

Motives for Participation in Physical Activity among Libyan Adults

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Abstract

Objectives: The study aimed to determine motives for physical activity (PA) participation in Libyan adults and compare motives related to sex and places of participation (indoor vs. outdoor). **Participants and Methods:** A cross-sectional questionnaire-based study was conducted. The questionnaire was adapted from the Exercise Motivation Inventory version 2. Six hundred Libyan adults (300 males and 300 females) were involved in this study. **Results:** In general, positive health, activation, and avoiding ill-health (4.83 ± 0.89 , 4.20 ± 0.93 , 4.09 ± 1.00 , mean \pm standard deviation [SD]) were the most common motives for PA participation, respectively, while competition, affiliation, health pressure, and social status (2.73 ± 1.29 , 2.69 ± 1.21 , 2.59 ± 1.29 , 2.50 ± 1.24 , mean \pm SD) were the least motivational factors, respectively. In males, enjoyment, social status, affiliation, competition, health pressure, strength, and endurance were significantly higher ($P= 0.017$, 0.000 , 0.010 , 0.000 , 0.007 , 0.024). In contrast, activation, positive health, weight control, appearance, and fitness were significantly higher in females ($P= 0.002$, 0.001 , 0.000 , 0.000 , 0.005). In addition, health pressure, avoiding ill-health, and positive health motives were similar in adults practicing PA indoor and outdoor. In contrast, other motives tended to be significantly higher in indoor activities. **Conclusions:** Motives for PA participation differ across participants' sex and places of participation among Libyan adults. It is crucial to understand the motives for PA participation to capitalize on the positive motives to increase their participation and enhance the positive effects of increased PA in the community.

Keywords: Exercise motivation inventory-2, Libya, motivation, physical activity participation

INTRODUCTION

Daily physical activity (PA) could be categorized into occupational, sports, conditioning, household, or other activities. It confers benefits to psychosocial health, functional ability, and general quality of life.^[1,2] A significant number of studies described

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an association of PA and general well-being, mood, and anxiety.^[3] PA also has well-known beneficial effects on physical health, such as a decreased risk of chronic diseases,^[2] and preventing age-related diseases and noncommunicable diseases (NCDs) by reducing their risk factors.^[4] In addition, increased levels of PA may reduce the incidence of specific cancers, particularly colon and breast cancer.^[5] Exercise can improve blood lipids and adds an independent modest blood pressure-lowering effect in certain hypertensive groups.^[4]

On the other hand, physical inactivity is used to identify people who do not get the recommended level of regular PA. The inactive lifestyle consists of sitting or lying down with little to no exercise. Physical inactivity adversely impacts adult health, epidemiological studies during recent decades have indicated that physical inactivity is associated with increased incidence of a variety of NCDs.^[6] Indeed, NCD's are increasing at alarming rates accounting for 60% of the total mortality rates worldwide.^[7]

Despite regular PA's established physical and mental health benefits, people do not participate in adequate PA to gain these health benefits.^[8,9] Only about 20% of adults in North America, for example, meet basic PA guidelines for aerobic and muscle-strengthening PA.^[10,11] Also 59% of adults in Europe have never or seldom exercise or play sport, and 41% do so at least once a week.^[12] Furthermore, 18–47% of university students from different Arab countries achieved recommendation for vigorous and moderate PA depending on country and sex, and the PA recommendation was achieved more often among males than females.^[13-16] Investigators try to find out why some people are physically active whereas others are not. Lack of motivation was considered one of the main barriers to PA participation.^[17]

Motivation is an inspirational drive that brings determination to do a task. It gravitates an individual toward a desired goal and is considered a psychological force that can reinforce action.^[18] The self-determination theory (SDT) stipulates that motives can satisfy basic psychological needs, such as autonomy, competence, and relatedness,

which are critical nutrients for developing quality motivation and personal growth.^[19-24] In addition, motives can also serve cognitions and emotions included in personal goals. For almost three decades, two distinct types of motivation have been of interest to researchers in psychology: intrinsic motivation (IM) and extrinsic motivation (EM).^[21,22] Motives for PA have been theorized, considering the differentiation between IM, obtained or accomplished in practice, and EM received as practice-derived results.^[19,25]

Research on participation motivation suggests that there are systematic differences between participation motives and some demographic variables. These include sex, age, country, and preference for specific forms of PA.^[26]

The present study aimed primarily to determine motives for PA participation among Libyan adults. We also investigated the motives for PA participation that best discriminated between sex and place of participation (indoor vs. outdoor).

PARTICIPANTS AND METHODS

Settings and participants

The study participants were divided into two groups (indoors and outdoors) recruited from three different areas in Tripoli, the capital city of Libya. Eligible participants included adults aged between 18 and 70 years. They were 300 males and 300 females. After ethical approval, managers of 3 fitness centers (indoors) and three recreation spaces (outdoors) were approached to use their facilities for recruitment. Participants' informed consent was obtained on basis of anonymous participation. Participants were asked to honestly respond to the Exercise Motivations Inventory-2 (EMI-2).^[27]

Assessments

Participants completed the Arabic version of the Exercise Motivations Inventory-2 (EMI-2), a widely utilized instrument with established and acceptable psychometric measurements to measure different types of exercise motivation.^[27] The Arabic version of the EMI-2 was developed by Hashim Abdulla Al-Mousawi at the Arabian Gulf University, Bahrain.

Briefly, the EMI-2 was developed for assessing participation motives to examine issues such as the influence of motives on exercise participation, how these motives might influence the choice of activities, how affective responses to exercising may be affected by reasons for exercising, and how involvement in sports activity might have a reciprocal influence on participation motives. This scale evaluates the predisposing reasons for the practice of physical exercise. The EMI-2 comprises 51 items that constitute 14 subscales: Affiliation, appearance, challenge, competition, enjoyment, health pressures, ill-health avoidance, nimbleness, positive health, revitalization, social recognition, strength and endurance, stress management, and weight management. Each item was answered on a 5-point scale ranging from 0 (not at all true for me) to 5 (very true for me). Subscales comprise 3–4 questions, with subscale scores obtained by calculating the mean for the appropriate items designated by the scoring key.^[27] Furthermore, we added 12 sociodemographic parameters to the EMI-2 (sex, age, occupation, educational level, and income adequacy). In addition, the question about the frequency of activity per week, duration of PA sessions, are they are regularly practicing PA, and the onset of practicing PA have all been added to the EMI-2.

Data synthesis and statistical analysis

Data analyses were conducted using SPSS Statistics (Version 23.0; IBM Corp., Armonk, NY, USA). The motivation score was calculated under eleven subscales (0–5 Likert Scale) to get an average score. A higher mean score closer to 5 indicates better motivation, while a lower mean score closer to 0 indicates not-so-good motivation. These scores were reported by mean and standard deviation. The descriptive parameters were calculated (mean, standard deviation, frequency). Univariate ANOVA was used to test for differences sexes and places of participation for each item in the questionnaire. Demographics (sex, places of participation) were the independent variables, and the 14 subscales were the dependent variables. Statistical significance was set at $p < 0.05$.

RESULTS

General characteristics of the study population

The age ranged from 18 to 70 years (33 ± 11.2 years; mean \pm standard deviation [SD]) 64.6% of participants have completed an undergraduate degree and 35.3% have completed secondary school. On average, 60% of participants started practicing PA recently ($>$ one year) regularly. Demographic characteristics and description of the physical activity are summarized in Table 1.

The physical activity motives in the whole study group:

In general, activation, positive health, and avoiding ill-health were the most common motivational factors and expressed as mean \pm SD [Table 2]. The factors that were listed as the least critical motivational factors included competition, affiliation, health pressure, and social status, as shown in Table 2.

Difference in physical activity motives between sexes:

Eleven out of the 14 exercise motivational subscales measured by EMI-2 were significantly different ($P < 0.05$). Male participants reported significantly higher motives for affiliation, competition, strength and endurance, and social status. In comparison, female participants reported significantly higher motives for internal motives (positive health and activation) and external motives (fitness, weight management, and appearance) [Figure 1].

Physical activity motives in different places of participation:

Eleven out of the 14 exercise motivational subscales measured by EMI-2 were significantly different: between places of exercise ($P < 0.05$). Participants of indoor PA reported significantly higher motives for stress management, activation, enjoyment, challenge, social status, affiliation, competition, weight control, appearance, fitness, and strength, and endurance, whereas participants of both indoor and outdoor PA reported no significant difference in motives for health pressure, avoiding ill-health, and positive health [Figure 2].

DISCUSSION

Most of existing research on motives of PA participation in adults was conducted on university

or college students. To date, motives for PA participation were not examined among Libyans. The present study examined the motives and differences in PA participation between sexes and places of participation in Libyan adults. Overall, participants had both intrinsic and extrinsic motivational factors for participation in PA. Positive activation, avoiding ill-health, weight control, fitness, and strength and endurance were the top motivational factors. These results are consistent with previous studies.^[1,8,28,29] Which found that positive health,^[8,28,29] avoiding ill-health,^[1,8,28,29] appearance,^[1,8,28,29] strength and endurance,^[28,29] and weight management,^[1,8,28,29] were the top motivational factors in university students and university employees. We used the same instrument (EMI-2) to measure the participants' exercise motives. Further, the present study is in agreement with previous findings using a different scale to measure exercise motives PA and Leisure Motivation Scale (PALMS).^[26] They found that maintaining physical health, relieving stress, enjoyment, and appearance were the most common motives in college students.^[26] Previous work on older adults revealed similar results. van Uffelen *et al.*^[30] demonstrated that older adults were more likely to be motivated by factors related to health and well-being. They also suggested that preventing health problems, feeling good, and weight management were the three leading motivating factors for PA participation for women and men.^[30]

The present study revealed that males are highly motivated by affiliation, competition, strength and endurance, and social status. This finding is concordant with the previous work, which found that males possess a significantly higher IM.^[26,28,29,31] Furthermore, our findings are concur previous studies that EMI-2 to measure the participants' motives for PA participation.^[28,29,31] For example, Egli *et al.*^[28] reported that males were motivated by strength and endurance, competition, and challenge. Further, Cerar *et al.*^[31] also reported that males are motivated by enjoyment, challenge, social recognition, affiliation, strength and endurance, and competition. Kilpatrick *et al.*^[29] also found that challenge, competition, strength, endurance,

Table 1: Demographics and exercise patterns of the participants

Variable	Descriptions	Percentage
Age	18-35	60.50
	36-50	31.83
	51-70	7.67
Sex	Male	50.00
	Female	50.00
Occupation	Working	64.50
	Retired	4.00
	Unemployed	24.67
	Others	6.83
Educational level	School	35.33
	University	42.83
	Higher education	21.83
Perception of income	More than enough	10.83
	Enough	36.83
	Almost enough	19.33
	Not enough	33.00
Onset of practicing physical activity	<6 months	39.33
	6-12 months	20.67
	1-3 years	15.67
	>3 years	24.33
Regular practicing physical activity	No	36.67
	Yes	63.33
Frequency of activities per week (days)	1	5.00
	2	10.33
	3	55.00
	>3	29.67
Duration of physical activities sessions (min)	30	11.33
	30-60	47.33
	>60	41.33

Table 2: Motivational subscales of physical activity participation for the whole sample

Subscales	Mean ± SD
Stress control	3.449±1.007
Activation	4.2±0.925
Enjoyment	3.276±1.007
the challenge	3.17±1.129
Social status	2.504±1.242
Affiliation	2.686±1.213
The competition	2.728±1.29
Health pressure	2.597±1.294
Avoiding ill-health	4.091±1.004
Positive health	4.183±0.89
Weight control	3.983±0.956
The appearance	3.685±1.125
Strength and endurance	3.82±1.08
Fitness	3.856±1.08

SD: Standard deviation

and social recognition were the main motives in males. Furthermore, Molanorouzi *et al.*^[26] using the PALMS to measure participants' motives for PA participation revealed that competition and mastery

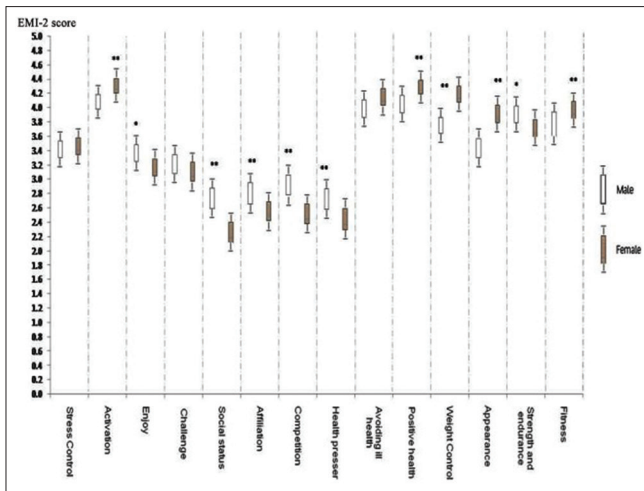


Figure 1: Motivation subscales according to gender (males vs. females); * $P < 0.05$; ** $P < 0.01$

were the main motives for PA participation among males.

On the other hand, several studies found that females have higher scores than males for extrinsic motives related to PA participation regardless of the instrument used to measure motives for PA participation.^[26,28-32] Our findings are in agreement with these observations. Weight management,^[28-31] appearance,^[26,28,30-32] fitness,^[31,32] stress control,^[31] ill-health avoidance,^[31] positive health,^[31] and nimbleness^[31] were the main motives for PA participation among adult females. Females in our study were highly motivated by weight control and appearance. Obesity is considered a major risk factor for many NCDs. Therefore, weight reduction should reduce the risk for developing these conditions and other risk factor of age-related conditions.^[33,34]

The sustainability of an active lifestyle is strongly linked to motivational processes and environmental characteristics. For instance, it has been shown that the availability of PA facilities *per se* is not adequate to encourage people to embrace an active lifestyle.^[35] In addition, characteristics of the environment can influence PA behaviors by encouraging or discouraging a person from using the environment for PA purposes.^[35] In particular, it has been postulated that PA in the presence of nature, a practice that is also known as green exercise, can provide additional health benefits.^[36] In addition, it has greater value for preventing disease

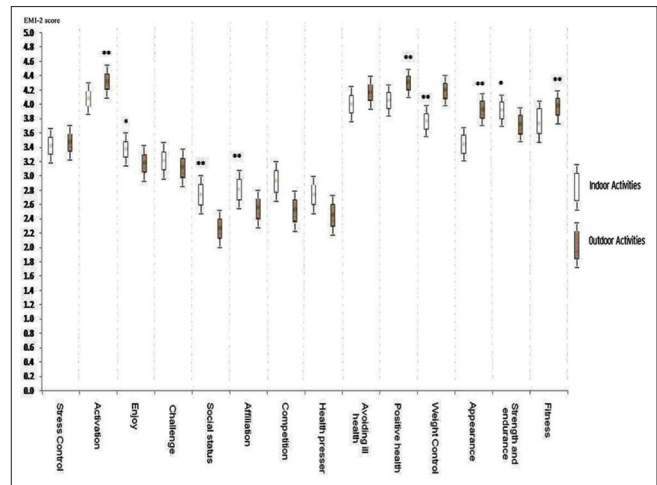


Figure 2: Motivation subscales according to place of participation (indoors vs. outdoors); * $P < 0.05$; ** $P < 0.01$

and enhancing health in the population.^[33] Further, there is evidence that people tend to engage in PA in green space and might be active for longer or/and at higher intensities in natural environments.^[37] Three levels of green exercise have been proposed. These are recreational PA, outdoor competitive sport, and outdoor adventure sport. Differences do likely exist between these activities due to varying costs, access to locations, required skills, and hidden entry requirements to specific green exercise activities.^[38] In addition, it is crucial to understand the types of activities conducted, the motivations behind the decisions to perform such form of exercise, and the use of these areas.^[39] The availability and possible wide range of outdoor PAs could have different motives to drive individuals to participate in a specific form of PA. Participants of this study used either walking, jogging, or running as a recreational form of outdoor PA in open-air spaces.

The present study suggests that participants in outdoor PA were highly motivated by positive health, activation, and avoiding ill-health motives. On the other hand, activation, positive health, avoiding ill-health, weight control, strength and endurance, fitness, and appearance were the main motives for participants in indoor PA. Existing research data have examined the systematic differences of motivational factors for PA participation in certain types of PA (sports specific).^[40] Nevertheless, data comparing different motives between recreational indoor PA (non-sport specific) and outdoor PA

are limited. Our findings are similar to those of Calogiuri and Elliott^[35] who compared motivational differences between indoor leisure physical activities and green exercise activities (outdoor PA) within a national survey of Norwegian adults' physical activity behaviors.^[35] Participation in green exercise was linked with higher convenience, affective benefits, and long-term health motives. The study found that outdoor PA was not driven by external body-orientated motives compared to sport- and gym-based exercises.^[35] Furthermore, they observed that green exercise group tended to focus on more extrinsic factors such as natural surroundings. Participants driven by affective benefits from PA but not the natural environment were more inclined to conduct gym- or sport-based activities to obtain extrinsic benefits.^[35] Also, Fraser *et al.*^[38] compared motivational drivers between the different types of outdoor PA. In general, participants were motivated by intrinsic and extrinsic motivational factors in all forms of outdoor PA; our results concur with their findings. Calogiuri and Elliott^[35] have recommended that future research into motivation in green exercise should consider whether motives are more intrinsic or extrinsic through psychological theories of motivation.^[35] Consequently, we examined motivation using EMI-2 based on SDT to ascertain the different motivational factors between indoor and outdoor PA. Our study revealed that indoor PA has significantly higher motivation (IM and EM) than outdoor PA.

CONCLUSIONS

The findings of our study suggest that vital motives for participation in PA are different across sex and places of participation (indoor vs. outdoor). Understanding the motives that influencing PA participation is critical for developing interventions and recommendations to promote higher levels of involvement and adherence to PA participation and maximize its benefits.

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Authors' contributions

All the authors contributed to the study's conception, data collection and analysis, and drafting and revision of the manuscript. All authors reviewed and approved the final version of the manuscript.

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Conflicts of interest

There are no conflicts of interest.

Compliance with ethical principles

The Bioethics Committee at the Biotechnology Research Center (BEC-BTRC), State of Libya, approved the study. All participants provided informed consent before participation.

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