

Music instrument playing as a dual task for older adults: A systematic review

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Abstract

This study systematically reviewed the literature on music instrument playing applied with older adults with and without cognitive impairment. Based on the research findings, this study proposes how instrument playing can be applied as a dual task in order to intervene in the cognitive aging of this population.

Keywords

Music instrument playing; Dual task; Older adults; Cognitive aging; Falls

Paper description

The neurological foundation of music for promoting cognitive and motor function has been the focus of much research (Thaut, McIntosh, & Hoemberg, 2015; White-Schwoch, Carr, Anderson, Strait, & Kraus, 2013; Zatorre, Chen, & Penhune, 2007). In addition, music-based interventions have been found to maintain or enhance cognitive and motor function of older adults (Blackgurn & Bradshaw, 2014; Ueda, Suzukamo, Sato, & Izumi, 2013), making them an increasingly important intervention for cognitive aging and fall risk in this population. A growing body of research has emphasized the dual task mechanism (Al-Yahya et al., 2011; Yogev-Seligman, Hausdorff, & Giladi, 2008) and its integration into interventions for older adults (Pichierri, Wolf, Murer, & de Bruin, 2011; Plummer-D'Amato et al., 2012; Schwenk, Zieschang, Oster, & Hauer, 2013). Music-based interventions have also begun to be investigated in this area (McLean, Brown, & Astell, 2014; Trombetti, Hars, Hermann, Kressig, Ferrari, & Rizzoli, 2010).

Therefore, this study systematically reviewed the literature on music instrument playing with older adults with and without cognitive impairment. This study proposes how instrument playing can be applied as a motor-cognitive dual task in order to intervene in the cognitive aging of this population. Electronic databases and music therapy journals were searched for controlled experimental studies on music instrument playing for healthy older adults, older adults with dementia, and older adults with mild cognitive impairment. Identified studies were analyzed in terms of targeted goals, including motor, cognitive, and motor-cognitive goals; type of instrument playing; level of task applicable for dual task intervention; and measurements.

This study proposes how music instrument playing can be constructed as a dual task intervention for older adults. It also presents specific examples of implementation of music instrument playing as a dual task with consideration of the level of task and how music instrument playing addresses cognitive aging and fall prevention of older adults.

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