

MOTIVES FOR PHYSICAL ACTIVITY PARTICIPATION AMONG LEBANESE ADULTS AGED 18 TO 50 YEARS: A CROSS-SECTIONAL STUDY

MOTIVOS PARA PARTICIPAÇÃO DE ATIVIDADE FÍSICA EM LIBANES ADULTOS DE 18 A 50 ANOS: UM ESTUDO TRANSVERSAL

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RESUMO

Contexto: As motivações para a participação desportiva podem ser intrínsecas, extrínsecas ou mesmo amotivacionais. Poucos estudos sobre a participação de adultos em AF foram encontrados no contexto libanês. Este estudo tem como objetivos: a) investigar diferenças significativas na motivação para a prática desportiva em função do género, idade, profissão e tempo de prática, e b) investigar os motivos da prática desportiva que melhor discriminaram entre essas variáveis. **Material e métodos:** A versão árabe da Sport Motivation Scale foi coletada eletronicamente de 531 voluntários praticantes regulares de AF nos últimos seis meses. Género, ocupação, estado civil e tempo de atuação foram analisados por meio do teste U de Mann-Whitney e do teste de Kruskal Wallis com nível de significância de 0,05. **Resultados:** As subescalas de motivação interna (particularmente a intenção de realizar) foram os motivos mais influentes para ambos os sexos. Uma diferença significativa entre os géneros foi relatada nas subescalas de motivação extrínseca e amotivação. Além disso, idade, ocupação, estado civil e tempo de prática mostram diferenças significativas nos fatores de motivação dependentes ou independentes da distribuição por género ($p < 0,05$). **Conclusão:** não houve diferenças significativas na motivação intrínseca para a prática desportiva entre os sexos. Outros fatores, por outro lado, tiveram um impacto substancial. **Contribuição da pesquisa:** esses achados pretendem contribuir para uma melhor compreensão das diferenças na motivação para participar da AF e auxiliar na sua promoção entre adultos libaneses.

Palavras-chave: SMS-28, Participação desportiva, motivação extrínseca, motivação intrínseca, amotivação, motivos.

ABSTRACT

Background: Sports participation motivations can be intrinsic, extrinsic, or even amotivational. Few studies on adult participation in PA have been found in the Lebanese context. This study aims to: a) investigate significant differences in sports participation motivation across gender, age, occupation, and time of practice, and b) investigate sports participation motives that discriminated the best between those variables. **Material and methods:** The Arabic version of the Sport Motivation Scale was collected electronically from 531 volunteers practicing regular PA for the last six months. Gender, occupation, marital status, and time of practice were all analyzed using Mann-Whitney U test and the Kruskal Wallis Test with 0.05 as level of significance. **Results:** Internal motivation subscales (particularly the intention to accomplish) were the most influential motives for both genders. A significant difference across gender was reported in the extrinsic motivation and amotivation subscales. Furthermore, age, occupation, marital status, and time of practice show significant differences in motivation factors either dependent or regardless of gender distribution ($p < 0.05$). **Conclusion:** no significant differences in the intrinsic motivation for sports participation between genders. Other factors, on the other hand, had a substantial impact. **Research contribution:** these findings are intended to contribute to a better understanding of differences in motivation for participating in PA and to aid in its promotion among Lebanese adults. **Keywords:** SMS-28, Sport participation, extrinsic motivation, intrinsic motivation, amotivation, motives.

Introduction

Physical inactivity represents the fourth leading risk factor for mortality with 6% of deaths globally¹. It is suggested to be correlated with ischemic heart disease, diabetes, osteoporosis, obesity, breast, and colon cancer^{2,3}. Thus, modification of unhealthy behavior could improve health substantially⁴.

The World Health Organization (WHO) defines physical activity (PA) as a movement of body segments requiring energy consumption by the skeletal muscles⁵. Depending on the goal

and target of this practice, PA could be used at a variety of intensities ranging from low to high. Caspersen et al. proposed categorizing daily life PA as occupational, sports, conditioning, household, or other activities ⁶. Exercise is a type of PA that is done for a variety of reasons, including maintaining and preserving health, preventing immobility syndrome, improving physical fitness, and competing.

The relationship between regular physical activity (PA) and physical and mental health has been well established in the literature ⁷. For example, regular physical activity was found to be positively related to a reduction in food addiction among Lebanese adults ⁸. Physical activity, on the other hand, is beneficial for significantly reducing the prevalence of many diseases and mortality ⁹, as well as improving physical, psychological, social, and emotional health ¹⁰.

In Lebanon, Al-Tannir et al. reported in 2009 that the prevalence of participation in physical activity among Lebanese adults aged 12 to 18 years is 55.5 %, similar to other populations ¹¹. They discovered that marital status, work situation, and smoking were the main predictors of physical inactivity in Lebanese adulthood. Similarly, Yahia et al. (2010) found that the intensity of participation in physical activity is higher in Lebanese male students than in females, and that physical activity practice is related to weight status ¹².

Understanding the motives for PA participation has been identified as a critical factor in understanding physical activity behavior and exercise dependence ED, as well as promoting this behavior ¹³. By understanding this behavior, a specific program that fits the motives of each individual to ensure adherence to exercise and avoid any physical activity drop ¹⁴ could be stated.

In its original form, the sport motivation scale (SMS-28) classified PA motives into three major factors that influence sport behaviors: intrinsic motivation (IM-to know, IM-to accomplish, IM-to experience), extrinsic motivation (identified regulation, introjected regulation, external regulation), and amotivation ¹⁵. Intrinsic motivation reflects the desire to participate in sports as a means of satisfying and fulfilling personal needs for autonomy and competence ¹⁶. One motivation for football players, for example, is to satisfy their internal desire to be independent and competent. External pressures and rewards, on the other hand, are forms of extrinsic motivation, such as the desire to win a football competition to receive rewards. Explicitly, affiliation and challenge motives predict intrinsic regulation; health/fitness and stress management motives predict identified regulation, and social recognition and appearance/weight motives predict external regulation. Individual goals and targets are also predictors of participation motivations and, consequently, sport behavior ¹⁴.

Furthermore, many factors might be correlated with sport motives. Gender and age had been proven to influence physical activity behavior ¹⁷, intention ¹⁸ and motivation ¹⁹, and sport adherence ²⁰. Adults in Malaysia have different motivations for participating in PA depending on the type of activity, age, and gender. For example, the subscales of competition/ego, appearance, physical condition, and mastery contributed the most to gender differences, whereas five subscales (mastery, psychological condition, others' expectations, affiliation, and enjoyment) contributed the most to the discriminant function for age and type of PA ²⁰.

The motives of PA among adults in Lebanon are still unspecified, and it is unclear how these motivations differ across different demographics of the adult population aged 18 to 50. Thus, the current study aims to: a) investigate significant differences in participation motivation across gender, age, occupation, and time of practice, and b) investigate the participation motives that best discriminated between those variables. We hypothesize that the demographic and practical circumstances of individuals participating in sports activities in Lebanon might have a significant impact on their PA motivations.

2. Materials and Methods

2.1. Participants

A sample of 681 Lebanese volunteers (369 males (24.5 ±3.9 years,) and 312 females (23.8 ±3.8 years)) who are practicing regular PA during the last six months participated in this study. Four demographic variables were studied, gender (male, female), occupation (student, freelance, full-time employee, part-time employee, and jobless), marital status (single, married, divorced, and widower), and the time of practicing PA per week. No special interest was given to the type of sports activities. The individuals who stated that they lost any of their family members in the last 6 months or they had an accident that may influence their psychological state were excluded from the study.

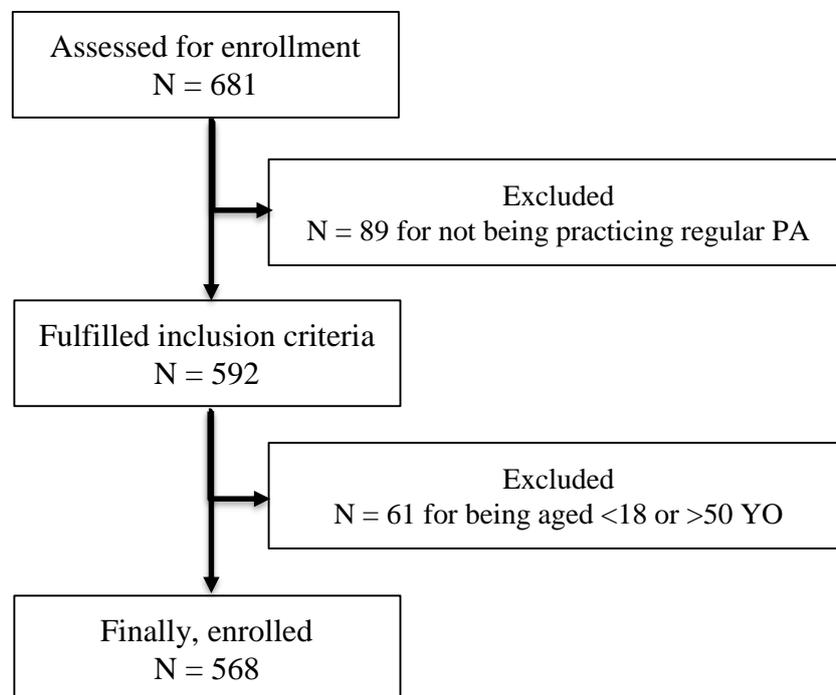


Figure
of the study
Source: authors

1- Flow-chart

2.2. Procedures

Participants who performed regular exercises in the last six months were recruited from various sports centers across different provinces in Lebanon (Beirut, North, South, Bekaa and Mount Lebanon). The students in the third year of the Department of Physical Education of the University of Sciences and Arts in Lebanon (n=5) contacted the trainers of many centers in these areas to introduce the subject of this study and asked them to distribute the questionnaire to all eligible participants. A WhatsApp phone number was also available to facilitate contact with participants if necessary. Eligible participants were provided with an anonymous Google Form with two different sheets; the first introduced the study and identified the key demographic variables and personal characteristics, the second was about the SMS-28 (Arabic version) with a detailed explanation about how to rate each answer. All participants were asked to fill the questionnaires in a private setting and were informed that there were no right or wrong answers

and that their responses would be kept confidential; besides, they have the right to withdraw from the study at any point should they feel uncomfortable.

After collecting the Google form electronically, a manual screening of each individual form was conducted to ensure that all participants had provided correct data and to eliminate those who were not eligible to participate in terms of time being practicing sport (at least 6 months prior to study) and age (between 18 to 50 years old).

2.2.1 - Ethics statement

This study was approved by the scientific committee of the University of Sciences and Arts in Lebanon. In addition, all volunteers who agreed to participate in this study signed a written consent beforehand.

2.3. Measures

2.3.1. Demographics form

Participants responded to specific questions to identify key demographic variables, including gender, age, occupation, marital status, and the time of practicing PA.

2.3.2. Motives for participation in PA

The Arabic version of the Sport Motivation Scale “l’Echelle de Motivation dans les Sports (EMS)” in French, which was designed to measure adult PA motivation, was administered in this study by all participants. The SMS-28 has been validated in previous studies. Briere et al. distributed the SMS-28 to 65 athletes (40 women, and 25 men), with a mean age of 17.86 years²¹. Results showed a good internal and external validity of SMS-28 with correlations of more than 0.64. Later, in 2016, Bayyat et al. also translated the SMS-28 into Arabic and validated showing adequate levels of internal consistency with an acceptable correlation between subscales¹⁵.

The SMS-28 is a scale of motivation that measures different forms of motivation outlined in Deci and Ryan's theory²². It measures the three different types of sports motivations based on seven subscales, each of which includes four items;

1- Intrinsic Motivation (IM) is reflected by:

- IM - To Know: measuring the pleasure and the satisfaction while practicing sports as a tool of learning, exploring, or trying to understand something new.
- IM - To Accomplish: measuring the pleasure and satisfaction when practicing sports as a tool of accomplishing or creating something.
- IM - To Experience: measuring the engagement in the activity by assessing the sensations felt while practicing sports (e.g., sensory pleasure, aesthetic experiences, as well as fun and excitement)²³.

2- Extrinsic motivation (EM) is reflected by:

- Identification Regulation: measuring the extent to which the involvement in sports contributes to adults' growth and development,
- Introjection Regulation: measuring the need of being in good shape for aesthetic reasons.
- External Regulation: measuring the motives of getting rewards or avoiding negative consequences and critics from practicing sports^{24,25}.

3- Amotivation: this is the case of individuals who do not have any internal or external motivation for participating in sports or may not have any good reason for doing so. It's considered as a lack of control as Deci & Ryan stated in 1985²⁴. In such a case, the individual may continue practicing sport or even may decide to stop training.

All participants need to answer the question of "Why do you practice your sport?", then 28 reasons for practicing sports should be ranked on a seven-point Likert type scale from (1) (Does not correspond at all) to (7) (corresponds exactly), with a mid-point of (4) for (corresponds moderately).

2.4. Data analysis

After excluding all participants who stated that they were not practicing in sport activities ($n = 89$, 13.06.5% of the sample) and those who were below 18 or more than 50-year-olds ($n=61$, 8.95% of the sample) from subsequent analyses (ref. figure 1), the remaining data were screened for normality (Appendix A). Then, the descriptive analysis based on the means and standard deviations, was performed for the entire sample as well as for each group and classification (age, gender, occupation, marital status, and time spent participating in sports). Thus, the Mann-Whitney U test was used to compare males and females across all motivational subscales. Following that, the Kruskal-Wallis test was used to analyze the motivational factors across variables (i.e., age, occupation, marital status, and time spent participating in sports) whether or not it was based on gender repartition. The statistical significance was considered at $p < 0.05$.

3. Results

3.1. Demographic characteristics

In this study, 224 women (42.2 %) and 307 men (57.8 %) filled out the Google form. Most of the participants (41.4%) were aged between 26 and 35 years. Only 4.5% were between 45 and 50 years old. 36.5% were full-time employees and around 5.1% were unemployed. Otherwise, over 61% were single and most of them (31.6%) was living in the Mount Lebanon, but only 9% were from North of Lebanon. Additionally, over 28% practiced physical activity for more than 5 hours a week and around 14% were participating in less than 2 hrs./week. More details on the demographic characteristics of all participants are provided in Appendix B.

3.2. Statistical Analysis

3.2.1. Gender differences

A comparison of motives based on gender repartition reveals that the internal motivation has a great influence on both genders with Median (IQR) = 60 (20.75) for females and 59 (26) for males, with the highest score for the “intention to accomplish” with Median (IQR) = 21.5 (8) and 21 (7) for females and males respectively. It’s worth noting that, only the “intention to experience” as internal motivation factor differs significantly between genders ($P = 0.011$).

Furthermore, the three subscales of external motivation differ significantly between genders toward males, with “introjection regulation” recording the highest score Median (IQR) = 17 (7) for females and 18 (6) for males.

The “amotivation” is the least influential factor Median (IQR) = 7 (6.75) with females and 8 (5) with males, with a p-value of 0.004 between males and females (table 1).

Table 1- Comparison between participants based on different variables

		Median (IQR)	Mann-Whitney U Test	Kruskal Wallis Test			
			Gender	Age	Occupation	Marital Status	Time of Practice
Internal Motivation	To Know	19 (10)	0.281	0.372	0.018	<0.0001	<0.0001
	To Accomplish	21 (8)	0.384	0.439	0.14	0.01	<0.0001
	To Experience	19 (8)	0.011	0.888	0.017	0.48	<0.0001
	Total	60 (24)	0.806	0.578	0.01	<0.0001	<0.0001
External Motivation	Identified Regulation	16 (7)	0.001	0.327	<0.0001	0.075	<0.0001
	Introjected Regulation	18 (7)	0.009	0.85	<0.0001	0.016	<0.0001
	External Regulation	14 (9)	<0.0001	0.129	<0.0001	0.008	<0.0001
	Total	48 (20)	<0.0001	0.47	<0.0001	0.016	<0.0001
Amotivation		7 (6)	0.004	0.045	0.001	0.001	0.009

Note: The significance level is 0.05

Source: authors

3.2.2 Differences in ages

The Kruskal Wallis test reveals that, independently of gender repartition, the PA motivation sub-scales didn't differ significantly by age variable, except that of amotivation factor that was very close to the level of significant differences with Median (IQR) = 7 (6) and $p=0.045$ (table 1).

These findings were also reported when analyzing data based on gender repartition; only the external regulation differs significantly across age groups (Median (IQR) = 12 (9), $p=0.012$ and 15 (8), $p= 0.044$ for females and males respectively), however, the amotivation factor didn't differ significantly for both genders (Median (IQR) = 7 (6.75, $p=0.458$ and 8 (5), $p = 0.46$ for females and males respectively) (table 2, Appendix C).

Table 2- Comparison between participants based on gender repartition

Variables		Groups	Median (IQR)	Age	Occupation	Marital Status	Time of Practice
Internal Motivation	To Know	F (n=224)	19.5 (9)	0.093	0.029	<0.0001	<0.0001
		M (n=307)	19 (10)	0.583	0.001	0.003	<0.0001
	To Accomplish	F (n=224)	21.5 (8)	0.054	0.044	0.032	<0.0001
		M (n=307)	21 (7)	0.624	0.003	0.122	0.001
	To Experience	F (n=224)	19 (7)	0.553	<0.0001	0.001	<0.0001
		M (n=307)	20 (8)	0.782	0.037	0.661	0.001
	Total	F (n=224)	60 (20.75)	0.091	0.004	0.001	<0.0001
M (n=307)		59 (26)	0.591	0.003	0.052	<0.0001	
External Motivation	Identified Regulation	F (n=224)	16 (9)	0.72	<0.0001	0.006	<0.0001
		M (n=307)	17 (7)	0.13	<0.0001	0.465	0.103
	Introjected Regulation	F (n=224)	17 (7)	0.893	<0.0001	0.001	<0.0001
		M (n=307)	19 (6)	0.594	0.436	0.501	0.007
	External Regulation	F (n=224)	12 (9)	0.012	<0.0001	0.001	0.002
		M (n=307)	15 (8)	0.044	<0.0001	0.384	0.586
	Total	F (n=224)	42 (21)	0.212	<0.0001	<0.0001	<0.0001
M (n=307)		50 (20)	0.152	<0.0001	0.618	0.06	
Amotivation	F (n=224)	7 (6.75)	0.458	0.074	0.001	<0.0001	
	M (n=307)	8 (5)	0.46	<0.0001	0.388	0.064	

Note: The significance level is 0.05 with F: Female, M: Male

Source: authors

3.2.3. Differences in occupation

Significant differences in the occupation variable were found in all SMS-28 subscales, either based on or independent of gender distribution. According to the Kruskal-Wallis test analysis, the external motivations had the most significant differences with Median (IQR)= 48 (20) and $p < 0.0001$, followed by the amotivation subscale with Median (IQR) = 7 (6) and $p=0.001$ and the internal motivations with Median (IQR) = 60 (24) and $p=0.01$.

Furthermore, analysis based on gender repartition reveals that participants differ significantly in all occupation subgroups in the majority of SMS-28 subscales with $p < 0.05$. Only the introjected regulation with the males and the amotivation with the females did not change significantly across occupation subgroups with Median (IQR) = 19 (6), $p=0.436$ and 7 (6.75), $p=0.074$ respectively (Table 2 and Appendix C).

As a result, the occupation may have an impact on the motivations of the PA of both genders in Lebanon.

3.2.4. Differences in marital status

The Kruskal-Wallis test reveals significant differences in marital status between participants, regardless of gender repartition, with $p < 0.05$ in all SMS-28 subscales. In contrast, analysis based on gender repartition shows that females had significant differences in the marital status classes, whereas males did not differ significantly in the IM (60 (24), $p=0.052$), specifically the intention to experience factor (19 (8), $p=0.661$), all external motivation factors (48 (20), $p = 0.618$), with the identified regulation (16 (7), $p = 0.465$), introjected regulation (18 (7), $p=0.501$),

and the external regulation (14 (20), $p = 0.384$) and the amotivation factors (7 (6), $p=0.388$) (Table 2 and Appendix C).

3.2.5. Differences in practice times

Regardless of gender, the Kruskal-Wallis test analysis reveals that time spent practicing PA influences, or is influenced by, the motivation factors of PA in Lebanon across all SMS-28 subscales ($p<0.05$). Interestingly, females show significant differences in all motivation subscales across time spent practicing PA groups, whereas males show significance only in the internal motivation, and introjected regulations factors.

Finally, because of the small sample size recruited in all variable groups, the generalization of these findings is still limited.

4. Discussion

Systematic differences in PA motives based on demographic variables such as age and gender have been reported in the literature^{20,26,27}. In this study, we attempted to detect differences in PA motivating factors among the Lebanese adults' population aged 18 to 50 years old based on age, gender, occupation, time spent practicing sports, and marital status.

According to our findings, both genders reported the highest scores for internal motivation factors, followed by external motivation and amotivation (lack of motivation to perform sports) factors, with only the last two subscales showing a significant gender difference. These findings are consistent with those of Bayyat in 2020²⁸, who discovered that among Jordanian students of both genders participating in sports, intrinsic motivation was the most influential factor, followed by extrinsic motivation and amotivation factors. Moreover, the gender-based significant differences between participants contradicted van Heerden's 2014 finding that there were no significant differences in all types of motivation for sports participation between male and female Sport Science students²⁹. As a result, we believe that more emphasis should be placed on the differences in PA participation between men and women.

Furthermore, the "intention to accomplish" as an internal factor reflecting the participants' pleasures and satisfactions when participating in sports was the most influencing motive of PA among the Lebanese adults. These scores, on the other hand, did not differ significantly between participants based on gender repartition. Only the "intention to experience" factors showed significant gender differences, with males scoring higher than females. These findings were also reported by Molanorouzi et al. (2015) who stated that Malaysian males are highly motivated by the desire to achieve (e.g. mastery and competition/ego), whereas females are motivated more by the introjected regulation (e.g. appearance and physical condition), and extrinsic motivation factor²⁰. Similarly, Egli et al. (2011) and Morgan et al. (2003) proposed that internal motivation is more important for males than females in terms of desire to accomplish and achieve mastery^{26,30}. Thus, the authors believe that Lebanese adults are increasingly being included in routine sports programs in order to boost their self-esteem and satisfaction.

This suggestion may raise some questions and hypotheses, such as whether there is a link between the critical situation that the Lebanese people are currently facing and their desire to increase their satisfaction through sports participation. What psychological effects has the COVID-19 pandemic lockdown had on Lebanese youth and adults? Could we speculate that the high "intention to accomplish" factor scores are related to an internal need to accomplish something to compensate for what the individuals were unable to accomplish during lock-down?

On the other hand, as previous studies stated^{31,32}, a higher score of the internal motivation factor found in the current study was associated with an increase in the amount of time spent practicing PA (mean rank of scores reported for participants practicing more than 5 h/w compared

to less than 2h/w were 336.53 vs. 180.48 respectively). As a result, we suggest that participants with higher levels of intrinsic motivation are more likely to stick with and adhere to physical activities for longer periods. However, because this was not our primary concern, we did not conduct any separate statistical analysis on it. Thus, more research is needed to confirm this correlation.

Females, on the other hand, reported that the introduced regulation as an external motivation factor was the most influential factor in their motivations to participate in sports (mean rank of 17.6 ± 4.4), whereas males were more influenced by the external regulation, reflecting their desire to be rewarded or to maintain good health. Our findings confirmed previous research that females are more motivated to participate in sports in order to maintain physical attractiveness and appearance²⁶. Accordingly, from the perspective of self-determination theory, this difference between males and females may be explained. We propose that, on the one hand, maintaining good appearance and building a model-like body is still a major motivator for females to participate in sports, while on the other hand, the desire to be rewarded and acknowledged by others is the primary motivator for males.

Buhler, on the other hand, suggested that aging has an impact on people's physical and cognitive abilities, which affects their motivation to practice PA³³. In the current study, only the amotivation factors back up the suggestion of Trujillo et al.³⁴ that motivation changes as people age; internal and external motivation didn't differ significantly across gender and age groups. Furthermore, gender differences in motivation factor preferences exist; females aged 15 to 25 years and 45 to 50 years have higher levels of amotivation than other age groups, whereas males of the same ages have higher levels of internal motivations. Similarly, females between the ages of 26 and 35 reported higher levels of internal motivation, while males reported higher levels of amotivation.

Moreover, marital status has been identified as an influential variable in both genders' PA motivations, single and widower participants have higher internal motivation scores, while married participants have higher amotivation scores. This finding is consistent with the findings of a prior study conducted in 2020 by Ewa Malchrowicz-Mo'sko et al., who discovered a link between marital status and sport motivation³⁵. Patxi León-2020 Guereo's study, on the other hand, reported no differences in any motivational dimension of PA based on marital status³⁶. Thus, more well-designed research is needed to clarify the relationship between marital status and sport motivation.

Furthermore, the occupation has been shown to influence PA's motivations. To the best of our knowledge, no studies in the literature have been found that discuss the relationship between employment and adherence and motivation to physical activities.

5. Conclusions

When investigating PA motivation, the current study's findings highlight the importance of age, gender, occupation, and time of practice. This study was an important first step toward understanding differences in motivation for participating in PA among Lebanese adults. Most importantly, the results of this study show that understanding major participation motivations across those variables may be effective in promoting PA in adults. It can be concluded that there are no significant differences in the intrinsic motivation for sports participation between gender groups. Other variables, on the other hand, had a significant impact.

6. Limitations and strength

To the best of our knowledge, this is the most recent study that investigates the motives of participation in PA among Lebanese adults based on different variables. At the same time, it has some limitations. First, the type of sports activities in which the population are participating, as

well as their level of practice (i.e., beginners, intermediate, and professionals), were not our concern; thus, one might consider this as bias influencing the motives of PA because being a competitive or recreational athlete is completely different in terms of the subjective goal of the practitioners³⁷. Second, because the updated version of the sport motivation scale (SMS-II) has yet to be translated and validated into Arabic, we had to rely on the original version of this scale. Finally, the lack of interest among Lebanese sports practitioners was our most significant barrier to recruiting the targeted population.

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Appendix A. Test of Normality

		Kolmogorov-Smirnova		
		Statistic	df	Sig.
Age		0.233	531.000	0.000
Internal Motivation	To Know	0.079	531.000	0.000
	To Accomplish	0.096	531.000	0.000
	To Experience	0.080	531.000	0.000
	Total	0.073	531.000	0.000
External Motivation	Identified Regulation	0.051	531.000	0.002
	Introjected Regulation	0.076	531.000	0.000
	External Regulation	0.074	531.000	0.000
	Total	0.046	531.000	0.009
Amotivation		0.146	531.000	0.000

Source: authors

Appendix B. Demographic Variables

		F			M			Sum of %
		N	%	% General Population	N	%	% General Population	
Age	18 - 25	92	41.1	17.3	111	36.2	20.9	38.2
	26-35	80	35.7	15.1	140	45.6	26.4	41.4
	36 - 45	48	21.4	9.0	36	11.7	6.8	15.8
	45 - 50	4	1.8	0.8	20	6.5	3.8	4.5
Job	Freelance	46	20.5	8.7	74	24.1	13.9	22.6
	Full time	75	33.5	14.1	119	38.8	22.4	36.5
	Jobless	16	7.1	3.0	11	3.6	2.1	5.1
	Part Time	19	8.5	3.6	10	3.3	1.9	5.5
	Student	68	30.4	12.8	93	30.3	17.5	30.3
Marital State	Divorced	16	7.1	3.0	0	0.0	0.0	3.0
	Married	64	28.6	12.1	112	36.5	21.1	33.1
	Single	136	60.7	25.6	191	62.2	36.0	61.6
	Widower	8	3.6	1.5	0	0.0	0.0	1.5
	PNA	0	0.0	0.0	4	1.3	0.8	0.8
Time Spent	<2	45	20.1	8.5	29	9.4	5.5	13.9
	2 to 3	83	37.1	15.6	56	18.2	10.5	26.2
	3 to 4	20	8.9	3.8	69	22.5	13.0	16.8
	4 to 5	34	15.2	6.4	44	14.3	8.3	14.7
	>5	42	18.8	7.9	109	35.5	20.5	28.4
Province	Beirut	65	29.0	12.2	79	25.7	14.9	27.1
	Bekaa	32	14.3	6.0	40	13.0	7.5	13.6
	Mount Lebanon	77	34.4	14.5	91	29.6	17.1	31.6
	North	17	7.6	3.2	31	10.1	5.8	9.0
	South	33	14.7	6.2	66	21.5	12.4	18.6

Note: (with F: Females, M: Males, PNA: Prefer Not to Announce and IQR: interquartile range).

Source: authors

Appendix C. Descriptive analysis of data based on gender, marital status, occupation and time of practice

Variables	Classes	Population	IM		EM		AM	
			Median	IQR	Median	IQR	Median	IQR
Age	15-25	F	59.00	29	42.00	24.5	6.00	6
		M	63.00	26	52.00	19	9.00	6
		F & M	59.00	26	49.00	22	7.00	6
	26-35	F	64.00	18.25	40.00	19.25	6.50	6.75
		M	60.00	27	50.00	20	8.00	6
		F & M	60.00	22	46.00	23	8.00	6
	36-45	F	60.00	23.75	46.00	21.25	7.00	8.75
		M	57.00	25	45.00	18	7.00	3
		F & M	58.00	25	46.00	20	7.00	5
	45-50	F	-	-	-	-	-	-
		M	62.00	23	54.00	8	10.00	3
		F & M	56.00	23	51.50	11	9.50	3
Marital Status	Single	F	60.00	25	41.00	25	6.00	6
		M	62.00	26	50.00	19	8.00	5
		F & M	60.00	26	48.00	23	7.00	6
	Divorced	F	63.00	21.25	56.00	31.25	5.50	3
		M	-	-	-	-	-	-
		F & M	63.00	21.25	56.00	31.25	5.50	3
	Widower	F	74.00	16	56.50	3	11.50	5
		M	-	-	-	-	-	-
		F & M	74.00	16	56.50	3	11.50	5
	Married	F	55.00	16.5	40.00	7	7.00	5.75
		M	57.00	27	49.50	21.75	8.00	4.75
		F & M	55.50	22	45.50	17.5	8.00	5.5
	PNA	F	-	-	-	-	-	-
		M	-	-	-	-	-	-
		F & M	-	-	-	-	-	-
Occupation	Students	F	59.50	16	40.00	20	6.00	6
		M	67.00	29	52.00	15	9.00	7
		F & M	60.00	25	49.00	20.5	7.00	6.5
	Freelance	F	58.00	18	40.00	15	5.00	5.25
		M	52.00	26	42.00	20	6.00	5.25
		F & M	55.00	22.25	41.00	16	6.00	5
	Jobless	F	68.00	12.25	63.00	24.25	7.50	7.75
		M	66.00	41	39.00	39	8.00	2
		F & M	66.00	5	55.00	32	8.00	3
	Full Time	F	60.00	25	46.00	22	7.00	6
		M	59.00	23	54.00	17	8.00	5
		F & M	59.50	21.5	50.50	20	8.00	5
	Part Time	F	49.00	17	34.00	11	10.00	7
		M	73.00	21.5	60.00	28.75	4.00	2.75
		F & M	63.00	31.5	38.00	33	6.00	9
Time of practice	<2 hrs.	F	51.00	19	39.00	14	11.00	6
		M	47.00	21.5	48.00	22	8.00	4.5
		F & M	49.00	17.5	40.00	13.5	8.00	6
	2-3 hrs.	F	63.00	19	46.00	23	7.00	4
		M	52.00	25.5	53.00	27.25	9.00	5
		F & M	58.00	25	46.00	24	7.00	5
	3-4 hrs.	F	55.00	8	53.00	15	7.00	1
		M	62.00	26	50.00	19	8.00	4
		F & M	61.00	25	53.00	20	7.00	4
	4-5 hrs.	F	60.00	20	41.00	15.25	6.00	6
		M	54.00	21	46.00	13	8.00	9
		F & M	57.00	20	45.00	21	7.00	6.5
	>5 hrs.	F	74.00	23	69.00	34	6.00	6
		M	68.00	21.5	52.00	17	8.00	7
		F & M	68.00	18	52.00	21	7.00	7

Note: with F: Females, M: Males, PNA: Prefer Not to Announce and IQR: interquartile range

Source: authors