## A conceptual exploration of cognition-motor dual task training for effective application in community-dwelling older adults

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**Purpose** In South Korea, the social welfare policy to expand life expectancy in older adults demands solving the super-aging challenge and reducing social costs due to age-related physical decline (Lee, et al., 2019). At this point, various ways to apply cognitive-motor dual-task training for older adults are necessary (Leone, et al., 2017). However, the cognitive-motor dual-task training is limited to patients and people with disabilities mainly in hospitals. Therefore, in this study, a conceptual exploration regarding the cognitive-motor dual-task training was performed to properly utilize the term the cognitive-motor dual-task training. Through the conceptual exploration, an improvement in health in community-dwelling older adults would be expected. **Method** Keywords were selected and searched in three categories (subjects: older adults, elderly, patients, people with disability; target: cognitive, motor, physical; intervention: dual-task training, complex training, combined exercise, multi-component exercise, complex intervention, single training) in search engine. Then, we categorized the three components: similar terms of dual-task, the combination of the dual-task training, and training methods of the cognitive-motor dual-task training (Figure 1). **Results and Discussion** Regarding the similar terms of the dual-task, complex (or combined) intervention and complex (or combined) training were widely used. Specifically, the term dual-task was frequently used in rehabilitation for treatment in patients or for maintaining and improving remaining physical function in people with disabilities, including the components of cognition and motor. Also, the complex (or combined) training was used as physical-physical or cognitive-cognitive combined training, which includes the same training components but different training domains. Further, complex (or combined) intervention was used variously from hospital to local community for patients, people with disabilities, and older adults. Finally, the cognitive-motor dual-task should be used with the appropriate combination of cognitive and physical training programs based on personal and environmental factors. Significantly, the literature emphasized that applying cognitive training in virtual/augmented reality to enhance physical training components would increase enjoyable factors in older adults. (Gallou-Guyot, et al., 2020). Thus, the proper combination of the cognitive-motor dual-task in virtual/augmented reality could be one of the promising ways to continue training and healthy living in older adults

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**Keywords:** community-dwelling older adults, dual task, cognition, motor, complex
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**Acknowledgement** This study was supported by a grant (SR202106002) by the Ministry of Culture, Sports and Tourism in South Korea

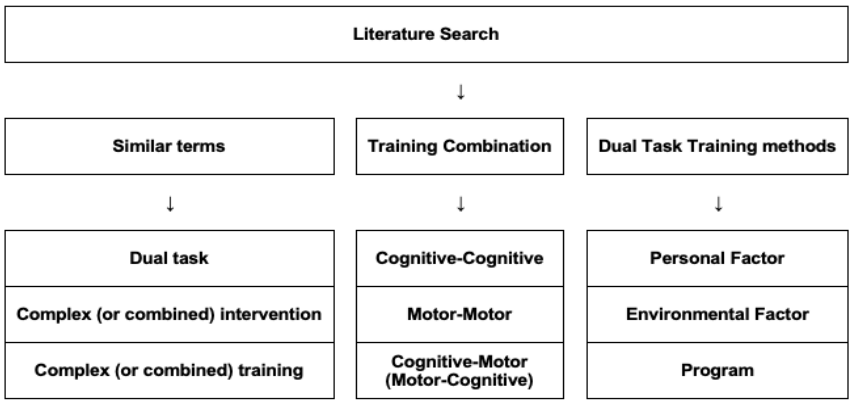


Figure 1. Conceptual categorization and contents of the dual task