New Ideas for Promoting Physical Activity Among Middle Age and Older Adults

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Physical activity can lead to successful aging.

Obesity is increasingly associated with the incidence of disease and premature death in the 55+ age group. This trend has profound social and financial implications that warrant immediate attention, and it will become more significant as the senior population burgeons at a time when physical activity has been stripped from almost every aspect of life. To combat the health care costs associated with a sedentary lifestyle, there is a growing interest in promoting exercise among mature and older adults. The effectiveness of many programs, however, is limited by outdated ideas that misdirect efforts. Recent advancements in gerontology provide guidance that is likely to improve these programs. Specifically, there is now a better understanding of what "successful aging" means and of what aspects of life have the greatest potential for increasing physical activity in later life. This article documents these developments and new interdisciplinary efforts to provide services and products that increase physical activity among the older segments of the population.

New Challenges

Getting middle age and older adults physically active is becoming more difficult due to the confluence of two revolutions. First, this age group is experiencing unprecedented growth. While 21 percent of the United States population was age 55 and over in 2000, by 2030 it is likely to be 30 percent (U.S. Census Bureau, 2005). Second, physical activity has been removed from nearly every aspect of life, and the vast majority of adults do not get enough exercise. The federal government defines adequate exercise as moderate activity for 30 or more minutes. five times a week, or vigorous activity for 20 minutes or more, three times a week (Federal Interagency Forum on Aging-Related Statistics [FIFARS], 2004). Approximately 70 percent of people age 45 to 64 and 80 percent of people age 65 and over do not meet these criteria (FIFARS, 2004). Furthermore, 25 percent of adults in the United States do not engage in any physical activity at all (Centers for Disease Control and Prevention [CDC], 2001).

These revolutions, along with changes in diet, have resulted in obesity rates that have reached "epidemic proportions" (FIFARS, 2004, p. 36). In 1962, 18 percent of Americans age 65 and over were obese and 55 percent were overweight. By 2002, 32 percent

were obese and 73 percent were overweight. Women, Hispanics, and blacks are the most at risk for becoming obese.

Obesity now rivals or surpasses the threat to health and life posed by cigarette smoking (FIFARS, 2004; U.S. Department of Health and Human Services [USDHHS], 2003). In addition to adversely affecting the quality of life, obesity is a contributing factor to many physical conditions, including heart disease, diabetes, various cancers, asthma, and osteoarthritis. Ultimately, obesity is thought to reduce "healthy, disability-free" life by as much as 30 years and overall life expectancy by 20 years (USDHHS, 2003, "The effects of overweight and obesity," ¶ 3).

In addition to the social cost, obesity poses a serious economic encumbrance for the nation. Disease and disability associated with overweight and obesity accounted for 9.1 percent of health care costs (as much as $78.5 billion) in 1998 (CDC, 2006). These costs are born by health care consumers as well as the public. People age 65 and older typically spend 21 percent of their income on health care; it is the largest personal expense in middle and later life (FIFARS, 2004). The poor and near poor spend even more. Although consumers bear a heavy financial burden, taxpayers, through the Medicare and Medicaid programs, pay 65 percent of health care costs. While health care costs accounted for 14 percent of the gross domestic product in 2001, the aforementioned revolutions are expected to increase this figure to 18 percent by 2012 (USDHHS, 2003).

A New Understanding of Successful Aging

The failure to attract and retain middle age and older participants in exercise programs is attributable in part to misconceptions about successful aging. Successful aging is often thought of as maintaining the skills of young adulthood and middle age, and older adults are encouraged to imitate activity patterns characteristic of those periods in life. However, an important shift in the concept of successful aging has occurred. It is increasingly defined as "successful adaptation" (Baltes & Carstensen, 1996, p. 406; Freund, Li, & Baltes, 1999), which is achieved by minimizing limiting conditions and maximizing opportunities for growth. This conceptual shift is important for two reasons. First, it accurately describes mature and older adults' abilities. Although most people associate later life with decline, it is also a time in which growth occurs, especially in some aspects of cognitive and affective development (Schaie & Willis, 2002). Second, it recognizes that the tactics people use to age successfully vary as their skills and motivations change over time.

Two theories—(1) selection, optimization, and compensation (SOC) and (2) socioemotional selectivity—are based on this newer concept of successful aging. Although they have yet to be embraced by many professionals in physical education and recreation, these theories provide important information that is likely to make physical activity programs more appealing to mature and older adults. The following sections describe these theories and the ways in which they may make exercise programs more attractive.

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LifeTrail, a series of physical activity stations adjacent to a walking path, incorporates the latest interdisciplinary information in its design.

Selection, Optimization, and Compensation Theory

The SOC theory suggests that individuals who age successfully use three strategies—selection, optimization, and compensation—to pursue goals (Baltes & Baltes, 1990; Freund & Baltes, 1999). *Selection* refers to goal selection, commitment, and prioritization. For example, while a young martial artist's goals often relate to the development of strength, endurance, and precision, as she grows older and more masterful, her goal may shift to learning the wisdom of the discipline. *Optimization* refers to maximizing performance to facilitate success. It involves the degree of focus, the timing and tenacity of goal pursuit, learning new skills, modeling others who are successful, developing resources, and increasing the amount of time dedicated to goals. *Compensation* refers to adapting to limitations that interfere with goals. It includes using assistive technology, obtaining help from others, developing new skills and resources, employing previously discarded skills and resources, devoting more energy or time, and modeling others who compensate well. While people may favor one or two of the strategies described by the SOC theory, the elements are typically used simultaneously. For example, a competitive tennis player who is committed to the game (selection) despite his declining ability to run, may limit the number of matches he plays to conserve energy (optimization) and switch from singles to doubles to accommodate his limitation (compensation). The SOC theory appears to be empirically sound and generalizable to various cultural and age groups.

An older couple uses the pedaling exercise station along LifeTrail. The social aspect of exercising with friends or relatives greatly increases the motivation of middle age and older adults.

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Implications of SOC

Resolving Leisure Constraints. While the strategies described by SOC may be familiar, the theory provides a useful guide for resolving leisure constraints. Disabilities sometimes limit the pursuit of goals, and if resources such as time, energy, or knowledge are reallocated (optimization) or accommodations are made (compensation), the leisure constraint may be resolved. For example, creating a clearinghouse of information about local trails or providing seating along paths may resolve constraints to walking. Programmers who recognize and accurately respond to the variability within the 55+ age group are more likely to succeed.

Capitalize on Strengths. Leisure-related goals often revolve around feelings of mastery. Between the ages of 50 and 70, some aspects of intellectual development are at their peak, but physical skills decline (Schaie & Willis, 2002). One strategy that may increase physical exercise is to pair it with cognitive exercises. For example, participants could be encouraged to select a favorite activity, such as a nature walk, and could be asked to scout hikes or research the flora and fauna on the trail. Adding a cognitive element may make the physical task more appealing. Since modeling others is a useful optimization strategy, the participant who researched the hike could then lead the group. Perhaps others will be

motivated to plan or lead future walks. A second example is to develop fitness programs that incorporate memory exercises. While cognitive ability in later life is usually very good, maintaining recent memory is a concern for many older adults. Fortunately, the mind, like the body, has the ability to stretch and grow even in very old age (Schaie, 2005). Pairing intellectual and physical exercise appears to heighten cognitive ability. Physical education and recreation providers who recognize and foster mature and older adults' intellectual strengths during exercise programs are more likely to meet participants' physical goals and, consequently, attract and retain clients.

Socioemotional Selectivity Theory

Socioemotional selectivity describes changes in motivation for social interaction. This issue is particularly important for program administrators to understand because, as people grow older, the social element of programs tends to become more important than the activity itself (Mannell & Kleiber, 1997). Socioemotional selectivity theory suggests that the motivation for relationship selection appears to change over time (Carstensen, 1991; Carstensen, Gross, & Fung, 1998). Early in life, relationships serve primarily as a vehicle for obtaining information, so large social networks are beneficial. In later life, relationships serve primarily as a vehicle for social support, so small social circles are most beneficial. This change is related largely to the perceived time left to cultivate relationships. When perceived time left is constrained due to work obligations, extended travel, or even impending death, meaningful relationships are given priority over less important ones. This shapes the size and quality of social networks. The overall number of social contacts declines, but not uniformly; peripheral relationships are discarded while important ones are retained, resulting in social networks that are dominated by close relationships.

Typically, smaller social circles, which are common among older adults, are viewed as unhealthy. Recent evidence suggests that this assumption is not accurate (Carstensen et al., 1998). People who have small social circles that include very close relationships report rates of emotional closeness and compatibility that are as high or higher than those of people who have large social circles. Acquiring smaller but more meaningful social circles, therefore, appears to be an effective adaptive measure leading to optimal emotional well-being. Socioemotional selectivity theory appears to be empirically sound and generalizable to various cultures, personality types, family compositions, and age cohorts.

Implications of Socioemotional Selectivity Theory

Exercise programs that address social interaction are often designed to promote the formation of new friendships. While this may be helpful for some, the socioemotional selectivity theory explains that, for many older adults, this approach is undesirable. To attract and retain a broader range of participants, providers should create exercise programs that

promote very close relationships in addition to ones that foster the development of new relationships. For example, mature participants could be offered a discounted fee if they register for an exercise program with a very close family member or friend. In addition to increasing the number of registrants, the interpersonal support that participants receive will likely enhance their attendance. In some cases, programs can be designed so that established sets of friends interact in a semi-private fashion. For example, a yoga routine could be designed to break a large group into pairs of friends that work out together. When conducting fitness programs that naturally include dyads, such as weightlifting, tennis, or dancing, people can be encouraged to retain established partnerships rather than switching partners.

Socioemotional selectivity theory also has some implications for program assessment. Most physical education and recreation professionals measure program success by examining attendance rates. Although this figure is important to programmers, it is not important for participants. For mature and older adults, feelings of closeness or compatibility with co-participants is a more important indicator of success and should be assessed. If these dimensions of emotional well-being are addressed, attendance rates are likely to be higher.

Effective Leisure Activities

Mechanization and an economy based on information have stripped physical movement from most realms of life. A recent study funded by the Robert Wood Johnson Foundation suggested that leisure-time physical activity contributed more to older adults' health than household or occupational work (Chow, 2006). It improved many aspects of physical well-being, including health perception, physical functioning, mental health, vitality, pain, social functioning, and obesity. However, not all leisure activities are equally effective. While participation in formal exercise programs is associated with improvements in health, the benefits are short lived. Approximately half of the participants in such programs quit within six months (Willis & Campbell, 1992). Therefore, leisure activities that are intrinsically satisfying and freely chosen are most likely to promote activity and preserve mature and older adults' physical well-being.

New Interdisciplinary Efforts

There is increasing recognition that the problem of physical inactivity can be remedied only through interdisciplinary efforts. The new theories of successful aging are themselves interdisciplinary, and they imply that any application of them to the practical issue of getting older adults to be more active must use knowledge from a variety of fields as diverse as kinesiology, urban planning, and social psychology. The following are examples of research programs, conferences, and products that exemplify such interdisciplinary efforts.

Active Living Research. The Robert Wood Johnson Foundation is sponsoring a coordinated, interdisciplinary effort to find creative approaches for reintegrating physical activity into American life (www.activelivingresearch.org). "Active

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Making exercise stations accessible to persons with disabilities is an important design consideration.

living" is a way of life that integrates physical activity into daily routines. The goal is to accumulate at least 30 minutes of activity each day. Individuals may do this in a variety of ways, such as walking or bicycling for transportation, playing in the park, working in the yard, taking the stairs, or using recreation facilities. Rather than addressing obesity as an individual health problem, this new, interdisciplinary field of active living is focusing on how the built environment—including neighborhoods, transportation systems, buildings, parks, and open spaces—can promote a more active life. Active Living Research is part of this effort, investigating policies and environments to support active communities. The authors strongly believe that focused, interdisciplinary research is critical.

Cooper Institute. The prestigious Cooper Institute is "dedicated to advancing the understanding of the relationship between living habits and health and to providing leadership in implementing these concepts to enhance the physical and emotional well-being of individuals" (www.cooperinst. org). In October 2006, it held a conference entitled "Parks, Recreation, and Public Health: Collaborative Frameworks for Promoting Physical Activity." This conference is one of a number of interdisciplinary initiatives to bring together public health, recreation, and park professionals, as well as scholars from diverse fields of inquiry.

LifeTrail. This is a series of physical activity stations designed to be placed on trails or walking paths. The planning of the LifeTrail concept used interdisciplinary information as the basis for the development of the project. Since walking is by far the most common form of physical activity among older adults, LifeTrail was developed to add exercise value and fun to the activity. To design the LifeTrail, Playworld Systems (a recreation equipment manufacturer)

collaborated with two Penn State professors, David Proctor (an exercise physiologist specializing in physical activity in later life) and Geoffrey Godbey (a leisure scientist whose research emphasizes the role of local parks in older adults' physical activity).

LifeTrail consists of ten stations that address the major components of a well-rounded fitness program for older adults. The stations include the following: welcome, lower body warm-up, bench stepper, torso stability, upper body warm-up, standing push-up, forearm rolls, upper body stretch and strengthen, lower body stretch, and balance activities. Each station is composed of three sides, two that provide activities and one that contains health information, a wheelchair/ADA accessible activity, or a custom panel to recognize sponsors. The activities offer two levels of exertion and many allow the user to customize the intensity further.

LifeTrail was designed in accordance with the principles of the SOC and socioemotional selectivity theories. It allows participants to use stations selectively and to optimize their use by adjusting resistance levels. It also compensates for the needs and abilities of older adults who use wheelchairs. Because each station of the LifeTrail has three sides or panels, participants can use them with close friends or family.

After extensive prototype testing at Cleveland Metroparks and Cornwall Manor (a continuum-of-care retirement community in Pennsylvania), LifeTrail is appearing in many parks and grounds throughout the country. LifeTrail stations can be spread out, clustered in groups at various points, or grouped at one end of a walking path or trail. It includes a training video that provides step-by-step instructions for each station, as well as a programming guide that provides numerous suggestions on how to encourage and motivate users, including loosely structured games and organized team competitions. In some cases, third parties—such as state departments of health, health maintenance organizations, or hospitals—are paying a portion of the cost or the complete cost.

Summary

Promoting physical activity among middle age and older adults to decrease the incidence of disease and premature death and to combat the health care costs associated with a sedentary lifestyle is more important now than ever. The effectiveness of many programs in the past has been limited by outdated ideas that misdirect efforts. However, the concept of successful aging has been reinterpreted as successful adaptation, and theories like SOC and socioemotional selectivity explain how it is achieved. Leisure activities, especially those that are intrinsically motivated and satisfying, appear to be the most promising arena for promoting physical activity among older adults, and there are several promising interdisciplinary programs, environments, and products that can promote active living among the 55-and-over crowd.

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