaligned with their chronotype. Each session included ten target-present lineups assessing accuracy and confidence. Recognition sensitivity was quantified using signal detection theory (d') from hit and false alarm rates. Objective sleep-wake patterns were assessed using actigraphy. Preliminary behavioral data include $N = 13$ (6 mornings, 7 evenings). Repeated-measures analyses revealed no significant main effects, likely due to limited sample size. However, exploratory patterns suggest that evening types show poorer performance in their optimal condition, potentially reflecting sleep-related factors and constraints imposed by early academic schedules.