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Relationship Between Activity Levels and Educational Levels of the Elderly

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Abstract

A college education offers many obvious advantages to those who choose to pursue their education beyond high school, but there are many unexplored benefits as well. The purpose of this study was to explore how physical activity level of the elderly might be related to educational level of the elderly. A person who is better educated would likely have more resources available to them potentially resulting in a more active lifestyle. Age and educational level were the predictors used. In the sample ($N=42$) age was not found to be a predictor of activity level; however, educational level was found to be a significant predictor.

Relationship Between Activity Levels and Educational Levels of the Elderly

The financial rewards of a college education are many. According to the U.S. Census Bureau (1998), average annual earnings for full-time workers with a Bachelor's degree (\$48,117) were nearly 70 percent higher than high school graduates (\$28,510). Individuals with a college education often have better employment opportunities, earn more money and develop skills and knowledge that one can benefit from for a lifetime. Furthermore, this knowledge may determine whether a person in their later years of life practice healthy eating habits in terms of eating properly and exercising regularly. According to Wang (1999), who studied three ethnic groups of elderly women, education was a significant predictor of a healthy promoting lifestyle in at least two of the three groups studied. Education is also a predictor in the elderly of their state of mind as far as feelings of happiness or unhappiness. According to Lasheras, Patterson, Casado and Fernandez (2001), elderly women with a lower educational level (9th grade and below) reported more feelings of unhappiness and had poorer social relationships than those with a higher education. Furthermore, those with a higher educational level rated their own level of health status higher than less educated individuals in this study. This suggests that education does have an impact on one's self motivation to practice a healthy lifestyle.

Elderly higher educated women have more resources and are better able to find the proper resources in order to assist them in their quest for a healthy lifestyle (Wang,

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1999). Zaszniwski, Chung and Krafcik (2001) found that those with greater resourcefulness skills were more self-determined to achieve optimal health.

According to the U.S. Census Bureau (1999), the percentage of Americans age 65 and older has tripled since 1969. In 1998 the number of Americans age 85 and older was 33 times larger compared to the year 1969. The number of older Americans will continue to grow as Americans enjoy longer and healthier lives.

Older people are healthier now than ever before, according to the U.S. Department of Health and Human Services (1999); however, there are millions of older Americans who rely on family, friends and other caretakers to assist them in their daily living. This particular population consists mainly of those with chronic illnesses who are unable to properly take care of themselves. For those who are free of these debilitations, there is much hope that they will be able to live longer, more satisfying lives than ever before. According to Dillard, Campbell and Chisolm (1984), educational level is a significant predictor in determining life satisfaction of the elderly. Much research has been done on the level of satisfaction of the elderly according to educational level; however, little research has been done on how educational level affects activity level in the elderly. As noted by Lasheras et al. (2001), increased social activity level in the elderly can be attributed to a higher educational level. But this does not explain how a higher education can benefit the elderly as far as being healthy and physically active.

Kim and Hung (1997) performed a study to examine the motivational factors for elderly in terms of volunteer participation. It was found that a higher educational level was a predictor of an elderly person working as a volunteer. It is reasonable to predict that as our elderly population increases, there will be an increase in volunteer participation as well. This is explained by taking into consideration that as a whole, people are becoming better educated, which would explain the reason for the projected increase. The results of this study suggest that education does make a difference in activity level of the elderly in terms of unpaid employment. With this in mind it could be expected that the elderly who are more socially active would also be inclined to be more physically active as well. A study by Takkinen, Suutama and Ruoppila (2001), examined the predictive value of physical activity in terms of life satisfaction among elderly persons. This study showed that physical activity level does have a positive effect in regard to life satisfaction. Another study by Clark, Long and Schiffman (1999) explored the same concept, but included cognitive ability of each participant. They found that those who participated in regular intense exercise were able to think more clearly than those who were more sedentary. The results of this study show that one of the benefits of being physically active is a higher cognitive ability.

It has been shown that education has an effect on one's level of self-motivation and cognitive ability, as well as social activity. But this does not explain what other factors might influence a person to be more physically active.

The purpose of this study is to examine whether there is a relationship between educational level and physical activity level of the elderly. It is predicted that those with a higher level of education will be more physically active than those with less education. For this study, elderly persons between the age of 65 and 91 were surveyed questions about their physical activity level. There were three groups of participants with 14 from each educational level. The first group consisted of those participants with a high school education or less. The second group was comprised of those participants who had taken some college classes, or had obtained an Associates Degree. The third group consisted of participants who had earned a Bachelors Degree, Masters Degree or PhD.

Methods

Participants

The sample was composed of 42 elderly persons between the ages of 65 and 91 ($M = 74.43$, $SD = 7.43$). There were 21 males and 21 females who participated in this study. Approximately 16 of the participants were recruited from a retirement community located in the Midwest. The remaining participants were friends, neighbors and acquaintances of the researcher. All subjects participated on a voluntary basis.

Materials

The International Physical Activity Questionnaire (IPAQ) (2002) was used for this study. The questionnaire consisted of five parts, with the first part including demographic information on each of the participants. This included four questions in regard to age, sex, marital status and ethnic background. The fifth question was in regard

to educational level, which was a key factor in this study. Part two consisted of five questions regarding physical activity for the purpose of work related activity, such as the amount and intensity of any walking which was necessary for their job. Part three consisted of three questions which were related to physical activity performed for the purpose of transportation while traveling from place to place. This did not include walking or running, but did include questions such as on how many days in the past week the participant walked for at least 10 minutes at a time. Part four consisted of two questions which were related to recreation, sport or leisure time activity. The responses were answered in terms of days per week the subject participated in this activity for at least 10 minutes at a time. Part five consisted of two questions which asked the participants the amount of time spent sitting on both a weekday and a weekend day, and the response was answered in terms of hours and minutes. The scale of measurement was developed by the researcher. The number of days each activity was performed was added together, and the number of hours and minutes spent sitting were subtracted from this figure. The result was then used to measure the number of hours and minutes each participant was physically active.

Procedure

Each participant was given an informed consent form, which they read and signed before completing the survey. They were asked to recall three words which were presented to them before completing the informed consent form to assess their mental capabilities. They were also asked if there were any physical limitations that might

prevent them from being physically active. Participants who were unable to recall the words or had physical limitations were not permitted to complete the survey. The remaining participants were given the option of withdrawing from the study at any time if they should begin to feel uncomfortable answering any of the questions on the survey. They were then given the survey, and upon completion were told that the researcher was examining how educational level might contribute to physical activity level in the elderly.

Results

Questions pertaining to work-related and transportation activities were excluded because the majority of the subjects were retired and these did not apply. One point was given for each day that the person participated in the activity (range = 5-18 days) and one point was subtracted for each hour spent sedentary (range = 8-22 hrs) (see Figure 1).

A stepwise regression was used to measure the results, with age and education as predictors. Age as a predictor showed no significant results, indicating that age has no effect on physical activity level in the elderly. Education as a predictor was significant, $r^2 = .573$, adjusted $r^2 = .562$, indicating that education is related to physical activity level in the elderly.

Discussion

The results of this study supported the proposed hypothesis. Those with a higher educational level were more physically active than those with a lower educational level. Those with a high school education or less scored the lowest. Age was not a significant

predictor of physical activity. The results of this study show that educational level is related to physical activity. Perhaps those persons who are better educated have better skills of finding the necessary resources available to assist them in their endeavors to stay physically active. Also, many older women may have spent a great deal of their lives staying home taking care of their children and spent very little time outside of the home doing things to keep themselves physically active. This lack of physical activity could have carried over into their later years of life, resulting in them leading a more sedentary lifestyle. The findings from this study are very important, and physicians could use this information when assessing their patients, and perhaps include education as a standard background question on the patient's health history information.

This study was limited to only 42 participants, and the subjects were mostly recruited by the researcher as family, neighbors and friends. These factors may have affected the results of this study, as well as the fact that many of the participants were living in a retirement community. Since the subjects were mostly retired and not working, it was necessary to eliminate portions of the results of the questionnaire such as questions regarding work or transportation. This along with the fact that the questionnaire was not specifically designed for the elderly may have caused a difference in the results as well. Further research needs to be done which could include a questionnaire more appropriately designed for the elderly. More focus could be placed on the "younger" elderly, perhaps those in their sixties. Most of the "older" elderly (those over age 75) in this study were less educated than their younger counterparts.

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A college education is much more accessible today than ever before, meaning that as this generation grows older, they will be much better educated than our older generation today. The findings of this study show that education does have an impact on many areas of our lives, and being physically active and healthy is important in terms of longevity. This information could be used to educate our youth, and to encourage them to pursue a college education. As shown in the results of this study, the benefits might well last them far into their later years of life.

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Figure 1.

