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Age-related Differences in Motives for and Barriers to Exercise Among Women Exercising in Fitness Centers

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Abstract

The aim of the study was to reveal age differences in motives and barriers of women attending fitness centers. 157 women aged 17-83 ($M=43.86\pm 15.40$) participated in the study. All of them were members of fitness centers in the Silesia Metropolis in Poland. The most common reported motives for exercising were health and revitalization. Four motives changed when comparisons were made between age groups: affiliations, competition, health pressure and avoiding diseases. All these motives were stronger in older women. The main barriers to exercising were time constraints and physical limitations. The severity of time barrier significantly decreased with age and in older women it fell into the second place in the hierarchy, giving priority to physical barriers.

Keywords: *barriers, motives, exercise, women*

Introduction

Nowadays there is no doubt that physical activity is one of the most important health behaviours, influencing all aspects of health: cognitive, emotional, social and physical (Dishman, Washburn, Heath, 2004). Therefore, insufficient physical activity is a major causative factor in such conditions as hypertension, type II diabetes, coronary heart disease, or colon cancer, to name just a few. Due to its health-promoting potential, physical activity, especially in the form of regular exercising, is recommended as a part of a healthy lifestyle (Anshel, 2014). How-

ever, common awareness of the fact does not necessarily lead to greater participation in physical activity, and in fact many people are insufficiently active (Drygas, Kwaśniewska, Kaleta et al. 2009). The reasons for this reality may be discerned in the dependence of this kind of health behavior on many factors, some of which are related to the individual themselves, while to with a vast range of contextual factors, including characteristics of physical environment, especially community design and access to recreational facilities, available in workplaces and/or residential estates, such as outdoor gyms, family recreation areas, and fitness centers. The latter offer not only an attractive place to take various forms of activities, but also professional care and support, allowing for participation of the people who lack health knowledge and skills. This does not change the fact that even the best facilities cannot guarantee the sustainability of behaviors, which is reflected by the truth that up to 50% of people who start exercise programs give them up more or less within six months of their commencement (Anshel, 2014). The reasons for this are still not well understood. However, there is no doubt that even the people who are regularly active face various factors that make their behaviors difficult to undertake. Described as barriers to physical activity, these factors are diverse in nature- emotional (e.g. fear of being embarrassed), motivational (lack of willpower), physical (health, age), social (lack of companionship, lack of support), time (work and family responsibilities, poor time management), or related to availability (poor access to facilities), etc. (Biddle, Mutrie, 2001). Such factors are not always objective in nature, but often only a kind of excuses people make for not being active. However, despite the subjective nature “they can have a negative impact on behaviors in equally strong or even stronger than the actual barriers, due to the fact that most behaviors of physical activity remain under the volitional control” (Godin, 1994: 131). It should be also remembered that people who take up exercises are usually motivated by some values that they desire to achieve. Regarding success or failure is a factor which determines the subsequent behaviors- success strengthens their willingness to continue, failure causes discouragement and reduces the probability of continuing the behavior of interest.

Thus, understanding both, the perceived barriers, as well as the motives for physical activity may help in strengthening these behaviors. Although it is important for all people, regardless of their population status, a significant stream of research is also aimed at particular groups emerging due to the specific criteria. Such groups include, among others, women, who tend to be less active and encounter more barriers to take up physical activity than men, e.g. usually due to higher family responsibilities or their biological status (Prince, Reed, Martinello et

al., 2016). They also tend to be guided by other motives than men (Molanorouzi, Khoo, Morris, 2015). However, little is known about the age-related variability in perceiving barriers to and motives for taking up exercises in women, and empirical data concerning such differentiation in adults are limited (Sorensen, Gill, 2008; Louw, Van Biljon, Mugandani, 2012, Skov-Ettrup, Petersen, Curtis et al., 2014). Therefore, the aim of this study was to determine if barriers and motives of women exercising in fitness centers are dependent on their age.

Research Methodology

The participants in the study were 157 women aged from 17 to 83, mean 43.86 (± 15.40) years, exercising in fitness centers in the Silesia Metropolis, in the south of Poland. The data for this study were collected by the diagnostic poll method of research. Diagnosis of the motives was made using Exercise Motivations Inventory EMI-2 (Exercise Motivations Inventory) (Markland, Ingledew, 1997), adapted into Polish by Zajac (undated). It includes 51 items assessed on a 6-point Likert scale (0 – not at all true of me – 5- very true of me) and forming 14 sub-scales: Appearance (increasing body attractiveness), Stress Management (de-stress, relaxation), Revitalisation (to improve mood and increase energy), Enjoyment (the pleasure derived from exercising), Challenge (realization of personal goals, exceeding personal standards of performance), Social Recognition (showing off in front of other people), Affiliation (exercise as a way of spending time with other people), Competition (comparing oneself with other participants or with fitness standards), Health Pressures (exercise recommended by a physician), Ill-Health Avoidance (exercise as a means to reduce the risk of diseases), Positive Health (multiplication of health), Weight Management (weight loss, slim body), Strength & Endurance (maintaining/improving strength and muscle endurance), and Nimbleness (to maintain/improve agility and flexibility). All the subscales have demonstrated satisfactory-to-good reliability, reaching Cronbach's alpha values from 0.66 (Health Pressures) to 0.87 (Appearance).

Perceived barriers of physical activity were measured using a questionnaire consisting of 17 items anchored by the statement "Which factors make your regular attendance to fitness classes difficult...". Each item was rated on a Likert scale from 0 (never) to 5 (very often). The scale had six dimensions: Time Barriers (lack of time, abundance of duties), Motivational Barriers (lack of motivation, not enough willpower), Emotional Barriers (feelings of not being the sporty type, perceived threat for one's self-esteem in exercise settings, worrying about one's appearance), Availability Barriers (limited financial resources, distance to fitness centers), Physical Barriers (being too old to exercise, poor health) and Social Barriers (lack

of companionship, lack of social support). The reliability of the subscales was satisfactory-to-high: Cronbach's alpha values from 0.71 (Availability) to 0.92 (Time).

Descriptive statistics (means and standard deviations) were used to describe the data and to test differences between age groups ANOVA with accompanied post hoc Tukey test was used. Additionally, eta squared as a measure of effect size was calculated. Differences within qualitative data were calculated with the use of χ^2 test with Cramer's V statistic as a measure of effect size.

Research Results

Respondents' participation in fitness classes

The majority of the women exercise three times a week ($n=51$; 32.48%), followed by those who exercise twice ($n=30$; 19.11%) and once a week ($n=26$, 16, 56%). Few women declared daily visits to the center ($n=5$; 3.18%). The frequency of participation proved to be dependent on the level of education ($\chi^2_{(df=5)}=18.84$; $p=0.005$; Cramer's $V=0.34$) and age ($\chi^2_{(df=18)}=44.90$; $p<0.001$; Cramer's $V=0.30$). With regard to the first factor, the biggest difference was observed among the women exercising once a week (mostly women of primary and secondary education) and three times a week (mostly women of higher education). In terms of age, the relatively highest frequency of participation was declared by young adults, among whom nearly $\frac{3}{4}$ declared exercising 3-4 times a week (41.82% and 30.91% respectively). In the group of middle-aged women, those exercising 2-3 times a week predominate (34.88% and 23.26% respectively). In the other two age groups, the respondents exercising once or twice a week predominate: 52.50% of women in their late adulthood and 63.16% of the elderly.

Motives of participation in fitness classes

The primary motives that guide the surveyed women were sustaining and increasing health (Positive Health) and improving mood and mental state (Revitalization). Both of these motives were significantly different from the remaining motives with moderate effect size ($d=0.36$) with respect to the third hierarchy of motives – avoidance of diseases (Ill-Health Avoidance), which opens the second group, within which the differences were not significant. The group covered also, in addition to the above-mentioned, Appearance, Weight Management, Strength & Endurance, Nimbleness, Stress Management and Enjoyment. Rarely and extremely rarely reported motives were Social Recognition and Competition. Means and standard deviations of individual motives are presented in Table 1.

Comparison of the motives among the women of different age groups revealed the existence of significant differences only in terms of social motives- Affiliation and Competition- and two motives associated with negative measures of health- Health pressure and Avoiding diseases. Moreover, with respect to the two other motives, i.e. Strength and Agility, a trend toward significance of differences was observed ($p=0.051$ and $p=0.069$ respectively). The largest effect size ($\eta^2=0.15$) was observed in relation to Health pressure, followed by both social motives (Affiliation and Competition), with $\eta^2=0.10$, and Avoiding diseases, with $\eta^2=0.07$. As a result of *post hoc* analyzes, we found that the essence of the differences was stronger valuation of these motives by the oldest women. Only in relation to the Strength motive the youngest women valued it significantly stronger than all the other age groups (for detailed data cf. Table 1).

Table 1. Differences in motives for exercising between age groups

Motives	Total sample M (SD)*	Age categories				ANOVA, post hoc	Effect size η^2
		Early adulthood (a)	Middle adulthood (b)	Late adulthood (c)	Old age (d)		
Positive health	4.67 ^a (0.57)	4.52 (0.52)	4.74 (0.45)	4.77 (0.45)	4.72 (0.99)	$F_{(3,153)}=1.95$, $p=0.123$	-
Revitalisation	4.62 ^a (0.62)	4.57 (0.57)	4.64 (0.58)	4.68 (0.49)	4.65 (1.00)	$F_{(3,153)}=0.25$, $p=0.864$	-
Avoiding diseases	4.37 ^b (0.78)	4.10 (0.70)	4.48 (0.62)	4.49 (0.81)	4.61 (1.06)	$F_{(3,153)}=3.57$, $p=0.016$ a,b,c<d	0.07
Agility	4.27 ^{b c} (0.86)	4.09 (0.79)	4.25 (0.86)	4.33 (0.87)	4.68 (0.92)	$F_{(3,153)}=2.42$, $p=0.069$ a,b,c<d	0.05
Joy	4.25 ^{b c} (0.71)	4.16 (0.65)	4.12 (0.72)	4.41 (0.69)	4.45 (0.86)	$F_{(3,153)}=1.99$, $p=0.118$	-
Stress	4.24 ^{b c} (0.85)	4.17 (0.73)	4.25 (0.64)	4.28 (0.94)	4.32 (1.31)	$F_{(3,153)}=0.21$, $p=0.895$	-
Strength	4.22 ^{b c} (0.82)	3.98 (0.86)	4.33 (0.75)	4.33 (0.68)	4.46 (0.98)	$F_{(3,153)}=2.63$, $p=0.051$ a<b,c,d	0.05
Weight	4.14 ^c (0.93)	4.02 (0.83)	4.09 (0.87)	4.29 (1.00)	4.25 (1.20)	$F_{(3,153)}=0.78$, $p=0.505$	-
Appearance	4.13 ^c (1.02)	4.09 (0.90)	4.13 (0.96)	4.18 (1.15)	4.16 (1.24)	$F_{(3,153)}=0.06$, $p=0.979$	-

Motives	Total sample <i>M (SD)*</i>	Age categories				ANOVA, post hoc	Effect size η^2
		Early adulthood (a)	Middle adulthood (b)	Late adulthood (c)	Old age (d)		
Affilia- tions	3.65 ^d (1.20)	3.28 (1.11)	3.47 (1.06)	4.12 (1.21)	4.14 (1.28)	$F_{(3, 153)}=5.74$, $p=0.001$ a,b<c,d	0.10
Health pressure	3.64 ^d (0.97)	3.25 (0.80)	3.51 (1.00)	4.03 (0.79)	4.26 (1.17)	$F_{(3, 153)}=9.02$, $p<0.001$ a,b<c,d	0.15
Challenge	3.62 ^d (1.11)	3.58 (1.02)	3.36 (1.14)	3.76 (1.20)	4.05 (1.02)	$F_{(3, 153)}=2.01$, $p=0.115$	-
Social recogni- tion	2.56 ^e (1.35)	2.26 (1.08)	2.55 (1.24)	2.73 (1.49)	3.09 (1.84)	$F_{(3, 153)}=2.11$, $p=0.101$	-
Competi- tion	2.46 ^e (1.42)	2.06 (1.17)	2.28 (1.36)	2.72 (1.49)	3.43 (1.60)	$F_{(3, 153)}=5.49$, $p=0.001$ a,b<c,d	0.10

*Between the averages of the same superscript differences were not significant

Barriers to participation in fitness classes

Time constraints were the strongest barrier to participation of the surveyed women, especially those having higher education ($M=2.49\pm 1.61$ vs. $M=1.92\pm 1.45$ in women of primary and secondary education; $t_{(df=149)}=2.27$; $p=0.024$, Cohen's $d=0.38$). However, the severity of this barrier significantly decreases with age, which explains 22% of the total variance. In the oldest group, time barriers fall into the second place in the hierarchy, giving in to Physical barriers. In the other age groups, these barriers are the second strongest ones and, like above, are more strongly perceived by the better educated women ($M=1.61\pm 0.97$ vs. $M=1.22\pm 0.88$ in women of primary and secondary education; $t_{(df=149)}=2.55$, $p=0.012$, Cohen's $d=0.43$). Analysis of variances revealed a link between age and the importance of this barrier, which is decreased from early adulthood to late adulthood, where it reaches a minimum, and then rises again in the elderly people. *Post hoc* analysis revealed, however, that statistically significant differences exist only between the youngest group and the women in their late adulthood. A similar pattern of changes was observed in the motivational barriers. The women very rarely, almost never, perceive Emotional barriers and barriers associated with the availability of facilities. Descriptive statistics and ANOVA analysis results are shown in Table 2.

Table 2. Differences in barriers to exercise between age groups

Barriers	Total sample M (SD)*	Age categories				ANOVA, post hoc	Effect size η^2
		Early adulthood (a)	Middle adulthood (b)	Late adult- hood (c)	Old age (d)		
Physical	1.42 ^a (0.94)	1.66 0.83	1.41 0.99	1.10 0.96	1,42 0,94	F _(3,153) =2.89 p=0.038 a>c	0.05
Motiva- tional	1.28 ^a (1.16)	1.59 1.23	1.33 1.11	0.86 0.91	1,16 1,28	F _(3,153) =3.32 p=0.022 a>c	0.06
Time	2.19 (1.55)	3.01 1.36	2.34 1.50	1.34 1.32	1,25 1,33	F _(3,153) =14.51, p<0.001 a> ^{tend} b>c,d	0.22
Emo- tional	0.73 ^b (1.05)	0.99 1.29	0.69 0.84	0.54 1.01	0,47 0,66	F _(3,153) =2.01 p=0.115	-
Availa- bility	0.84 ^b (0.86)	1.04 0.78	0.83 0.84	0.67 0.96	0,67 0,82	F _(3,153) =1,1 p=0.148	-

* Between the averages of the same superscript differences were not significant

Discussion

The study investigated differences in the motives for and barriers to exercise among women attending fitness centers. The results indicate that regardless of age, the content of two most important motives for undertaking exercise is increasing physical and mental health. Slightly less important, although still of high value, is a group of motives related to the treatment of physical exercise as disease prevention (preventing of health degradation, de-stressing oneself), causing somatic (figure, body mass) and functional (physical fitness) changes, but also the joy derived from exercising. Of little importance appeared to be the motives associated with comparison with other exercisers and gaining social recognition. However, it is worth paying attention to the quantitative distribution of the results of both scales (competition and social recognition), where approximately one in every ten women surveyed (8.9% competition, 10.19% social recognition) considered it very important. Interestingly, those were mostly elderly people.

Contrary to expectations, only in the range of a few motives, differences between the age groups were observed. This applied to, in order from the largest to the smallest size effects: health pressure, competition, affiliation and disease

prevention. All of them were evaluated higher by the women in old age and late adulthood. While this is not surprising for both motives related to health (considering it is fading away with age), as well as the affiliation motives (older age people tend to have fewer opportunities to meet the affiliation needs as a result of rare interaction with peers and decreasing their number due to the inevitability of biological processes), the strength of the competition motive is a less expected result.

Consistent with many previous findings, lack of time is the most commonly perceived barrier to activity in adults (Sit, Kerr, Wong, 2008; Bautista, Reininger, Gay et al., 2011; Louw, Van Biljon, Mugandani, 2012; Anshel, 2014). This is especially true for structured forms of activity and is negatively correlated with participation in such activities (Buckworth, Dishman, 2002). Although exercising in fitness classes can be considered as a desired form of doing one's physical activity, this does not change the fact that lack of time remains the most important difficulty in its implementation. It should be noted, however, that the perception of the "severity" of the barrier significantly decreases with age, assuming the lowest value among the women in late adulthood and elderly ones. Among the latter group it reached even lower (though statistically not significant) value than physical barriers. This is the only age group in which time periods do not occupy the first place in the hierarchy. This result is not surprising taking into consideration the fact that younger people operate at greater burden of professional and family responsibilities, and thus they are under stronger pressure of time, which often becomes a highly rationed amount. Reducing the significance of the lack of time as a barrier to physical activity was previously reported by other authors (Schutzer, Graves, 2004; Moschny, Platen, Klaaßen-Mielke, Trampisch, Hinrichs, 2011).

For instance, Schutzer and Graves (2004) claim that lack of time is the most common barrier to exercise in younger adults, whereas older people rather point to health, both in relation to total physical activity and physical exercise. Contrary to these findings, in the study factors such as health, fatigue or malaise were not often experienced as a barrier to exercising, even by the elderly, who are probably healthier and more fit than the typical representative of this age group.

Discussing the results of our research, we have to mention a few limitations which require attention. Firstly, the selection of the sample was based on the availability of respondents, which means that it was not representative in the full sense of the word. Also, with regard to the types of exercise, it cannot be ruled out that different forms of classes (yoga, step aerobics, power pump, etc.) are chosen by people with a different structure of motives and perceptions about factors hindering their practicing. Secondly, there are plenty of scales measuring

the motives for and barriers to exercise, and none of them is without limitations. Thus, there may be motives which are not included in the EMI and barriers which are not included in the scale of perceived barriers to activity and which may play a more important role from at least some of those evaluated in our study. Thirdly, the method of obtaining data was based on questionnaires, thus limiting the respondents' narration to factors imposed by the researchers.

Conclusions

Despite the aforementioned limitations, the obtained results contribute to the knowledge about the motives for and barriers to women's exercising in fitness clubs. Although they may be considered as people who are not in the need of being persuaded to physical activity, in reality given the significant risk of abandonment, their behavioral choices should be strengthened. Getting to know the motives for and barriers to exercising can contribute to defining the content of such interventions. From the point of view of health education, teaching time management strategies should be the most important self-regulation skill for women. As in the hierarchy of motives, health seems to be the most important, more internal motives should be stressed (like joy and satisfaction from exercising), as they are considered more permanent behaviors.

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