

Mobile Gaming for Cognitive Health in Older Adults: A Scoping Review of App Store Applications - PubMed

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ABSTRACT

Abstract Background: Mobile gaming applications are increasingly marketed as cognitive training tools for older adults, yet their scientific validity and accessibility remain uncertain. This scoping review evaluates their effectiveness and inclusivity. **Methods:** A systematic search of the Apple App Store and Google Play Store identified 227 applications, with 14 meeting inclusion criteria. Apps were assessed for scientific validity, theoretical foundation, accessibility, cognitive targeting, user engagement, and monetization models. **Results:** While all 14 apps claimed cognitive benefits, only one cited empirical research. None included baseline cognitive assessments or progress tracking. Accessibility was limited-eight apps had visual accommodations, but none provided auditory support. Six apps were English-only, restricting linguistic inclusivity. Monetization varied, with eight requiring in-app purchases or subscriptions, posing financial barriers. **Conclusions:** This review highlights critical gaps in the current cognitive gaming application market for older adults. Despite their popularity, cognitive training apps for older adults lack scientific validation and accessibility, limiting their effectiveness as cognitive interventions. Developers should integrate evidence-based training, adaptive assessments, and inclusive accessibility features such as voice guidance and multilingual support. Future research should prioritize longitudinal studies to assess real-world efficacy, refine interventions targeting memory, executive function, and processing speed, and enhance inclusive design for diverse aging populations. **Keywords:** cognitive decline prevention; cognitive training; digital health accessibility; mobile applications; older adults.

CONFLICT OF INTEREST

Conflict of interest statement The authors declare no conflicts of interest.

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