

**ΑΛΕΞΑΝΔΡΕΙΟ ΤΕΧΝΟΛΟΓΙΚΟ ΕΚΠΑΙΔΕΥΤΙΚΟ ΙΔΡΥΜΑ ΘΕΣΣΑΛΟΝΙΚΗΣ**  
**ΤΜΗΜΑ ΑΙΣΘΗΤΙΚΗΣ ΚΑΙ ΚΟΣΜΕΤΟΛΟΓΙΑΣ**



ΘΕΣΣΑΛΟΝΙΚΗ 2011

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1. Hallal PC, Victora CG, Azevedo MR, Wells JC. Adolescent physical activity, health: a systematic review. *Sports Med* 2006;36:1019–30.
2. Ruiz JR, Ortega FB. Physical activity and cardiovascular disease risk factors in children and adolescents. *Curr Cardio Risk Rep* 2009;3:281–7.
3. U.S. Department of Health and Human Services: Physical Activity Guidelines Advisory Committee. Physical activity guidelines for Americans, 2008 Available at <http://www.health.gov/PAguidelines/>. (7 October 2008, date last accessed).
4. Knuth AG, Hallal PC. Temporal trends in physical activity: a systematic review. *J Phys Act Health* 2009;6:548–59.
5. Bize R, Johnson JA, Plotnikoff RC: Physical activity level and health-related quality of life in the general adult population: a systematic review. *Prev Med* 2007, 45:401-15.
6. US Department of Health and Human Services. Physical activity guidelines for Americans. 2008 <http://www.health.gov/PAguidelines>, Accessed 4 July 2009.
7. Eurobarometer on Health and Food. 2005 <http://www.heartstats.org/datapage.asp?id=4695>.
8. Keresztes N, Piko BF, Pluhar ZF, Page RM. Social influences in sports activity among adolescents. *J R Soc Health* 2008;128:21–5.
9. Christakis NA, Fowler JH. The spread of obesity in a large social network over 32 years. *N Engl J Med* 2007;357:370–9.
10. Christakis NA, Fowler JH. The collective dynamics of smoking in a large social network. *N Engl J Med* 2008;358:2249–58.
11. Fowler JH, Christakis NA. Dynamic spread of happiness in a large social network: longitudinal analysis over 20 years in the Framingham Heart Study. *BMJ* 2008;337:a2338.
12. McNeill LH, Kreuter MW, Subramanian SV. Social environment and physical activity: a review of concepts and evidence. *Soc Sci Med* 2006;63:1011–22.
13. Eriksson M, Nordqvist T, Rasmussen F. Associations between parents' and 12-year-old children's sport and vigorous activity: the role of self-esteem and athletic competence. *J Phys Act Health* 2008;5:359–73.
14. King KA, Tergerson JL, Wilson BR. Effect of social support on adolescents' perceptions of and engagement in physical activity. *J Phys Act Health* 2008;5:374–84.
15. Seabra AF, Mendonca DM, Thomis MA, et al. Biological and socio-cultural determinants of physical activity in adolescents. *Cad Saude Publica* 2008;24:721–36.

16. Wenthe PJ, Janz KF, Levy SM. Gender similarities and differences in factors associated with adolescent moderate-vigorous physical activity. *Pediatr Exerc Sci* 2009;21:291–304.
17. Davison KK, Schmalz DL. Youth at risk of physical inactivity may benefit more from activity-related support than youth not at risk. *Int J Behav Nutr Phys Act* 2006;3:5.
18. Hohepa M, Scragg R, Schofield G, et al. Social support for youth physical activity: Importance of siblings, parents, friends and school support across a segmented school day. *Int J Behav Nutr Phys Act* 2007;4:54.
19. Robbins LB, Stommel M, Hamel LM. Social support for physical activity of middle school students. *Public Health Nurs* 2008;25:451–60.
20. Springer AE, Kelder SH, Hoelscher DM. Social support, physical activity and sedentary behavior among 6th-grade girls: a cross-sectional study. *Int J Behav Nutr Phys Act* 2006;3:8.
21. Fogelholm M, Männistö S, Vartiainen E, Pietinen P: Determinants of energy balance and overweight in Finland 1982 and 1992. *Int J Obes Relat Metab Disord* 1996, 20:1097-1104.
22. Penedo FJ, Dahn JR: Exercise and well-being: A review of mental and physical health benefits associated with physical activity. *Curr Opin Psychiatry* 2005, 18:189-193.
23. Sorensen LE, Pekkonen MM, Mannikko KH, Louhevaara VA, Smolander J, Alen MJ: Associations between work ability, health-related quality of life, physical activity and fitness among middle-aged men. *Appl Ergon* 2008,39:786-791.
24. Weyer SKB: Physical exercise and psychological health. *Sport Med* 1994, 17:108-116.
25. Goins RT, Spencer SM, Krummel DA. Effect of obesity on health-related quality of life among Appalachian elderly. *South Med J* 2003; 96/6: 552–557.
26. Hassan MK, Joshi AV, Madhavan SS, Amonkar MM. Obesity and health-related quality of life: a cross-sectional analysis of the US population. *Int J Obes Relat Metab Disord* 2003; 27: 1227–1232.
27. Kolotkin RL, Head S, Hamilton M, Tse Chiu-Kit J. Assessing impact of weight on quality of life. *Obes Res* 1995; 3: 49–56.
28. Mathias SD, Williamson CL, Colwell HH, Cisernas MG, Pasta DJ, Stolshek BS et al. Assessing health-related quality-of-life and health state preference in persons with obesity: a validation study. *Qual Life Res* 1997; 6: 311–322.



29. Brown DW, Brown DR, Heath GW, Balluz L, Giles WH, Ford ES et al. Associations between physical activity dose and health-related quality of life. *Med Sci Sports Exerc* 2004; 36/5: 890–896.
30. McAuley E, Bane SM, Rudolph DL, Lox CL: Physique anxiety and exercise in middle-aged adults. *J Gerontol B Psychol Sci Soc Sci* 1995, 50:P229-35.
31. Rejeski WJ, Mihalko SL: Physical activity and quality of life in older adults. *J Gerontol A Biol Sci Med Sci* 2001, 56(Spec No 2):23-35.
32. Sloan RA, Sawada SS, Martin CK, Church T, Blair SN: Associations between Cardiorespiratory Fitness and Health-Related Quality of Life Health. *Qual Life Outcomes* 2009, 7:47.
33. Thompson PD, Buchner D, Pina IL, Balady GJ. Exercise and physical activity in the prevention and treatment of atherosclerotic cardiovascular disease. American Heart Association. *Circulation* 2003;107:3109–12
34. Pratap A, Schroy P. Physical activity and colorectal cancer survival: the more METs the better. *Gastroenterology* 2007;132:456–8
35. Laaksonen DE, Siitonen N, Lindstrom J. Physical activity, diet, and incident diabetes in relation to an ADRA2B polymorphism. *Med Sci Sports Exerc* 2007;39:227–32
36. Paffenbarger RS, Hyde RT, Wing AL, Lee IM, Jung DL, Kampert JB. The association of changes in physical-activity level and other lifestyle characteristics with mortality among men. *N Engl J Med* 1993;328:538–45
37. Homko CJ, Trout K. Women and diabetes. *Nurs Clin N Am* 2006;41:549–565.
38. Beaufriere B, Morio B. Fat and protein redistribution with aging: metabolic considerations. *Eur J Clin Nutr* 2000;54:S48–S53. [PubMed: 11041075]
39. Carey DG, Jenkins AB, Campbell LV, Freund J, Chisholm DJ. Abdominal fat and insulin resistance in normal and overweight women: Direct measurements reveal a strong relationship in subjects at both low and high risk of NIDDM. *Diabetes* 1996;45(5):633–638. [PubMed: 8621015]
40. Joffe H, Hall JE, Soares CN, et al. Vasomotor symptoms are associated with depression in perimenopausal women seeking primary care. *Menopause* 2002;9(6):392–398. [PubMed: 12439097]
41. Schilling C, Gallicchio L, Miller SR, Langenberg P, Zacur H, Flaws JA. Relation of body mass and sex steroid hormone levels to hot flashes in a sample of midlife women. *Climacteric* 2007;10(1):27–37. [PubMed: 17364602]
42. Whiteman MK, Staropoli CA, Langenberg PW, McCarter RJ, Kjerulff KH, Flaws JA. Smoking, body mass, and hot flashes in midlife women. *Obstet Gynecol* 2003;101(2):264–272. [PubMed: 12576249]

43. Avis NE, Brockwell S, Colvin A. A universal menopausal syndrome? *Am J Med* 2005;118:37–46
44. Fahami F, Beygi M, Hassan ZR, Armaan S. Sexual dysfunction in menopausal women and the socioeconomic state. *J Nurs Mid Res* 2007;12:61–4
45. Guthrie JR, Dennerstein L, Taffe JR, et al. The menopausal transition: a 9-year prospective population-based study. The Melbourne Women's Midlife Health Project. *Climacteric* 2004;7:375–89
46. Huxley R, Barzi F, Woodward M. Excess risk of fatal coronary heart disease associated with diabetes in men and women: meta-analysis of 37 prospective cohort studies. *BMJ* 2006;332:73–8
47. Nelson DB, Samuel MD, Freeman HW, Lin H, Gracia CR, Schmitz KH. Effect of physical activity on menopausal symptoms among urban women. *Med Sci Sports Exerc* 2008;40:50–8
48. Rao SS, Sign M, Parkar M, Sugumaran R. Health maintenance for postmenopausal women. *Am Fam Physician* 2008;78:583–91
49. Delaney MF. Strategies for the prevention and treatment of osteoporosis during early postmenopause. *Am J Obstet Gynecol* 2006;194:12–23
50. Gass M, Dawson-Hughes B. Prevention of osteoporosis-related fractures: an overview. *Am J Med* 2006;119:3–11
51. Avis NE, Ory MG, Mathews KA, Shocken M, Bromberger J, Colvin A. Health-related quality of life in a multiethnic sample of middle-aged women. *Medical Care* 2003;41(11):1262–1276. [PubMed:14583689]
52. Dennerstein L, Helmes E. The menopausal transition and quality of life: Methodologic issues. *Quality of Life Research* 2000;9(6):721–731.
53. Hlatky MA, Boothroyd D, Vittinghoff E, Sharp P, Whooley MA. Quality-of-life and depressive symptoms in postmenopausal women after receiving hormone therapy: Results from the Heart and Estrogen/Progestin Replacement Study (HERS) trial. *Jama* 2002;287(5):591–597. [PubMed:11829697]
54. Utian W. Quality of life (QOL) in menopause. *Maturitas* 2007;57(1):100–102. [PubMed: 17367964]
55. Greene JG. Constructing a standard climacteric scale. *Maturitas* 1998;29(1):25–31. [PubMed:9643514]
56. Schneider HPG. The quality of life in the post-menopausal woman. *Best Pract Res Clin Obstet Gynaecol* 2002;16(3):395–409. [PubMed: 12099670]

57. Schneider, HPG.; Schultz-Zehden, B.; Rosemeier, HP., et al. Assessing well-being in menopausal women. In: Studd, J., editor. *The Management of the Menopause - the Millenium Review 2000*. New York, London: Parthenon Publishing; 2000. p. 11-19.
58. Zollner YF, Acquadro C, Schaefer M. Literature review of instruments to assess health-related quality of life during and after menopause. *Qual Life Res* 2005;14(2):309–327. [PubMed: 15892422]
59. Smith KW, Avis NE, Assmann SF. Distinguishing between quality of life and health status in quality of life research: a meta-analysis. *Qual Life Res* 1999;8(5):447–459. [PubMed: 10474286]
60. Thomas DR. The critical link between health-related quality of life and age-related changes in physical activity and nutrition. *J Gerontol A Biol Sci Med Sci* 2001;56(10):M599–M602. [PubMed:11584031]
61. Brunner RL, Gass M, Aragaki A, et al. Effects of conjugated equine estrogen on health-related quality of life in postmenopausal women with hysterectomy: results from the Women’s Health Initiative Randomized Clinical Trial. *Arch Intern Med* 2005;165(17):1976–1986. [PubMed: 16186467]
62. Utian W, Janata JW, Kingsberg SA, Schluchter M, Hamilton JC. The Utian Quality of Life (UQOL) Scale: development and validation of an instrument to quantify quality of life through and beyond menopause. *Menopause* 2002;9(6):402–410. [PubMed: 12439099]
63. Elavsky S, McAuley E. Physical activity and mental health outcomes during menopause: A randomized controlled trial. *Ann Behav Med* 2007;33(2):132–142. [PubMed: 17447865]
64. Koundi KL, Christodoulakos GE, Lambrinoudaki IV, et al. Quality of life and psychological symptoms in Greek postmenopausal women: association with hormone therapy. *Gynecol Endocrinol* 2006;22(12):660–668. [PubMed: 17162707]
65. Smith AJ, Hall DR, Grové D. Postmenopausal hormone therapy and quality of life. *Int J Gynaecol Obstet* 2006;95(3):267–271. [PubMed: 16919633]
66. Utian WH, Janata JW, Barbier S, Rosen AS, Mayer MH, Taylor MB. Effect of raloxifene on quality of life: a prospective study using the Utian Quality of Life (UQOL) Scale. *Menopause* 2004;11(3):275–280. [PubMed: 15167306]
67. Elavsky S, McAuley E. Exercise and self-esteem in menopausal women: A randomized controlled trial involving walking and yoga. *Am J Health Promot* 2007;22(2):83–92. [PubMed: 18019884]
68. McAuley, E.; Elavsky, S. Physical activity, aging, and quality of life: Implications for measurement. In: Zhu, W.; Chodzko-Zajko, W., editors. *Measurement Issues in Aging and Physical Activity*. Champaign, IL: Human Kinetics; 2006. p. 57-68.

69. Rejeski W, Mihalko SL. Physical activity and quality of life in older adults. *J Gerontol A Biol Sci Med Sci* 2001;56A(11SpecIssue):23–35. [PubMed: 11730235]
70. Schechtman KB, Ory MG. FICSIT group. The effects of exercise on the quality of life of frail older adults: a preplanned meta-analysis of the FICSIT trials. *Ann Behav Med* 2001;23(3):186–197. [PubMed: 11495219]
71. Spirduso WW, Cronin DL. Exercise dose-response effects on quality of life and independent living in older adults. *Med Sci Sports Exerc* 2001;33(6 Suppl):S598–S608. [PubMed: 11427784]discussion S609-510
72. Elavsky S, McAuley E, Motl RW, et al. Physical activity enhances long-term quality of life in older adults: efficacy, esteem, and affective influences. *Ann Behav Med* 2005;30(2):138–145. [PubMed:16173910]
73. Grady D. Management of menopausal symptoms. *N Engl J Med* 2006; 355:2338-2347.
74. Sowers MR, La Pietra MT. Menopause: its epidemiology and potential association with chronic diseases. *Epidemiol Rev* 1995;17:287-302.
75. Blumel JE, Castelo-Branco C, Binfa L, et al. Quality of life after the menopause: a population study. *Maturitas* 2000;34:17-23.
76. Dennerstein L. Well-being, symptoms and the menopausal transition. *Maturitas* 1996;23:147-157.
77. Manson JE, Greenland P, LaCroix AZ, et al. Walking compared with vigorous exercise for the prevention of cardiovascular events in women. *N Engl J Med* 2002;347:716-725.
78. Manson JE, Hu FB, Rich-Edwards JW, et al. A prospective study of walking as compared with vigorous exercise in the prevention of coronary heart disease in women. *N Engl J Med* 1999;341:650-658.
79. Moreau KL, Degarmo R, Langley J, et al. Increasing daily walking lowers blood pressure in postmenopausal women. *Med Sci Sports Exerc* 2001;33:1825-1831.
80. Tudor-Locke C, Hatano Y, Pangrazi RP, Kang M. Revisiting Bhow many steps are enough?]. *Med Sci Sports Exerc* 2008;40:S537-S543.
81. Jordan AN, Jurca GM, Locke CT, Church TS, Blair SN. Pedometer indices for weekly physical activity recommendations in postmenopausal women. *Med Sci Sports Exerc* 2005;37:1627-1632.
82. Krumm EM, Dessieux OL, Andrews P, Thompson DL. The relationship between daily steps and body composition in postmenopausal women. *J Womens Health (Larchmt)* 2006;15:202-210.

83. Sugiura H, Kajima K, Mirbod SM, Iwata H, Matsuoka T. Effects of long-term moderate exercise and increase in number of daily steps on serum lipids in women: randomised controlled trial [ISRCTN21921919]. *BMC Womens Health* 2002;2:3.
84. Tudor-Locke C, Bell RC, Myers AM, et al. Controlled outcome evaluation of the First Step Program: a daily physical activity intervention for individuals with type II diabetes. *Int J Obes Relat Metab Disord* 2004;28:113-119.
85. Haskell WL, Lee IM, Pate RR, et al. Physical activity and public health: updated recommendation for adults from the American College of Sports Medicine and the American Heart Association. *Med Sci Sports Exerc* 2007;39:1423-1434.
86. Nelson ME, Rejeski WJ, Blair SN, et al. Physical activity and public health in older adults: recommendation from the American College of Sports Medicine and the American Heart Association. *Circulation* 2007;116:1094-1105.
87. Public Health Agency of Canada. Canada's physical activity guide. Available at: <http://www.phac-aspc.gc.ca/pau-uap/paguide/index.html>. Accessed January 2, 2009.
88. WHO: International Classification of Functioning, Disability and Health WHO: Geneva, Switzerland; 2001.
89. Asakawa T, Koyano W, Ando T, Shibata H: Effects of functional decline on quality of life among the Japanese elderly. *Int J Aging Hum Dev* 2000, 50:319-328.
90. Centers for Disease Control and Prevention and The Merck Company Foundation: *The State of Aging and Health in America 2007* Whitehouse Station: The Merck Company Foundation; 2007.
91. Aromaa A, Koskinen S (2004) Health and functional capacity in Finland. Baseline results of the 2000 health examination survey. *Publications of the National Health Institute* B12/2004, Helsinki 2004
92. Kuh D, New Dynamics of Ageing (NDA) Preparatory Network (2007) A life course approach to healthy ageing, frailty and capability. *J Gerontol Med Sci* 62A:717-721
93. Ben-Shlomo Y, Kuh D (2002) A life course approach to chronic disease epidemiology: conceptual models, empirical challenges and interdisciplinary perspectives. *Int J Epidemiol* 33:285-293
94. McAuley E, Konopack JF, Morris KS, Motl RW, Hu L, Doerksen SE, Rosengren K: Physical activity and functional limitations in older women: influence of self-efficacy. *J Gerontol B Psychol Sci Soc Sci* 2006, 61(5):P270-P277.
95. Netz Y, Wu M, Becker BJ, Tenenbaum G: Physical activity and psychological well-being in advanced age: a meta-analysis of intervention studies. *Psychol Aging* 2005, 20(2):272-284.

96. Rejeski WJ, Mihalko SL: Physical activity and quality of life in older adults. *J Gerontol A Biol Sci Med Sci* 2001, 56A(Special Issue II):23-35.
97. Bränholm IB, Eklund M, Fugl-Meyer KS, Fugl-Meyer AR: On work and life satisfaction. *J Rehabil Sci* 1991, 4:29-34.
98. Willcox BJ, He Q, Chen R, Yano K, Masaki KH, et al. (2006) Midlife risk factors and healthy survival in men. *JAMA* 296: 2343–2350.
99. Britton A, Shipley M, Singh-Manoux A, Marmot MG (2008) Successful aging: The contribution of early-life and midlife risk factors. *J Am Geriatr Soc* 56:1098–1105.
100. Kvaavik E, Batty GD, Ursin G, Huxley R, Gale CR (2010) Influence of individual and combined health behaviors on total and cause-specific mortality in men and women: The United Kingdom Health and Lifestyle Survey. *Arch Intern Med* 170: 711–718.
101. Rothman AJ, Bartels RD, Wlaschin J, Salovey P (2006) The strategic use of gain and loss-framed messages to promote healthy behavior: How theory can inform practice. *J Commun* 56: 202–220.
102. Lachman ME (2006) Perceived control over aging-related declines: Adaptive beliefs and behaviors. *Curr Dir Psychol Sci* 15: 282–286.
103. Chipperfield JG, Campbell DW, Perry RP (2004) Stability in perceived control: Implications for health among very old community-dwelling adults. *J Aging Health* 16: 116–147.
104. Lachman ME (1986) Locus of Control in aging research: A case for multidimensional and domain-specific assessment. *J Psychol Aging* 1: 34–40.
105. Levy BR, Slade MD, Kasl SV (2002) Longitudinal benefit of positive self-perceptions of aging on functional health. *J Gerontol B Psychol Sci Soc Sci* 57B: P409–P417.
106. Rodin J, Timko C, Harris S (1985) The construct of control: Biological and psychosocial correlates. *Annu Rev Gerontol Geriatr* 5: 3–55.
107. House JS, Landis KR, Umberson D (1988) Social relationships and health. *Science* 241: 540–545.
108. Walen HR, Lachman ME (2000) Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. *J Soc Pers Relat* 17: 5–30.
109. Mavandadi S, Rook KS, Newsom JT (2007) Positive and negative social exchanges and disability in later life: An investigation of trajectories of change. *J Gerontol B Psychol Sci Soc Sci* 62B: S361–S370.
110. Andrew MK, Mitnitski AB, Rockwood K (2008) Social vulnerability, frailty and

mortality in elderly people. *PLoS ONE* 3: e2232.

111. Antonucci TC, Birditt KS, Akiyama H (2009) Convoys of social relations: An interdisciplinary approach. In: Bengtson VL, Silverstein M, Putney NM, Gans D, eds. *The handbook of theories of aging*. 2nd ed. New York: Springer Publishing Company. pp 247–260.

112. Berkman LF, Glass T, Brissette I, Seeman TE (2000) From social integration to health: Durkheim in the new millennium. *Soc Sci Med* 51: 843–857.

113. Seeman TE, Berkman LF, Charpentier PA, Blazer DG, Albert MS, et al. (1995) Behavioral and psychosocial predictors of physical performance: MacArthur Studies of Successful Aging. *J Gerontol A Biol Sci Med Sci* 50A: M177–M183.

114. Calman KC: Quality of life in cancer patients – an hypothesis. *J Med Ethics* 1984, 10:124-127.

115. WHOQOL Group: World Health Organization Quality of Life Assessment: position paper from the World Health Organization. *Soc Sci Med* 1995, 41:1403-9.

116. Day H, Jankey SG: Lessons from the literature: toward a holistic model of quality of life. In *Quality of life health promotion and rehabilitation* Edited by: Renwick R, Brown I, Nagler M. Thousand Oaks, California: Sage Publications; 1996:39-50.

117. Hammell K: Spinal cord injury; quality of life; OT: is there a connection? *Br J Occup Ther* 1995, 58(4):151-157.

118. Pain K, Dunn M, Anderson G, Darrah J, Kratochvil M: Quality of life: what does it mean in rehabilitation? *J Rehabil* 1998, 64:5-11.

119. Stewart A, King A: Evaluating the efficacy of physical activity for influencing quality of life outcomes in older adults. *Ann Behav Med* 1991, 13(3):108-116.

120. Diener E: Subjective well-being. *Psychol Bull* 1984, 95:542-575.

121. Bandura A: Editorial: The anatomy of stages of change. *Am J Health Promot* 1997, 12(1):8-10.

122. Motl RW, McAuley E, Snook EM, Gliottoni R: Physical activity and quality of life in multiple sclerosis: intermediary roles of disability, fatigue, mood, pain, self-efficacy, and social support. *Psychol Health Med* 2009, 14(1):111-24.

123. Elavsky S, McAuley E, Motl R, Konopack JF, Marquez DX, Hu L, Jerome GJ, Diener E: Physical activity enhances long-term quality of life in older adults: efficacy, esteem and affective influences. *Ann Behav Med* 2005, 30(2):138-145.

124. Marsh H, Shavelson R: Self-concept: its multifaceted hierarchical structure. *Educational Psychologist* 1985, 20:107-123.

125. Sonstroem R, Harlow L, Josephs L: Exercise and self-esteem: validity of model expansion and exercise associations. *J Sport Exerc Psychol* 1994, 16:29-42.
126. McAuley E, Blissmer B, Katula J, Duncan SC, Mihalko SL: Physical activity, self-esteem, and self efficacy relationships in older adults: a randomized controlled trial. *Ann Behav Med* 2000, 22(2):131-139.
127. Diener E, Diener M: Cross-cultural correlates of life satisfaction and self-esteem. *J Pers Soc Psychol* 1995, 68(4):653-663.
128. Lachman M, Weaver S, Bandura M, Elliott E, Lewkowicz C: Improving memory and control beliefs through cognitive restructuring and self-generated strategies. *J Gerontol* 1992, 47:293-299.
129. McAuley E, Blissmer B: Self-efficacy determinants and consequences of physical activity. *Exerc Sport Sci Rev* 2000, 28(2):85-88.
130. U.S. Census Bureau: 2000 Census of Population and Housing, Demographic Profile Atlanta: U.S. Census Bureau; 2000.
131. Vita AJ, Terry RB, Hubert HB, Fries JF: Aging, health risks, and cumulative disability. *N Engl J Med* 1998, 338:1035-1041.
132. Leveille SG, Guralnik JM, Ferrucci L, Langlois JA: Aging successfully until death in old age: opportunities for increasing active life expectancy. *Am J Epidemiol* 1999, 149(7):654-664.
133. Keysor JJ: Does late-life physical activity or exercise prevent or minimize disablement? A critical review of scientific evidence. *Prev Med* 2003, 25(3):129-136.
134. Prohaska T, Belansky E, Belza B, Buchner D, Marshall V, McTigue K, Satariano W, Wilcox S: Physical activity, public health, and aging: critical issues and research priorities. *J Gerontol B Psychol Sci Soc Sci* 2006, 61(5):S267-273.
135. Sproston K, Primatesta P, Eds: Health Survey for England 2003 London: The Stationery Office; 2004.
136. Estabrooks PA, Lee RE, Gyurcsik NC: Resources for physical activity participation: does availability and accessibility differ by neighborhood socioeconomic status? *Ann Behav Med* 2003, 25(2):100-104.
137. Centers for Disease Control and Prevention (CDC): Behavioral Risk Factor Surveillance System Survey Data Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention;2007.
138. Federal Interagency Forum on Aging-Related Statistics: Older Americans 2008: Key Indicators of Well-Being Washington, DC: U.S. Government Printing Office; 2008.



139. Fougeyrollas P, Noreau L, Bergeron H, Cloutier R, Dion SA, St-Michel G: Social consequences of long term impairments and disabilities: conceptual approach and assessment of handicap. *Int J Rehabil Res* 1998, 21:127-141.
140. Law M, Cooper B, Strong S, Stewart D, Rigby P, Letts L: The personenvironment-occupational model: a transactive approach to occupational performance. *Can J Occup Ther* 1996, 63:9-23.
141. Letts L, Law M, Rigby P, Cooper B, Stewart D, Strong S: Person- Environment assessment in occupational therapy. *Am J Occup Ther* 1994, 48:608-618.
142. Rowles GD: Beyond performance: being in place as a component of occupational therapy. *Am J Occup Ther* 1991, 45:265-271.
143. Wilcock AA: Reflections on doing, being and becoming. *Can J Occup Ther* 1998, 65:248-257.
144. Rochette A, Korner-Bitensky N, Levasseur M: 'Optimal' participation: a reflective look. *Disabil Rehabil* 2006, 28:1231-1235.
145. Desrosiers J, Rochette A, Noreau L, Bravo G, Hébert R, Boutin C: Comparison of two functional independence scales with a participation measure in post-stroke rehabilitation. *Arch Gerontol Geriatr* 2003, 37:157-172.
146. Bowling A, Gabriel Z, Dykes J, Dowding LM, Evans O, Fleissig A, Banister D, Sutton S: Let's ask them: a national survey of definitions of quality of life and its enhancement among people aged 65 and over. *Int J Aging Hum Dev* 2003, 56:269-306.
147. Lau A, Chi I, McKenna K: Self-perceived quality of life of Chinese elderly people in Hong Kong. *Occup Ther Int* 1998, 5:118-139.
148. Mayo NE, Wood-Dauphinee S, Côté R, Durcan L, Carlton J: Activity, participation, and quality of life 6 months poststroke. *Arch Phys Med Rehabil* 2002, 83:1035-1042.
149. Prince MJ, Harwood RH, Blizard RA, Thomas A, Mann AH: Impairment, disability and handicap as risk factors for depression in old age. *The Gospel Oak Project V. Psychol Med* 1997,27:311-321.
150. Richard L, Laforest S, Dufresne F, Sapinski JP: The quality of life of older adults living in an urban environment: professional and lay perspectives. *Can J Aging* 2005, 24:19-30.
151. Robinson-Smith G, Johnston MV, Allen J: Self-care self-efficacy, quality of life, and depression after stroke. *Arch Phys Med Rehabil* 2000, 81:460-464.
152. Smith NR, Kielhofner G, Watts JH: The relationships between volition, activity pattern, and life satisfaction in the elderly. *Am J Occup Ther* 1986, 40:278-283.

153. van Campen C, Iedema J: Are persons with physical disabilities who participate in society healthier and happier? Structural equation modelling of objective participation and subjective well-being. *Qual Life Res* 2007, 16:635-645.
154. Kim P, Warren S, Madill H, Hadley M: Quality of life of stroke survivors. *Qual Life Res* 1999, 8:293-301.
155. King RB: Quality of life after stroke. *Stroke* 1996, 27:1467-1472.
156. Sprangers MA, Schwartz CE: Integrating response shift into health-related quality of life research: a theoretical model. *Soc Sci Med* 1999, 48:1507-1515.
157. Schwartz CE, Sprangers MA: Methodological approaches for assessing response shift in longitudinal health-related quality- of-life research. *Soc Sci Med* 1999, 48:1531-1548.
158. Schwartz CE, Andresen EM, Nosek MA, Krahn GL: Response shift theory: important implications for measuring quality of life in people with disability. *Arch Phys Med Rehabil* 2007, 88:529-536.
159. Tate DG, Kalpakjian CZ, Forchheimer MB: Quality of life issues in individuals with spinal cord injury. *Arch Phys Med Rehabil* 2002, 83:S18-S25.
160. Desrosiers J, Noreau L, Robichaud L, Fougeyrollas P, Rochette A, Viscogliosi C: Validity of the Assessment of Life Habits in older adults. *J Rehabil Med* 2004, 36:177-182.
161. Sorensen LV, Axelsen U, Avlund K: Social participation and functional ability from age 75 to age 80. *Scand J Occup Ther* 2002, 9:71-78.
162. Rochette A, Desrosiers J, Noreau L: Association between personal and environmental factors and the occurrence of handicap situations following a stroke. *Disabil Rehabil* 2001, 23:559-569.
163. Albrecht GL, Devlieger PJ: The disability paradox: High quality of life against all odds. *Soc Sci Med* 1999, 48:977-988.
164. Viemero V, Krause C: Quality of life in individuals with physical disabilities. *Psychother Psychosom* 1998, 67:317-322.
165. Whiteneck G, Meade MA, Dijkers M, Tate DG, Bushnik T, Forchheimer MB: Environmental factors and their role in participation and life satisfaction after spinal cord injury. *Arch Phys Med Rehabil* 2004, 85:1793-1803.
166. Whiteneck G: Conceptual models of disability: past, present, & future. In *Workshop on disability in America: A new look* Edited by: Field MJ, Jette AM, Martin L. Washington, DC, National Academies Press; 2006:50-66.

167. Vik K, Lilja M, Nygard L: The influence of the environment on participation subsequent to rehabilitation as experienced by elderly people in Norway. *Scand J Occup Ther* 2007, 14:86-95.
168. Carp FM: Neighborhood Quality Perception and Measurement. In *Housing an aging society: Issues, alternatives, and policy* Edited by: Newcomer RJ, Lawton P, Byerts TO. New York, Van Nostrand Reinhold Company; 1986:127-140.
169. Glass TA, Balfour JL: Neighborhoods, aging, and functional limitations. In *Neighborhoods and health* Edited by: Kawachi I, Berkman LF. New York, Oxford University Press; 2003:303-334.
170. Richards JS, Bombardier CH, Tate D, Dijkers M, Gordon W, Shewchuk R, DeVivo MJ: Access to the environment and life satisfaction after spinal cord injury. *Arch Phys Med Rehabil* 1999, 80:1501-1506.
171. Verbrugge LM, Rennert C, Madans JH: The great efficacy of personal and equipment assistance in reducing disability. *Am J Public Health* 1997, 87:384-392.
172. Horowitz BP: Occupational therapy home assessments: supporting community living through client-centered practice. *Occup Ther Ment Health* 2002, 18:1-17.
173. Stuck AE, Walthert JM, Nikolaus T, Bula CJ, Hohmann C, Beck JC: Risk factors for functional status decline in community-living elderly people: a systematic literature review. *Soc Sci Med* 1999, 48:445-469.
174. Balfour JL, Kaplan GA: Neighborhood environment and loss of physical function in older adults: evidence from the Alameda County Study. *Am J Epidemiol* 2002, 155(6):507-515.
175. Verbrugge LM, Jette AM: The disablement process. *Soc Sci Med* 1994, 38:114.
176. Lawton M: *Environment and Aging* 1980 edition. Monterey, California, Brooks/Cole .