Paper 5

Correlational Study of Attitude towards Physical Exercise, Active Ageing and Quality of Life: Implications for Geriatric Counseling

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Abstract

This study investigated the frequency of physical exercise of young and middle aged Nigerian adults, their perceived relevance of exercise for active ageing and quality of life. The participants were 400 altogether. An adapted survey instrument was used for data collection. Data were analyzed using both descriptive and multivariate statistical tool of Structural Equation Modeling (SEM). The findings revealed that, although physical exercise was predominantly perceived as being vital for active ageing in later years, participants felt their parents and older adults in general did not exercise regularly. Consistent with previous studies, more males than females, younger age groups and participants who had tertiary education spent more time exercising. Conversely, more females than males, mostly from the rural areas devoted fewer days to physical exercise in the past one week. The SEM results supported the significant impact of desire for active ageing on attitudes toward physical exercise and quality of life. Conclusively, the structural model of this study illustrated that active ageing could be enhanced and sustained over the lifespan if regular physical exercise is embedded in daily lifestyles.

Keywords: Physical exercise. activity theory. active ageing. quality of life. geriatric counseling.

Introduction

In recent times, there are increasing research efforts on the importance of physical exercise for mental health and wellbeing. This is partly due to evidence from wellbeing studies which indicates

that regular physical exercise contributes tremendously to a healthy life for people of all ages (Sjo¨sten & Kivela, 2006; Edwards, 2003; Fox, 2000a). Literature further shows that such contributions have a lasting effect over the entire life-course (Sjo¨sten & Kivela, 2006; Windle, Hughes & Linck, 2010). For instance, it is well acknowledged that physical exercise enhances the functioning of the heart, skeletal muscles, bones, blood, the immune and the nervous system (Edwards, 2003; Fox, 2000a); and it contributes to a low mortality and morbidity rate (U.S. Department of Health and Human Services, 2008; 1996).

The foregoing notwithstanding, many young and older adults around the world are leading a sedentary lifestyle (Ying, Kuay, Huey, Hock, Abd Hamid, Omar, et al. 2014; C3 Collaborating for Health, 2011; Dumith, Hallal, Reis & Kohl, 2011; World Health Organization. 2009).. According to research research, approximately 17.7% of the world population (aged 15 years and above) do not engage in any kind of physical activity, and nearly 58% do not reach the recommended level of moderate-intensity exercise to be considered physically active (U.S. Department of Health and Human Services, 2008). In addition, in a study on the worldwide prevalence of physical inactivity and its association with human development index, one-fifth of the adult globally was found to be physically inactive (Dumith et al., 2011). The prevalence of non-communicable diseases and general decline in the health situation are some effects of prevailing physical inactivity (World Health Organization, 2010). Physical inactivity also causes nearly 2 million deaths every year (Dumith et al, 2011), and is the principal cause of approximately 27% of type 2 diabetes, and 30% of ischemic heart disease (World Health Organization. 2009). This dangerous trend calls for prompt and serious actions.

Although many researches were done on the benefits of physical exercise for well-being, to the researchers' knowledge, the correlational effects of physical exercise and desire for active ageing have not received ample scholarly attention. The lack of in-depth knowledge of this potential relationship might have aided the rising physical inactivity trend. The need to investigate this area is imperative since the ability to participate actively in daily life activities depends on whether individuals experience good health and functional independence, which physical exercise facilitates. Regular exercise aids active lifestyle as well as prevention and/or reduction of chances of disease and disability that may hinder effective performance in later years (Sjo¨sten & Kivela, 2006; Windle et al. 2010; Waehner, 2011; Angevaren, Aufdemkampe, Verhaar, Aleman &

Vanhees, 2008).. According to Manini and Pahor (2009), starting physical activities early in life and maintaining them over the lifespan can ensure better health and active ageing.

The term "active ageing" is the "*process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age*" (WHO, 2002). Its three key domains are health, participation and security. Although direct links between physical exercise and active ageing are seldom examined, regular physical exercise is well established as a means to enhance quality of life (USDHHS, 1996; WHOQOL Group, 1998), facilitate physical/functional autonomy and minimize physical degeneration (Pernambuco, Rodrigues, Bezerra, Carrielo, Fernandes, Souza-Vale, et al. 2012; Fraga, Cader, Ferreira, Giani & Dantas, 2011).

Research Framework

This non-experimental study is built on the tenet of activity theory of ageing developed by Robert Havighurst in 1961. The theory contends that active/successful aging occurs when older adults stay active and maintain social interactions; and being physically and socially active will cause a delay in the ageing process and enhance quality of life (Fraga et al. 2011). Activity theory contrasts with the earlier disengagement theory, which postulated that it is natural for the elderly to disengage from society as they realize that they are ever nearer to death. Instead, Havighurst opined that individuals who lead active life while young would probably remain active as older adults. Thus, physical exercise is vital to remain active in the course of one's life.

In line with the above, this study seeks to investigate how physical exercise is viewed in relation to ageing and quality of life; specifically, it seeks to determine the hypothesized relationship between desire for active ageing, attitudes toward physical exercise and quality of life. Hence, the following research hypotheses were formulated to guide the thrust of the study:

Research Hypotheses

i. Desire for active ageing would exert a significant impact on attitudes toward physical exercise.

ii. Desire for active ageing would exert an indirect significant effect on quality of life.

iii. Attitudes toward physical exercise would exert a significant impact on quality of life.

The hypothesized model is presented in Figure 1.

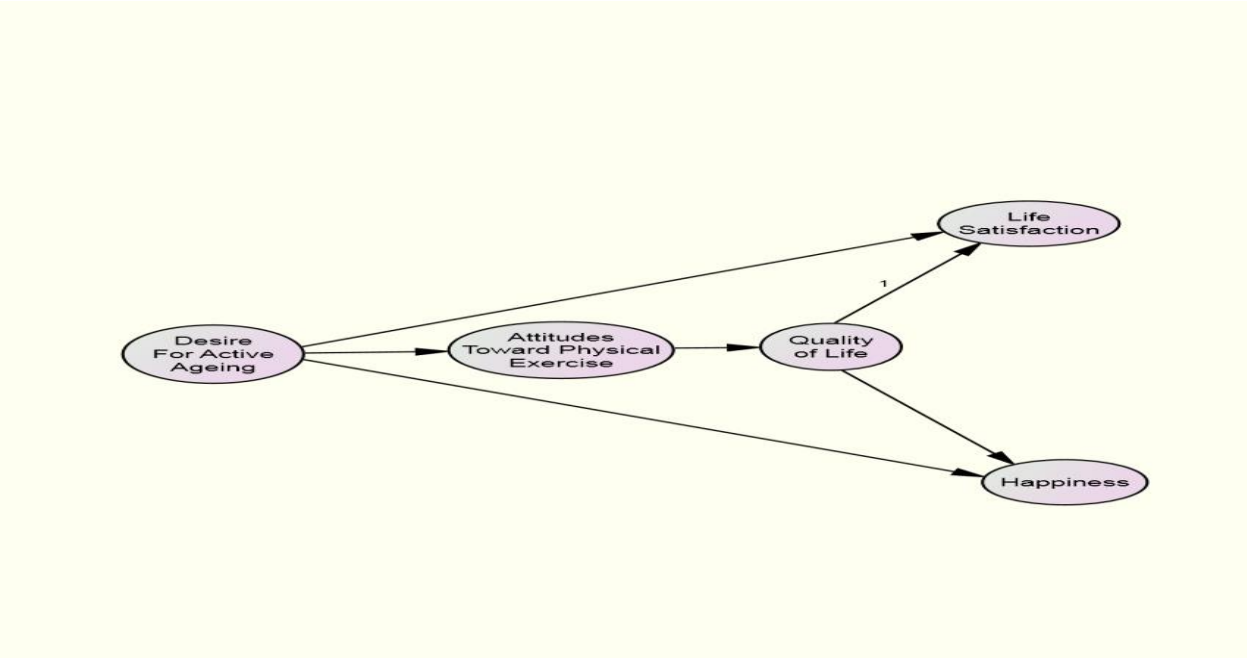


Fig. 1: The hypothesized model of active ageing, attitudes toward PE and quality of life.

Method and material

Participants and sampling procedure

The participants were drawn from Osogbo and Owode Ede townships in Osun State Nigeria, using a convenient sampling method approach. This method allows researcher to select the participants who are willing and available to be studied (Creswell 2008). A total of 396 young and middle-aged adults (55.3% males, 44.7% females; 91.2% young adults "aged 18-40 years," 8.8% middle-aged adults "aged 41-59 years;" 27.5% rural dwellers, 72.5% urban dwellers; 13.9% primary, 20.5% secondary, and 65.7% tertiary education) participated in the study. Prior to data collection, the informed consent forms were distributed and dully filled by the participants. Thereafter, the questionnaire designed for the study was administered. Only respondents with complete responses, totaling 396, were considered useful for the study. The demographic characteristics of the participants are displayed in Table 1.

Table 1

Participants' Demographic Characteristics (n = 396)

VARIABLES		FREQUENCY	Percent (%)
GENDER:	Male	219	55.3
	Female	177	44.7
	Total	**396**	**100**
AGE:	Young Adult (18-40yrs)	361	91.2

	Middle-aged Adult (41-60yrs)	35	8.8
	Total	**396**	**100**
RESIDENCE AREA:	Rural	109	27.5
	Urban	287	72.5
	Total	**396**	**100**
EDUCATION:	Primary	55	13.9
	Secondary	81	20.5
	Tertiary	260	65.7
	Total	**396**	**100**

Measures, Validity and Reliability

An adapted instrument was used for data collection. The instrument comprised a demographic section (Table 1); a frequency of physical exercise section; and a section on attitudes toward physical exercise "APE", desire for active ageing "DAA", and quality of life "QoL. The measure of frequency of physical exercise used (international physical activity questionnaire – IPAQ) captured the participants' level of commitment to exercise regularly. For this study, regular exercise was used inter-changeably as active exercise and measured in terms of the length of time and days devoted to exercise in a week, in conformity with the updated recommendations by the American Heart Association on adults' vigorous-intensity aerobic activity (Schulz, 2006). Participants were requested to indicate how often they spent at least 20 minutes on physical exercise in the past one week. The expected responses varied from: (i) None at all – less than three times a week, (ii) at least three – four times, (iii) and five times or more.

In this study, the total minutes of low, moderate and vigorous intensity activity per week was calculated in metabolic equivalents (METs) by multiplying the minutes of an activity per day by the number of days per week the activity was reported. The METs intensities proposed to score the IPAQ are as follows: Low physical activity (3.3 MET-minutes per week), moderate physical activity (4.0 MET-minutes per week), and vigorous physical activity (8.0 MET-minutes per week). Thus, the participants were categorized as low in physical activity when the total physical activity pattern in a week falls below 600; moderate when the physical activity pattern in a week is between 600-1499; and high when physical activity pattern is 1500 and above (www.ipaq.ki.se). The test-retest reliability and concurrent validity estimates reported about IPAQ in Nigeria were very good (Oyeyemi, Oyeyemi, Jidda, & Babagana 2011). Also, in a 12-country evaluation conducted by

Craig et al. (2003), IPAQ instrument was adjudged a valid and reliable measure of physical activity. Thus, this study relied on a well-established measure of physical activity.

The attitudes toward physical exercise "APE" (i.e., dispositions toward relevance of physical exercise), desire for active ageing "DAA" (i.e., construed as the perceived motivation for active ageing especially at later years in life), and quality of life "QoL" (i.e., aligned with the WHOQOL Group's definition, pointing to the perception of individuals' positions, expectations, standards and concerns in life) consisted of 22 items altogether (eight, five, and nine items, respectively). All the items were measured on a 6-point Likert-like scale, from "1" = strongly disagree to "6" = strongly agree. A high score on each scale denotes a higher agreement with the underlying construct; and vice versa for a low score. Three dichotomous response items were also included to further explore the perceived importance of physical exercise for active ageing.

The APE items were derived from related physical activity questionnaires (e.g., International Physical Activity Questionnaire – IPAQ developed by Schulz in 2006. while the DAA items were self-generated by the researchers. The Cronbach's alphas for the two constructs were 0.92 and 0.95, respectively. The QoL items were adapted from existing studies which conceptualized quality of life as having cognitive (e.g., Life Satisfaction) and affective (e.g., Happiness) components. Life satisfaction comprised five items of the "Satisfaction With Life Scale" (SWLS) developed by Diener, Emmons, Larsen and Griffin (1985). Both the original and the Dutch version of the SWLS have demonstrated good psychometric properties (Diener, Emmons, Larsen & Griffin, 1985; Stubbe, De Moor, Boomsma & De Geus, 2006). Summing the items resulted in a total score ranging from 5 (low satisfaction) to 30 (high satisfaction). In the present sample, Cronbach's alpha was 0.89. The Happiness comprised four items from the Dutch adjusted version of the Subjective Happiness Scale (Pavot & Diener, 1993), with a total score of 4 (lowest happiness) and 24 (highest happiness). The second and the fourth items were reverse-coded due to their negative wording. Reliability in this sample was 0.85.

Results

Descriptive Statistics for Frequency of Physical Exercise

The results for frequency of physical exercise of the participants are classified into two: (i) the overall results for the length of time spent doing physical exercise in the past one week (Fig. 2); and (ii) cross-tabulation analysis based on demographic characteristics (Fig. 4 to 7).

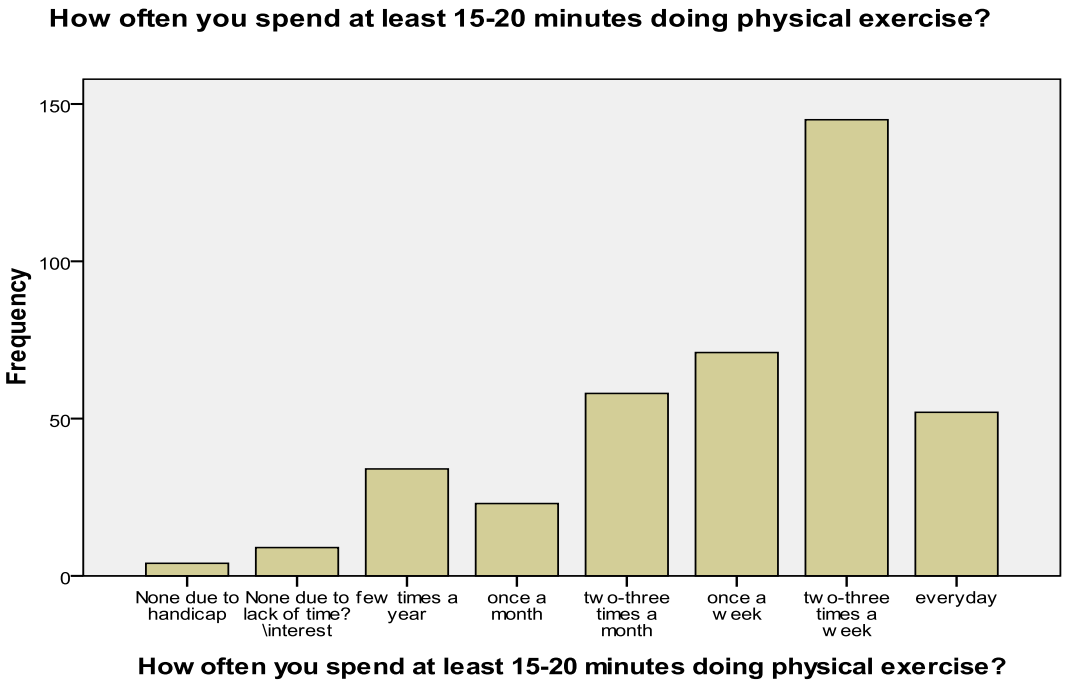
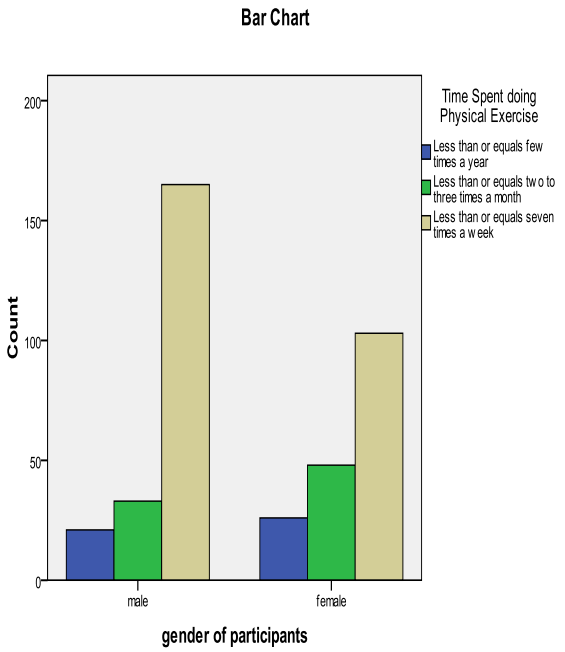


Fig. 2: Frequency of time spent on physical exercise (n=396)

Figure 2 revealed that a large number of participants felt they spent 15-20 minutes “two to three times a week” on physical exercise, followed by “once a week.” The results for cross-tabulation analysis are displayed in Figure 3-6.



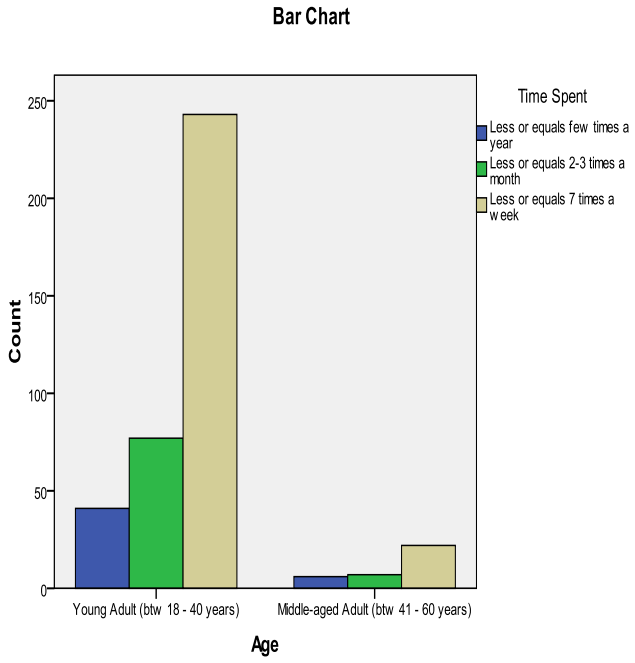


Fig. 3: Time spent (gender)

Fig. 4: Time spent (age)

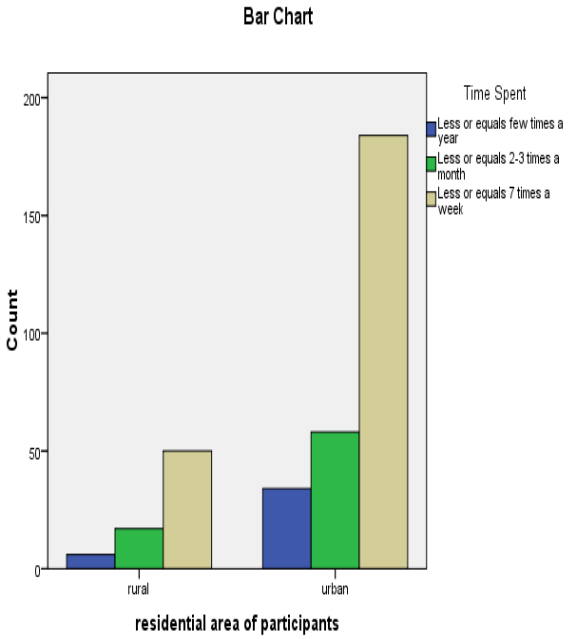


Fig. 5: Time spent (residence area)

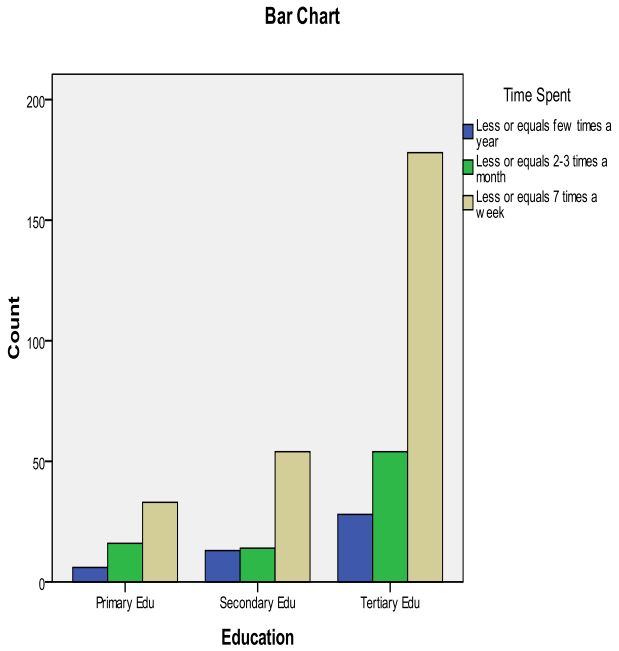


Fig. 6: Time spent (educational level)

Cross-tabulation analysis (Fig. 3 to 6) showed that a greater percentage of males than females, and young compared with middle aged adults spent more time on physical exercise (almost seven times a week). Similarly, a greater percentage of participants from urban compared with rural areas, and those with tertiary educational level compared with secondary and primary spent more time and devoted more days in the past one week.

Perceived Importance of Physical Exercise for Active Ageing

The results for the dichotomous items on how much physical exercise was perceived to be essential for active ageing in later life, and whether older adults were actually exercising are displayed in Table 3.

Table 3

Perceived Importance of Physical Exercise in Relation to Active Ageing

VARIABLES	FREQUENCY	Percent (%)
Do you think physical exercise is essential for older adults (age 60 years and above)?		
Yes	347	87.6
No	49	12.4

Total	**396**	**100**
Do you think older adults (age 60 years and above) do physical exercise?		
Yes	153	38.6
No	243	61.4
Total	**396**	**100**
Do your parents do physical exercise regularly?		
Yes	166	41.9
No	230	58.1
Total	**396**	**100**

As depicted in Table 3, a vast majority of the participants opined that physical exercise is vital for active ageing. However, more than two-thirds of these respondents believed that older adults do not exercise regularly; and a greater number felt that their parents too do not exercise. In summary, although physical exercise was strongly perceived as being essential for active ageing, most parents, and older adults generally, were less regularly involved in exercise.

Relationship between Frequency of Exercise and DAA, APE and QoL

To examine the relationships between the frequency of exercise and other variables (attitudes toward physical exercise "APE," desire for active ageing "DAA," and quality of life "QoL"), a bivariate correlation analysis was performed. The results as displayed in Tab. 2 showed weak significant relationships ($p < .05$) between Time and DAA ($r = 0.16$), APE ($r = 0.25$), and QoL ($r = 0.14$). A weak positive significant relationship was also found between Days and APE ($r = 0.19$, $p < .05$); but no significant relationship between Days and DAA ($r = 0.05$, $p > .05$); and Days and QoL ($r = 0.10$, $p > .05$). Also, strong positive relationships ($p < .05$) were found between DAA and APE ($r = 0.50$), and APE and QoL ($r = 0.61$); and a moderate significant relationship between DAA and QoL ($r = 0.38$, $p < .05$). These results affirm the existing findings on positive relationships between exercise, wellbeing and active lifestyle.

Table 2

Bivariate Correlational Analysis

Scale	1	2	3	4	5
1. Time spent doing physical exercise	-	.599**	.157**	.246**	.144**

2. Days devoted (in the last one week)	-	.048	.185**	.097
3. Desire for active ageing		-	.497**	.380**
4. Attitudes toward physical exercise			-	.611**
5. Quality of life				-

n=396; ** Correlation is significant at the 0.01 level (2-tailed).

Impacts of DAA on APE and QoL

To determine how the dependent variables (attitudes toward physical exercise and quality of life) were influenced by the independent variable (desire for active ageing), and whether attitudes toward physical exercise exerted a correlation effect on quality of life, a full-fledged structural equation model (Fig. 8) was analyzed. The result produced a moderate fit model, with "CMIN" (χ^2) = 261.3; Degree of Freedom (DF) = 73; Comparative Fit Index (CFI) = .924; and Root Mean Square Error of Approximation (RMSEA) = .080. The hypothesized path effects and parameter estimates were adequate, reasonable and statistically significant (i.e., all path effects were ≥ 0.2; and almost all the parameter estimates were ≥ 0.5).

Specifically, the model indicated that desire for active ageing (DAA) exerted a direct statistically significant influence on attitudes toward physical exercise (APE) as well as the two measures of quality of life; and an indirect significant effect on quality of life (QoL) through the mediator – APE. The APE on the other hand had a direct significant impact on QoL. The direct effects of DAA → APE, Life satisfaction, and Happiness were 0.57, 0.93, and 0.20, respectively; while the direct effect of APE → QoL was 0.34. The indirect effect of DAA on QoL was 0.19.

Altogether, the desire for active ageing explained a substantial percentage of variance (32%) in the prediction of attitudes toward physical exercise. In addition, although somewhat small, both the DAA and the APE together explained an approximately 11% of the variance in the prediction of quality of life (QoL). It should be noted that some items with low loadings were dropped to achieve a good-fit model (in line with Byrne's [2010] suggestion).

Lastly, the model showed that the two measures of quality of life (LIFE and HAPPI) were explained well by their latent construct (QoL), with QoL → LIFE = 0.22; and QoL → HAPPI = 0.94. Based on the foregoing, it is reasonable to submit that the three-component active ageing model, with all its observed variables, aptly explain the causal relationships among its constructs.

In other words, there was no substantial evidence to reject the hypothesized causal relationships. Consequently, the model (Fig. 7) is retained.

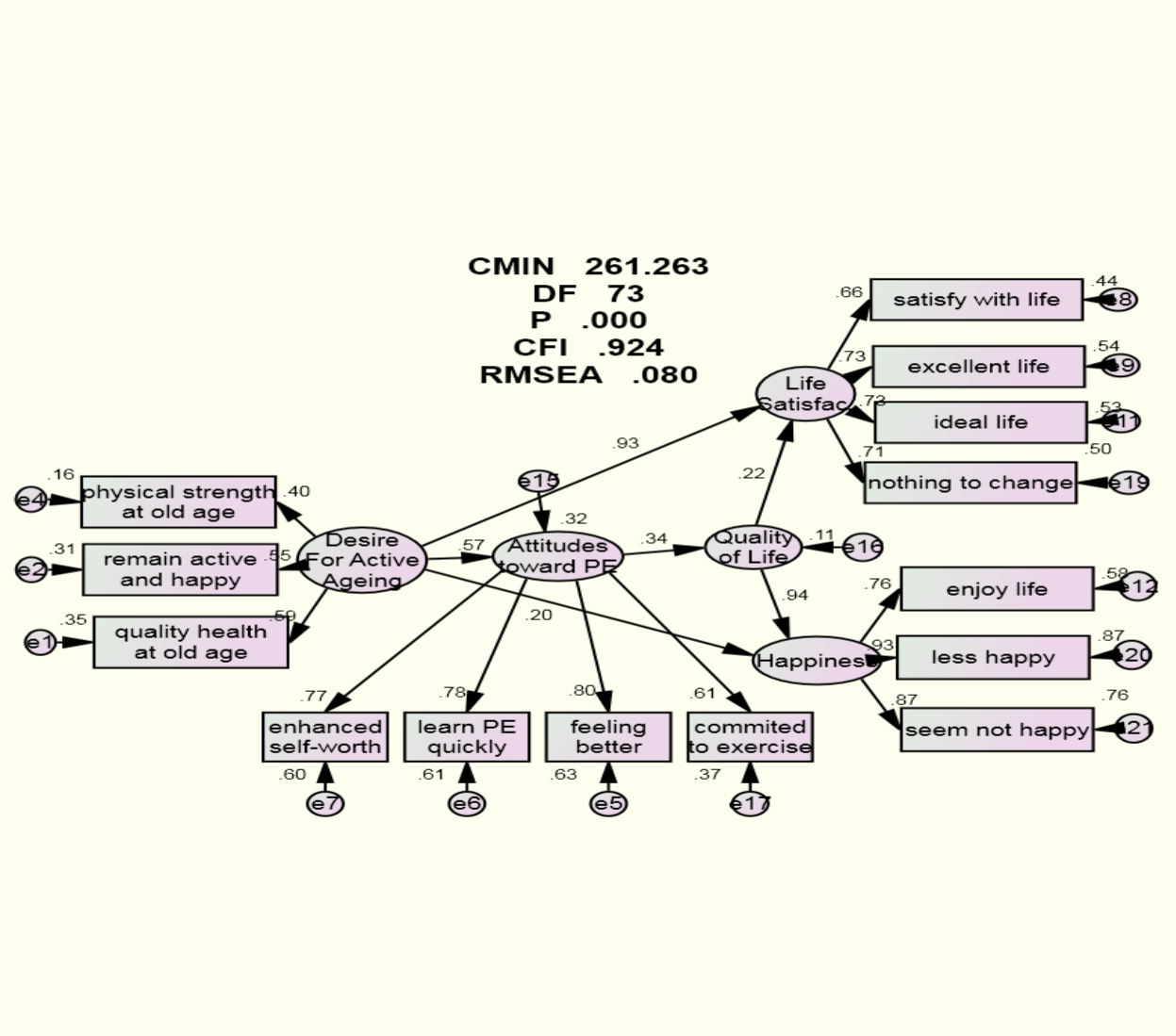


Figure 7: Full-fledged Structural Model of Active Ageing

KEY: CMIN (χ^2) = 261.26; DF (Degree of Freedom) = 73; P (p-value) = .000; CFI (Comparative Fit Index) = .924; and RMSEA (Root Mean Square Error of Approximation) = .080

The fit statistics displayed above showed that the structural model was modestly fit to the data of this study (in line with the cutoff values recommended by Hair, Black, Babin and Anderson, 2010). Besides, the hypothesized path effects and parameter estimates were all adequate and reasonable (all path effects were ≥ 2; and almost all the parameter estimates were 0.7 and above).

Discussion and Implication

The central focus of this study was to advance inquiry on the frequency of participation of young and middle-aged Nigerian adults in physical exercise, and to explore the perceived interlinks between desire for active ageing, attitudes toward physical exercise, and quality of life. The findings lend credence to existing reports about the positive impact of exercise on active-ageing and quality of life.

First, the finding showed a mixed reaction for the frequency of physical exercise. While the participants were high in the number of time spent on exercise, they were low with regard to the number of days actually devoted in the past one week. The number of days which many of them devoted in the past one week was below three days, as against the claim by the majority that they spent 15-20 minutes at least two-three days a week. It can be argued that while the time spent depicts participants' penchant towards regular exercise, the days devoted in the last one week speak volumes about real commitment level.

With reference to demographic characteristics, the findings indicated that more males than females, predominantly young adults, spent more time and devoted more days to physical exercise. This was not unexpected since most participants were adults from the younger age group (18-40 years old). The individuals in this age brackets are usually identified with strong bone, and the agility and body fitness supportive of vigorous exercise. The findings further revealed that more urban dwellers, as well as those with a tertiary education, spent more time and devoted more days to physical exercise. One possible explanation could be the ease of access to sport/physical activity facilities in urban areas as opposed to rural areas. Besides, participants from tertiary institutions are exposed to a more conducive atmosphere, usually created by their colleges/universities, for physical exercise and sport activities.

The foregoing agrees with the USDHHS' (2002) report where the number of participants with no leisure-time physical activity was found to be higher among women than men, and among older adults rather than younger adults. The Ying et al's (2014) study also reported that a greater percentage of females than males, and participants with little or no formal education were significantly associated with physical inactivity. This calls for proactive action to stimulate favorable attitudes, particularly among older adults and females, towards regular physical exercise. This can be achieved by creating more supportive environments to make physical activity a risk-

free, enjoyable experience for them. Additionally, easy access to information for those who wish to learn the best way to obtain optimum benefits from physical exercise, as well as safe walking routes, would equally have a positive impact.

Secondly, this study provides evidence that physical exercise was deemed to be essential for active ageing. A vast majority of the participants responded positively to the questions meant for this purpose. However, despite the recognition of its vitality, over 60 per cent of the participants perceived that older adults, including their own parents, did not exercise regularly. This might be due to lack of time and/or interest. Additional research is needed to uncover the reasons for this development. Nonetheless, the finding aligns with previous studies (C3 Collaborating for Health, 2011; USDHHS, 2002) wherein physical inactivity was reported to be extremely common among older adults. For instance, in a study on the benefits of physical activity for health and well-being, C3 Collaborating for Health (2011) reported that a greater per cent of older adults did not meet the recommended level of physical exercise. This suggests that, though older adults might be aware of the efficacy of physical exercise, they seldom do it. This could be why the number of days devoted to physical exercise decline drastically as age increases. It is most unlikely that individuals who do little or no physical exercise during their youthful age will suddenly become regular exercisers in later years.

Besides, this study found significant relationships between the time spent on exercise, desire for active ageing, attitudes toward exercise and quality of life on one hand; and between the days devoted to exercise and attitudes toward exercise on the other hand. This suggests that, as the amount of time and days devoted to physical exercise increases, the tendency for a more robust disposition toward physical exercise becomes higher. In addition, the more exercise is driven by motivation to age actively and enhance quality of life, greater is the possibility of more time being spent on it. This result further implies that the amount of time spent on exercising could be more important than the number of days devoted to it. Although the number of days defines an individual's actual level of commitment, the real intensity that drives gains in physical exercise is a function of time duration expended. For instance, it is possible to spend every day of the week on physical exercise but if the amount of time each day falls short of the minimum (20 minutes) recommended by the American Heart Association (Haskell, Lee, Pate, Powell, Blair, Franklin et al. 2007), this exercise may still fail to produce desirable effects for the exerciser. This is probably

why 29 percent of adult respondents in a U.S. based study were found to have below the minimum physical activity level to derive desirable health benefits (USDHHS, 2002).

This finding is also consistent with previous studies. Exercisers who spent more time were found to score higher on measures of positive wellbeing and quality of life (Bauman, Bull, Chey, Craig & Ainsworth, 2009). The literature further showed that psychological well-being is enhanced by regular exercise that occurs at least twenty minutes a day, and three or more times a week (Hassme´n, Koivula & Uutela, 2000; Edwards, 2002; Biddle, Fox & Boutcher, 2000; Scully, Kremer, Meade, Graham & Dudgeon, 1998; Pate, Pratt & Blair, 1995). Also, in Laforge, Rossi and Prochaska's (1999) study, individuals who increased the duration of time spent on physical exercise were found to have higher scores than their counterparts in the pre-contemplation stage.

More importantly, this study accounts for the impact of desire for active ageing (DAA) on attitudes toward physical exercise (APE) and quality of life (QoL). It was evident in the SEM analysis that DAA not only exerted a direct significant influence on APE, it also had an indirect significant impact on QoL through the mediator (APE). This suggests that motivation for active ageing could stimulate positive attitudes toward regular exercise, and facilitates enhanced quality of life. That is, the higher the urge to age actively, the greater is the likelihood of exhibiting a favourable disposition toward physical exercise and quality of life. A considerable number of studies have found exercise to be beneficial to positive wellbeing variables such as mood (Edwards, 2002), self-perception and self-esteem (Fox, 2000a). The benefits frequently attributed to regular exercise include enhanced autonomy, personal growth, environmental mastery, and positive relations with others (Edwards, Ngcobo, Edwards & Palavar, 2005). Besides, the USDHHS (2002) reported that physical activity improves health-related quality of life, enhances well-being, and aids better physical functioning in persons compromised by poor health.

This study found reasonable support for the hypothesized impact of APE on QoL. That is, attitude toward physical exercise exerted a significant effect on quality of life, which suggests that the more favourable dispositions are exhibited toward physical exercise, the greater will the involvement, thus leading to a greater happiness and life satisfaction. There are many possible explanations for this influence. One is to consider the effect of vigor, good health and functional living, which constitute the lot of regular exercisers. Individuals with good health and capacity for functional living, would be better off in terms of positive experience, social supports, cheerfulness,

and fewer cases of negative feelings/emotions (e.g., anger, distrust, anxiety, stress, and depression in extreme cases). The absence of these anti-positive affects may enhance years of active lifestyle habits and improve overall quality of life. Besides, functional mobility resulting from regular exercise can improve health quality in old age (Pernambuco et al., 2012; Bauman et al., 2009), enhance organic conditions, and slow physical degeneration (Fraga et al., 2011).

Although the present study is constrained by the limited sample size and the use of a fixed response survey to measure the frequency of physical activity of the participants which may cause a little inaccurate estimation of physical exercise due to recall bias, nonetheless, the inclusion of both young and middle-aged adults (18-60 years old) and willing participants provide a strong basis for rich data on participation in physical exercise among Nigerian adults, unlike most previous studies that focused mainly on older adults. Also, the use of a structural model made it possible to analyze and account concurrently for multi-dimensional relationships among the key variables of the study, including the dependent variables (attitudes toward physical exercise and quality of life) and the independent variable (desire for active ageing. It is evidence in the outcome of data analysis that the level of physical inactivity is relatively high among the population of this study, especially the older adults, rural residents, and women.

Conclusion

The strength of the current study lies in the use of a robust multivariate statistical tool to examine the impact of desire for active ageing on attitudes toward physical exercise and quality of life. Consistent with the tenets of activity theory, the key findings of structural model fulfilled the expectations that the greater the motivation for active ageing, the greater will be tendency for positive attitudes toward an active lifestyle and regular exercise, and this may impact positively on quality of life. As Havighurst (1961) opined, individuals who lead active lives as young and middle aged adults will probably remain active as older adults.

Unfortunately, physical inactivity is on the high side among many of the participants of this study, especially women and rural dwellers. This development calls for policy interventions toward age-gender related physical activity programmes, both in the workplace and in different community settings in Nigeria, in order to foster a desirable interest among this group in regular physical exercise. In addition, both governmental and non-governmental agencies are urged to increase public awareness of the role of exercise in facilitating active ageing and quality of life. More

importantly, an adequate supportive environment is needed to make physical activity a risk-free and an enjoyable experience for all interested individuals. In the meantime, further research is urgently needed to determine the key factors responsible for the low level of physical exercise among the vulnerable groups identified above.

Implications for Geriatric Counselling

The findings of this study have several implications for Geriatric Counselling (the counselors who cater for psychological, social and emotional needs of older people). As professional service-providers, they can enhance the quality of life and active ageing of their clients by sensitizing them on benefits of regular physical exercise and constant enlightment on easy avenues to achieve high participation in physical exercise. For a better result, the Geriatric Counsellors need to incorporate the following steps:

a. Assess the availability and accessibility of physical activity programmes and opportunities for older adults in the community.
b. Develop a subtle plan to address frequently perceived barriers to older adults' participation in physical activity programmes or opportunities.
c. Identify a community resource listing of physical activity programmes and/or opportunities appropriate for older adults.
d. Organize a community campaign to educate older adults about the different ways they can achieve recommended levels of physical activity.
e. Increase the variety of accessible and appropriate group-based physical activity programmes as well as self-directed opportunities within the community for those 50+.

Besides, Geriatric Counsellors could also execute the following significant roles:

i. Formulating specific goals for increasing older adult participation in physical activity.
ii. Promoting physical activity as part of a healthy lifestyle.
iii. Ensuring the designed programmes are safe and effective, and are tailored to meet the needs of individual participants.
iv. Funishing instructions on effective technique to use, and provide adequate supervision.
v. Applying behavioral support strategies to increase motivation and promote retention.
vi. Suggesting solutions for risk management and injury prevention.

Recommendations

Based on the findings and implications discussed above, the following recommendations are put forward:

1. Active ageing and quality of life across a lifespan can be enhanced if more days are devoted to regular physical exercise.
2. Geriatric counselors are urged to device means to help older adults develop positive attitudes towards regular physical exercise. This could be through continuous assurance about vitality of exercise for active ageing and guidance on safe and supportive environment required for it.
3. The counselors also need to intensify effort in the direction of motivating adults for active ageing. This could stimulate positive attitudes for regular exercise, and enhanced quality of life.
4. As revealed in this study, there was a sharp disparity in physical activity between male and female, as well as young and older adults. This calls for urgent policy interventions in age-gender related physical activity programmes, to foster a desirable interest among these groups in regular physical exercise.

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