Evidence Based Practice Day
Department of Rehabilitation Sciences, Recreation Therapy Program
April 26, 2013

Chih-Chiao Lin
Temple University Graduate Student
Tue81310@temple.edu

The Relationship between Physical Activity Participation and Risk of Cognitive Impairment in Old Adults

Search Terms: physical activity, dementia, older adults, and cognitive function
Years: 2001-2013
Databases: EBSCO and CINAHL
Number of Articles: 8

Summary of Research Findings:

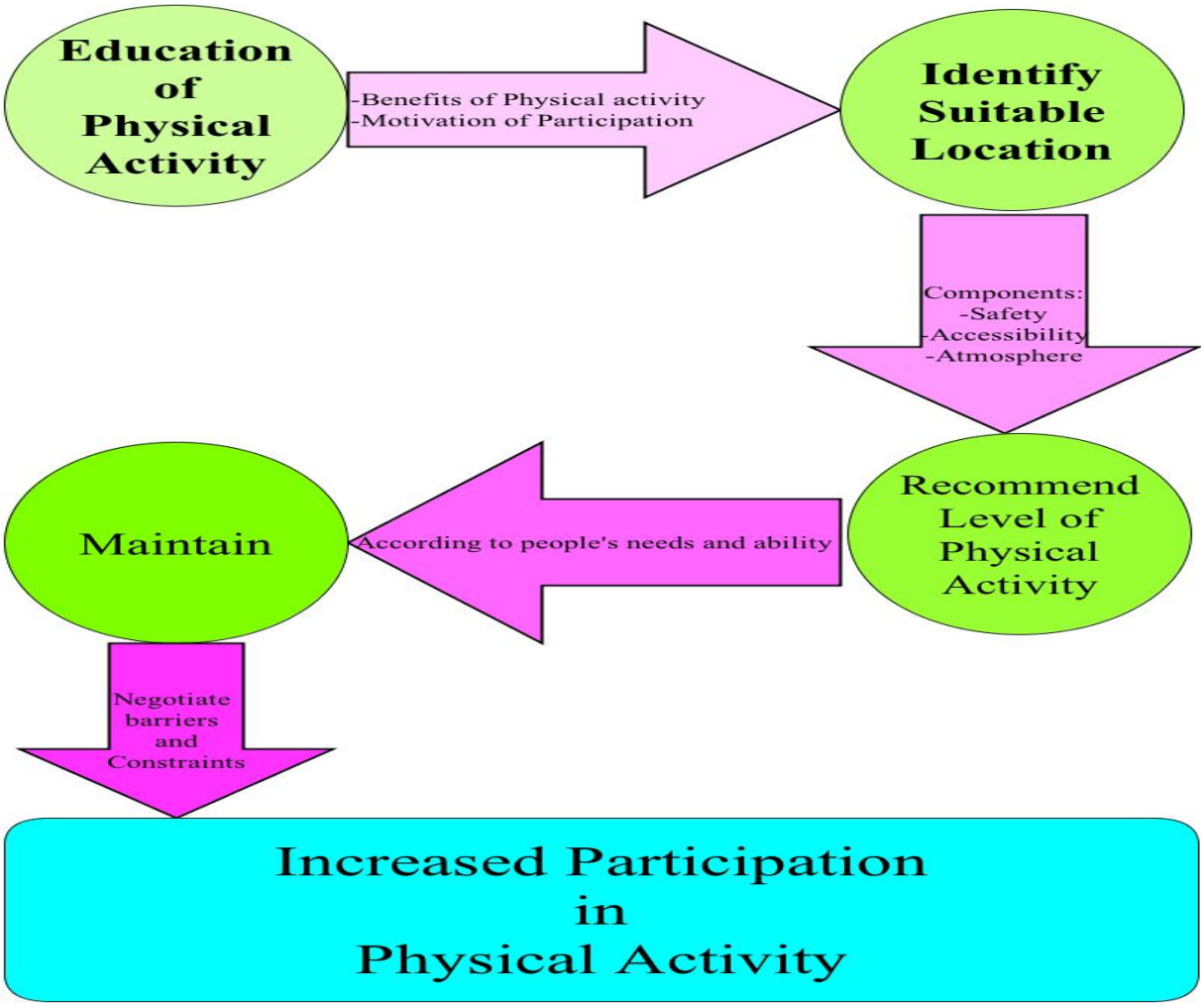
Recent statistics show that there are approximately 24 million people living with some forms of dementia today (Best-Martini, Weeks, Wirth, 2010). It could be expected that when people live longer, the number of older adults with dementia will increase. This literature review included eight articles discussing the relationship between physical activity participation and cognitive function in older adults. It was found that physical activity participation is associated with decreasing risk of cognitive impairment in community-dwelling older adults (Laurin et al., 2001).

In fact, four of the reviewed articles found that older adults who were physically active and involved in higher levels of physical activity showed better scores on cognitive function tests (Laurin et al., 2001; Podewils et al., 2005; Sumic et al., 2007; Perrot et al., 2009). In addition, three articles showed that gender, age, socioeconomic status, level of education, and residential area were associated with levels of physical activity participation (Laurin et al., 2001; Sumic et al., 2007 ; Perrot et al., 2009). One article showed that participants who developed dementia were older, less educated, less physically active, and scored poorer on cognitive scores at baseline than participants who did not develop dementia (Podewils et al., 2005).

Furthermore, in terms of maintaining a healthy lifestyle, one study studying walking as the key indicator found that participants, who engaged in walking frequently in their residential area, had higher cognitive test scores (Prohaska et al., 2009).

Knowledge Translation Plan:

Physical education could improve participants' understandings of the benefits of physical activity participation, and hence increase their motivation of living a more active lifestyle. Helping participants identify a suitable location in their neighborhood will increase participation in physical activity. Although the recommendation of levels of physical activity for older adults from the World Health Organization is 30 minutes a day, five days a week, recreational therapists should create an intervention according to people's needs and abilities. In addition, recreational therapists need to help people negotiate barriers and constraints in physical activity participation.



References:

Best-Matini, E. B., Weeks, M. A., & Wirth, P. W. (2010). *Long-term care for activity professional, social services professionals, and recreational therapists* (6th ed.). Enumclaw, WA: Idyll Arbor.

Kamegaya, T., Maki, Y., Yamagami, T., Yamaguchi, T., Murai, T., Yamaguchi, H., & Long-Term-Care, M. C. (2012). Pleasant physical exercise program for prevention of cognitive decline in community-dwelling elderly with subjective memory complaints. *Geriatrics & Gerontology International*, 12(4), 673-679. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/22469534

Laurin, D., Verreault, R., Lindsay, J., MacPherson, K., & Rockwood, K. (2001). Physical activity and risk of cognitive impairment and dementia in elderly persons. *The Journal of the American Medical Association* , *58*(3), 498-504. Retrieved from http://archneur.jamanetwork.com/article.aspx?articleid=778849

Lautenschlager, N., Cox, K., Flicker, L., Foster, J., vanBockxmeer, F., Xiao, J., Greenop, K., & Almeida, O. (2008). Effect of physical activity on cognitive function in older adults at risk for Alzheimer disease. *The Journal of the American Medical Association*, *300*(9), 1027-1037. Retrieved from http://jama.jamanetwork.com/article.aspx?articleid=182502

Perrot, A., Gagnon, C., & Bertsch, J. (2009). Physical activity as a moderator of the relationship between aging and inductive reasoning. *Research Quarterly for Exercise and Sport*, 80(2), 393-397. Retrieved from http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=EJ870232&ERICExtSearch_SearchType_0=no&accno=EJ870232

Podewils, L., Guallar, E., Kuller, L., Fried, L., Lopez, O., Carlson, M., & Lyketsos, C. (2005). Physical activity, apoe genotype, and dementia risk: findings from the cardiovascular health cognition study. *American Journal of Epidemiology*, 161(7), 639-51. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15781953

Prohaska, T., Eisenstein, A., Satariano, W., Hunter, R., Bayles, C., Kurtovich, E., Kealey, M., & Ivey, S. (2009). Walking and the preservation of cognitive function in older populations. *The Gerontologist*, 49(1), 86-93. Retrieved from http://gerontologist.oxfordjournals.org/content/49/S1/S86.short

Scherder, E., Paasschen, J., Deijen, J., Knokke, S., Orlebeke, J., Burgers, I., Devriese, P., & Swaab, D. (2005). Physical activity and executive functions in the elderly with mild cognitive impairment. *Aging & Mental Health*, 9(3), 272-280. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/13607860500089930

Sumic, A., Michael , Y., Carlson, N., Howieson, D., & Kaye, J. (2007). Physical activity and the risk of dementia in oldest old. *Journal of Aging and Health*, 19(2), 242-259. Retrieved from http://jah.sagepub.com/content/19/2/242.short