Physical Activity: An Innovative Context for Intergenerational Programming

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ABSTRACT. There is a sound rationale for developing intergenerational programming that includes physical activity. Innovative interventions, to help older adults increase and maintain healthy levels of physical activity, are required. Further, the physical activity experience itself might be a particularly resonant context for young and old in developing positive schemas about aging and the aging body. We conducted a systematic literature review in order to examine the benefits of intergenerational physical activity. While research is scarce, the reviewed studies suggest that intergenerational physical activity programming is feasible and can promote short-term changes in physical activity levels of...
older adults and improve attitudes toward aging and older adults. Future priorities for research and practice are discussed. doi:10.1300/J194v04n04_05

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INTRODUCTION

Intergenerational programs have primarily been delivered within social, educational, and rehabilitation-related contexts (Williams & Nussbaum, 2001). In exploring the intergenerational literature we feel that one context through which intergenerational programming could occur—physical activity—has received less attention and recognition. The physical activity context deserves consideration because it encompasses multiple domains, such as offering physical health benefits which are not commonly produced through more traditional contexts of intergenerational programming, in addition to potentially facilitating meaningful opportunities for intergenerational interaction. In this paper, we will consider why physical activity should receive greater consideration for advancing the field of intergenerational programming before providing a systematic review of existing evidence of its benefits.

WHY PHYSICAL ACTIVITY?

Health

Physical activity is an important context for intergenerational programming because it provides important health benefits. Physical inactivity is recognized as a major risk factor for premature mortality and morbidity in later life. In a recent review of the health benefits of physical activity for older adults, Taylor and colleagues (2004) reported that physical activity elicits positive effects on cardiovascular, musculoskeletal, and psychosocial components of health. Physical activity improves VO2max which is a measure of endurance capacity and a strong indicator of health. This is significant for older adults because VO2max decreases with age due to changes in the cardiovascular system and
compromises health. Physical activity also improves musculoskeletal health and prevents sarcopenia, the loss of muscle mass associated with aging. Strong musculoskeletal health is associated with fewer falls and fractures, which is valuable for a population that can be vulnerable to such occurrences. Furthermore, physical activity is related to a range of psychosocial benefits in older adults (Biddle & Faulkner, 2002). Recent research suggests that physical activity may also be associated with the prevention or delay in development of dementia and Alzheimer’s disease (Laurin, Verreault, & Lindsay, 2005).

However, there is an important paradox in that the health benefits of physical activity are conclusive yet physical activity levels decrease with age. In a national survey of health behaviors in the USA (Behavioral Risk Factor Surveillance System, BRFSS 2001), 60% of older adults without a disability did not obtain a recommended amount of physical activity (30 minutes of moderate intensity activity on at least five days of the week) necessary to receive substantial health and fitness benefits (Brown, Yore, Ham, & Macera, 2005). Furthermore, there has been little success over the last twenty years in encouraging older adults to be physically active (National Blueprint, 2001). Accordingly, attention is focusing on how to increase the physical activity levels of older adults in order to promote optimal health and counteract functional decline associated with aging. While there are a number of reasons that could explain this decline (see Brawley, Rejeski, & King, 2003), Ory and colleagues (2003) highlight the role of ageism in reducing the potential for successful aging. They propose that the creation of intergenerational networks within a recreational and fitness context is one strategy for combating ageism. They suggest that through intergenerational networks, “common values can be explored and shared agendas formulated” (p. 169). While intergenerational programming will not solve the problem of inactivity in old age, it remains one innovative and attractive context for delivering interventions primarily designed to increase physical activity levels and promote health among older adults. One recent pilot study has demonstrated the feasibility of utilizing intergenerational familial links to deliver a physical activity intervention (Randsell, Robertson, Ornes, & Moyer-Mileur, 2004).

The Aging Body

For young people, we suggest that there is potentially something quite resonant about being physically active with older adults. Pollner and Stein (1996) describe the concept of “narrative maps” that can be
used to describe and advice young individuals about the people, practices, and problems they are likely to encounter as they age. Thus, “in representing his or her experience of ageing, the older person provides the younger person with a pre-presentation of what is to come as they age” (Phoenix, Faulkner, & Sparkes, 2005, p. 344). For many, the aging process involves physical changes to the body and is considered to be primarily “a bodily affair” (Gilieard & Higgs, 2000, p. 129), as aging is associated with physical changes including the loss of strength, muscle mass, bone density, and postural stability, and decreased flexibility and range of motion (Mazzeo et al., 1998).

Accordingly, intergenerational contact that occurs in a setting where the body and its (in)capacities are explicitly salient may provide a more tangible preview of what is to come in later years. This in turn may confirm or challenge cultural stereotypes about aging and physical activity. This intergenerational contact can “increase or reduce anxiety, motivation, and morale depending, of course, on what is portrayed as awaiting the traveler” (Pollner & Stein, 1996, p. 219) and we suggest that intergenerational physical activity experiences may provide a broader and richer forum for intergenerational communication than that typically provided in other settings. For example, the Stereotype Activation Model of Aging highlights the importance of physical cues, such as physique and personal appearance, in promoting or challenging aging stereotypes (Hummert, 1994). This model posits that physical characteristics such as functional capacity, whether healthy or infirm, may prompt certain stereotyped perceptions. These then impact the nature of the communication which occurs between generations, and ultimately, the views that different age groups have about each other. Empirical testing is still required but we speculate that through interacting with older adults in an intergenerational physical activity context, young people may experience the potential physical capabilities of older adults and develop more positive schemas about their own aging body and the maintenance of physical activity across the lifespan.

Interventions that promote physical activity in older adults while attenuating negative expectations of self-aging for both young and old should be an attractive option for both intergenerational and physical activity practitioners and researchers, and their potential has been recognised. The World Health Organization (1996) claims that physical activity provides opportunities for intergenerational contact which can diminish stereotype perceptions about aging and the elderly. Anecdotal reviews have also concluded that physical activity contexts provide positive intergenerational experiences (Colston, Harper, & Mitchener-
Colston, 1995; Corbin, 1998; Durrett, 2001; Harper, 1999). While the ideas put forth by these commentators seem intuitively appealing, we question whether there is much empirical support for such claims (see also Biddle & Faulkner, 2002). To address this gap, we conducted a systematic review of the literature to identify the strengths and weaknesses of the case for intergenerational programming within the physical activity context.

**METHOD**

To explore the empirical evidence about intergenerational physical activity programs, a systematic literature search and review was conducted according to recommendations by Chalmers and Altman (1985). There were no limits on the research design (i.e., experimental, quasi-experimental, qualitative), but for inclusion, studies had to empirically examine a physical activity and intergenerational program. We conducted online searches of electronic databases Sport Discus (1975-January 2005), MEDLINE (1992-January 2005), PubMed (1966-January 2005), Web of Science (1945-January 2005), EMBASE (1980-January 2005), Ageline (1978-January 2005), and PsycINFO (1887-January 2005). We restricted our search to studies published in English and published prior to 2005. Keywords for our search were “intergeneration*,” “intergenerational,” “physical activity,” “exercise,” “walking,” “older adults,” “youth,” and “communication.” We identified five studies that met our inclusion criteria. Due to the low number of identified studies we provide a narrative review of each of these.

**RESULTS**

The most significant study was conducted by Romack (2004) which provides direct empirical support for our initial rationale for incorporating physical activity into intergenerational programming. Romack implemented a program called Free-Wheelers that aimed to improve physical ability and self-mobility among wheelchair-dependent nursing home residents. Free-Wheelers, a service-learning project, paired university students with nursing home residents in an individualized physical activity program. Residents took part in physical and recreational activities that were designed and administered by the students three times a week for eight weeks. Ten out of eleven residents showed improvements in physical performance as measured by the time in which
they propelled their wheelchair, a distance of six meters at their own preferred pace. Through measurements on the Beck Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974), eight out of eleven residents also showed less hopelessness at the end of the program relative to their baseline measures. Referring to quotes from students’ weekly reflective journals, Romack concluded that students developed more positive attitudes toward aging. Though stereotypes pertaining to ageism were evident in the entries, students revealed positive attitudinal changes following the activities. For example, one student commented, “When you think of an elderly care facility, you get a negative image in your mind. . . . This is how I viewed nursing home facilities and their residents. . . . When we would do activities, it was evident they were enjoying themselves because they were smiling, laughing, and making jokes. During our time there, we did a lot to change this negative stereotypical view that I had” (Romack, 2004, p. 29). Another student wrote, “I know that I have been deeply affected by working in this facility. They are not just grumpy old people waiting to die” (p. 29). This study is weakened by the absence of an explicit framework for analyzing the journal data or how such quotes were selected from the broader corpus of data.

Sherman (1997) examined the benefits of intergenerational creative dance, although for deaf children and older adults. This study consisted of 10 older adults and 10 young children who were engaged in a five-week dance program with their respective age groups, and participated in a ten-week intergenerational dance program. Through observations, informal and formal interviews, Sherman reported that intergenerational dance classes were a positive and enriching experience in which elders regenerated themselves by nurturing and caring for the children. Moreover, the children displayed positive attitudes toward older adults. Older participants reportedly experienced a sense of renewal and were reportedly more aware, interactive, motivated, expressive, and sociable. Findings were derived from a form of content analysis with efforts made to strengthen the trustworthiness of the conclusions through the use of triangulation, discussions with a peer support group, and an auditor who independently reviewed the interpretations. Studies incorporating a control group would provide greater confidence that any benefits are a result of the intergenerational contact rather than broader social contact per se.

Rossberg-Gempton, Dickinson, and Poole (1999) explored whether participation in an intergenerational creative dance program led to enhanced motor skills and cognitive abilities in children and older adults.
Three groups were compared; one consisted of children in a “wait-list” condition who participated in physical education activities, the second engaged seniors in an exercise program, and the third engaged children and adults in a creative dance program. The intergenerational group consisted of 15 institutionalized older adults and 21 children (7-10 years) who engaged in a 30-minute dance class twice a week for 12 weeks. Several standardized and reliable measures were used to evaluate changes in motor skills and cognitive abilities, and to measure the acquisition of creative dance skills. The greatest improvements in physical [as measured by the Caplow-Lindner Scale (Caplow-Lindner, Harpaz & Samberg, 1979)] and cognitive abilities [as measured by the WAIS-R performance scales (Wechsler, 1981)] were found in the intergenerational group. Children’s performance on motor skill and cognitive tests improved in all three conditions.

Additional information about the benefits of intergenerational physical activity comes from a published report on the Adult Health and Development Program (AHDP), an individualized health education program which paired student volunteers with older adults once a week for nine weeks to engage in health education and physical activities such as walking, swimming, jogging, square-dancing, and yoga (Leviton, 1991). Using a range of surveys and qualitative feedback with a convenience sample, this report concluded that older adult participants perceived positive effects on health and subjective well-being through their involvement with the program. Conversely, Leviton reported the younger participants learning more about aging and old age. Lack of detail regarding methodology does not allow a rigorous evaluation of the strength of these claims although Leviton (2005, personal communication) commented that the study was designed primarily for illustrative purposes.

In the strongest design, Fried and colleagues (2004) reported findings of a randomized trial evaluating the Experience Corps program which places older volunteers in public elementary schools in USA. The aims of the program were to improve physical, social, and cognitive activity among older adults, and to improve the academic outcomes of children in kindergarten through grade three. Older adult volunteers were randomly assigned to the Experience Corps condition or to a control, waiting-list condition. In the former condition, participants served 15 hours per week, over 3-4 days for the full school year. Their aim was to address the unmet needs of the school including literacy support, opening or helping maintain the school libraries, and violence prevention programs. While shared physical activity experiences were not a
structured component of this program, follow-up measures revealed that volunteers had greater perceived strength, felt that they could help more people, and had greater cognitive activity compared with baseline. This demonstrated that increases in levels of physical activity may occur as an additional outcome. Specifically, in terms of energy expenditure, the Experience Corps group increased reported kilocalories expended per week by 25% as estimated from self-report. In comparison, the control group’s energy expenditure declined by 5%. This study also implemented four child-outcome measures to assess the changes experienced through the program. These were conducted at the beginning, and again at the end of the program. Results demonstrated that the program led to significant improvements in academic achievement related to reading skills and verbal ability, and classroom behavior among children (Rebok et al., 2004).

**DISCUSSION**

The limited evidence available suggests that it is possible to develop intergenerational interventions that include a physical activity component, that such interventions can increase physical activity levels of older adults as measured objectively and through self-report, and enhance the health and well-being of older adults, and that such interactions can influence the attitudes of young people toward aging and older adults. However, strong conclusions cannot be made at this time given the quantity of research and existing methodological weaknesses commonly found in the intergenerational literature (Fox & Giles, 1993; Williams & Nussbaum, 2001).

Further research is clearly required that addresses the limitations of the existing literature. Most of the identified studies focused primarily on the experiences of the younger population. The intergenerational experiences of the elderly participants are often inferred from statements made by the younger participants (i.e., Romack, 2004). In order to make conclusive statements about the benefits of intergenerational physical activity for both young people and older adults, it is essential to consider the experiences of both generations. Second, as with most studies in the intergenerational literature, the emphasis has been on short-term changes in outcomes. Consequently, we do not know whether any changes in physical activity levels or attitudinal changes are enduring. Third, there is a lack of theory-driven research which consequently tells us little about the mechanisms through which intergenerational benefits occur.
through physical activity or how intergenerational contact could be structured to reliably promote positive experiences for both young and old. Several studies also provided little detail about methodological rationale and analysis. Embedding research within a theoretical framework would guide the selection and/or development of appropriate measurement tools or protocols for assessing changes in outcome variables of interest to the researcher that reflect intergenerational communication.

We were surprised by the paucity of research about intergenerational physical activity, although our search was restricted to published research. There may be substantially more “gray” literature such as unpublished reports or conference abstracts that we have not captured. However, it may be that the consideration of intergenerational outcomes is not prominent among physical activity practitioners and researchers. This is unfortunate as many programs and interventions for older adults may be primarily delivered by younger instructors and opportunities for exploring intergenerational contact may currently be missed. For example, Ransdell et al. (2004) describe a physical activity intervention using triads consisting of daughter, mother, and maternal grandmothers. No reference is made to the possibility of intergenerational communication being an important process or outcome of the intervention. Yet physical activity contexts are themselves not immune to age segregation where physical activity groups and fitness classes remain largely targeted toward specific age groups. Furthermore, strong theoretically derived interventions to increase physical activity, based on social-cognitive theory, for example, may stress the importance of same-aged exercise instructors to enhance older adults’ self-efficacy to exercise (Bandura, 1986).

We need to encourage physical activity researchers and practitioners to remain conscious of how their practice could benefit from explicitly including intergenerational communication as an outcome of their work. This could be an important health outcome in its own right while providing the basis for further empirical examination. At the same time, intergenerational programmers could consider how to incorporate some elements of physical activity into their existing programs. The rationale for this primarily relies on the conclusive health benefits of physical activity, such as walking or chair-based exercise, in delaying functional decline and improving quality of life (Taylor et al., 2004).

The development of intergenerational and physical activity programming and its evaluation might begin to tell us whether there are particular elements of programming essential to facilitating positive ex-
periences during the physically active, intergenerational experience. How do we plan and deliver a physically active, intergenerational experience? Are there particular requirements other than those of good practice in physical activity programming? For example, most of the studies we reviewed were not conducted in an age-neutral environment. Age-salient environments such as nursing homes are found to activate negative stereotypes about the elderly, which may limit the potential benefits that can be gained when young and old people interact in this environment. Should intergenerational physical activity programs involve only older adults who have a high level of physical functioning? Are there differences in proposed outcomes when the intergenerational contact is within or beyond the family? At this early stage of research, qualitative methods such as interviews or focus groups in conjunction with participant observation may provide important insights into these questions. Grounded theory approaches (Strauss & Corbin, 1994) may be best suited in developing a conceptual framework for understanding and interpreting the potential benefits of incorporating physical activity into intergenerational programming. In particular, it is important to examine what intergenerational benefits, if any, older adults derive from these experiences. Results from such qualitative enquiry may in turn inform the development of context-specific measurement tools designed to assess the benefits of intergenerational physical activity interventions.

The examination of physical activity serving as a contextual experience for enhancing communication between generations and promoting lifelong interest and participation in physical activity is clearly in its infancy. We believe that its potential has thus far been untapped in promoting active living within and across generations. Through interdisciplinary collaboration we hope that the role of physical activity receives greater research and practice consideration within the intergenerational context.

REFERENCES


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