

Impact of an Artificial Intelligence Based Application Intervention on Emotional Intelligence and Hedonic Tone Among University Level Female Basketball Players: A Pilot Study

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ABSTRACT

Introduction: Female varsity basketball players experience increased academic and athletic expectations that might erode resilience, emotional regulation, and overall well-being. Hedonic Tone (HT) and Emotional Intelligence (EI) are critical to the psychological health and performance of athletes. Enhancing EI and HT in supporting performance and mental health. Applications of Artificial Intelligence (AI) are a promising route for boosting these psychological assets through systematic, technology-based interventions in sports environments.

Aim: The pilot study tested the impact of an AI-supported application intervention on EI and HT in university-level female basketball players.

Materials and Methods: Twenty women basketball players (18-23 years) from a sports university participated voluntarily. A 6-week mobile application programme using AI was implemented with daily modules on recognising emotions, regulating emotions, perceiving others' emotions, and empathy. The Emotional Intelligence Scale

and the Snaith Hamilton Pleasure Scale were applied to measure HT. Pre- and post-intervention outcomes were compared using paired-samples t-tests.

Results: The intervention yielded notable gains in EI $p=0.040$ (<0.05) from pre to post, and also statistical significance: $p=0.006$ (<0.05) shows a statistically significant gain in Hedonic tone from pre to post. In the post-intervention, the participants showed notable gains on emotional intelligence scores and self-rated increased positive hedonic tone. The AI application was acceptable, showing good adherence and usability.

Conclusion: The results indicate that AI-powered psychological training programmes can significantly boost EI, and HT in female university basketball players. These initial findings add strength to the notion of incorporating AI tools into sport psychology interventions among athletic population, making it a subject of further inquiry with larger sample and follow-up.

Keywords: Artificial intelligence, Female athlete, Psychological intervention

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