

## **Influence of Auditory Input on Mood States During a 30-Minute Self-Paced Walk**

MAYA CAON<sup>1</sup>, ANDREAS STAMATIS<sup>2,3</sup>, ZACHARIAS PAPADAKIS<sup>1</sup> & ALI BOOLANI<sup>4,5</sup>

<sup>1</sup>Human Performance Laboratory, Department of Health Promotion and Clinical Practice, Barry University; Miami Shores, FL

<sup>2</sup>Health & Sport Sciences; University of Louisville; Louisville, KY

<sup>3</sup>Sports Medicine Institute; University of Louisville Health; Louisville, KY

<sup>4</sup>Human Performance and Nutrition Research Institute, Oklahoma State University, Stillwater, OK

<sup>5</sup>Physiology and Pharmacology, Oklahoma State University, Stillwater, OK

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*Category: Graduate*

*Advisor / Mentor: Papadakis, Zacharias (zpapadakis@barry.edu)*

### **ABSTRACT**

The therapeutic effects of self-paced walking on mood enhancement are well-documented; yet, existing literature predominantly examines laboratory-based protocols that fail to incorporate auditory stimuli as a potential modulator of mood states. **PURPOSE:** To investigate the influence of various auditory inputs on mood states during a 30-minute bout of self-paced walking. **METHODS:** A randomized controlled crossover design was employed ( $n = 24$ ; 9 males;  $M_{age} = 23.04$ ). Participants performed four 30-minute walking bouts around a track while wearing noise-cancelling headphones delivering one of four conditions: positive auditory input, negative auditory input, self-selected music, or silence. Mood states were assessed using the POMS-SF at baseline and in 5-minute increments throughout the duration of the walk. A 4 (condition)  $\times$  6 (time) repeated measures ANOVA was conducted to assess changes in mood states. **RESULTS:** A) POMS Vigor: Significant interaction between Time and Treatment,  $F(18, 342) = 2.46, p = .001$ , partial  $\eta^2 = .012$ ; B) POMS Fatigue: a) Significant main effects for Time,  $F(6, 114) = 2.94, p = .010$ , partial  $\eta^2 = .022$ , and for Treatment,  $F(3, 57) = 2.96, p = .040$ , partial  $\eta^2 = .051$  and b) Significant Time  $\times$  Treatment interaction,  $F(18, 342) = 1.94, p = .012$ , partial  $\eta^2 = .013$ ; C) POMS Depression: Significant Time  $\times$  Treatment interaction,  $F(18, 342) = 1.35, p = .015$ , partial  $\eta^2 = .017$ ; D) POMS Anger: a) Significant main effect for Treatment,  $F(3, 57) = 4.13, p = .010$ , partial  $\eta^2 = .077$  and b) Significant Time  $\times$  Treatment interaction,  $F(18, 342) = 2.20, p = .004$ , partial  $\eta^2 = .040$ ; E) POMS Tension: Significant Time  $\times$  Treatment interaction,  $F(18, 342) = 1.86, p = .018$ , partial  $\eta^2 = .018$ ; and F) POMS Confusion: Significant Time  $\times$  Treatment interaction,  $F(18, 342) = 2.38, p = .001$ , partial  $\eta^2 = .018$ . **CONCLUSION:** Auditory stimuli significantly modulated mood responses during self-paced walking, with significant Time  $\times$  Treatment interactions for vigor, fatigue, anger, tension, and confusion. The treatment condition had a notable main effect on anger and fatigue levels. Several results were counterintuitive to prevailing assumptions within the domain of sport psychology. Vigor improved during the negative input and silence conditions, yet decreased during music and positive input conditions. Anger was elevated in the music condition, while anxiety and confusion were heightened during both the positive input and music conditions. Conversely, anxiety decreased during the negative input and silence conditions. These findings challenge the widely accepted hypothesis that positive auditory stimuli should enhance mood states, while negative or absent stimuli should detract from them. Future research is warranted to investigate the underlying mechanisms responsible for these unexpected outcomes, with particular focus on individual variability, cognitive appraisal, and the context of self-paced exercise in non-laboratory settings.