Unveiling the Occupation-Based Immersive Virtual Reality Landscape Through Older Adults' Perspectives

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PURPOSE: While evidence supports the use of immersive virtual reality (IVR) for older adults, studies on the match of applications (apps) for occupation-based IVR engagement are limited. Additionally, understanding the learning process of the IVR is lacking, prompting the question: What is the feasibility, including usability, learning, and perceptions of matching IVR apps to meaningful occupations for older adults?

DESIGN: The mixed-methods design employed a quantitative usability measure and qualitative semi-structured interview questions. Convenience sampling aimed to recruit community-dwelling older adults (age ≥65) with inclusion criteria following the Safety Manual of the IVR device.

METHOD: At the start of the session, the Canadian Occupational Performance Measure (COPM) was administered to identify important occupational problems of interest, allowing for the matching of IVR apps to each participant. This was followed by 15-30 minutes of IVR engagement with the matched app(s). After IVR engagement, the System Usability Scale (SUS) was completed, along with audio-recorded open-ended questions to in-depth probe perceptions related to the research question. Coding and content analysis of the transcripts then followed.

RESULTS: The 15 participants reported an average SUS of 55 (±24) for IVR usability. As scores of 68 indicate good usability for older adults, further analysis of the transcripts was prompted. Identified themes included: 1. the need for learning support related to user confidence, 2. the practicality of app engagement linked to positive perceptions, and 3. overall impressions depended on participants' experiences with the matched apps. Common interests included travel-based leisure and mindfulness exploration.

CONCLUSION: Meaningful IVR engagement in important occupations is feasible with supportive structuring of learning and app matching. Recommendations for practice include expanded offerings of both active and quiet leisure-based apps.

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