Research Article

MOTIVATION FOR PHYSICAL ACTIVITY IN COLLEGE STUDENTS: THE INFLUENCE OF GENDER AND TYPE OF ACTIVITY

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Abstract

In the realm of mental health, the significance of physical activity cannot be overstated. While traditional psychiatric treatments often focus on pharmacotherapy and psychotherapy, the integration of physical activity into psychiatric care has garnered increasing attention and recognition. The lack of motivation among college students to participate in physical activity is a growing concern. Understanding the factors that motivate students to engage in sports or exercise is crucial in promoting physical activity. The present study aimed to investigate the motives behind male and female college students' participation in physical activity and the type of physical activities they prefer. The sample comprised 768 undergraduate students aged between 18 and 24 years, of which 58.33% were females and 41.67% were males. The Exercise Motivation Inventory-2 (EMI-2) was used to assess the physical activity motivation of male and female students who participated in sports or exercises, with 14 subscales. The findings suggest that gender and type of physical activity have a significant impact on four of the fourteen physical activity motivational subscales (competition, enjoyment, challenge, and revitalization). The type of physical activity also showed significant differences in five physical activity motivational subscales (affiliation, appearance, nimbleness, positive health, and social recognition). Regarding gender, only four subscales proved to be significant (affiliation, nimbleness, social recognition, and strength and endurance). The study concluded that intrinsic motivations such as improving health and enjoyment, and ego-oriented factors such as competition, challenge, and strength and endurance are crucial in promoting regular sports behavior, particularly among male university students. On the other hand, external factors such as appearance and nimbleness tend to motivate female students who engage in exercise. *ASEAN Journal of Psychiatry, Vol. 25 (5) May, 2024; 1-12*.

Keywords: Motivations; Exercises; Sports; Physical Activity; Saudi Arabia; Self Determination Theory

Introduction

Physical activity plays a crucial role in the field of psychiatry, offering a holistic approach to mental health treatment. Incorporating exercise into psychiatric care plans has shown numerous benefits for individuals dealing with various mental health conditions. It can help manage weight, enhance cardiovascular health, and strengthen bones and muscles. Engaging in regular physical activity can also lower the risk of chronic diseases like diabetes, heart disease, and certain types of cancer [1]. Additionally, physical activity can help alleviate symptoms of depression and anxiety and promote social interaction among individuals [2]. As per the World Health Organization's (WHO) guidelines, adolescents should engage in moderate to vigorous physical activities for at least 60 minutes daily, whereas adults should aim for at least 150 minutes of moderate-intensity physical activity every week. However, as per WHO's report, physical inactivity is more prevalent in older individuals, and females tend to participate less in physical activity than

males. The report also indicates that more than a quarter (27.5%) of the adult population globally is not physically active, with females being more insufficiently active than males [3]. In a study conducted by Alqahtani, Alenazi, Alhowimel, and Elnaggar, it was discovered that only 8% of adult females in Saudi Arabia engaged in physical activity, while 28% of adult males in Saudi Arabia engaged in physical activity [4]. The criteria for physical activity included engaging in at least 150 minutes of moderate to high-intensity physical activity per week for individuals aged 14 or older. Also, a study indicated that physical activity is crucial in preventing over 35 chronic diseases such as obesity, insulin resistance, type 2 diabetes, non-alcoholic fatty liver disease, coronary heart disease, depression and anxiety, and osteoporosis [5]. According to the World Health Organization's report in 2010, physical inactivity contributes to 25% of global mortality, leading to the death of more than three million people [6].

Participating in physical activities, both within and outside college hours, can help students in reducing the risk of obesity. This is crucial, as obesity has become one of the most pressing public health concerns. Studies have shown that 30% of obese adolescents have had their second or more cardiovascular disease risk factor, while 70% have had their first. Obesity can lead to various health problems, such as high cholesterol levels, metabolic syndrome, hypertension, insulin resistance, and type two diabetes. In 2020, a study conducted in Saudi Arabia reported that 25% of students at King Khalid University were obese, while 26% were overweight [7]. On the other hand, the American College Health Association (ACHA) reported that 16% of American college students were obese, and approximately 24% were overweight in 2018 [8]. Thus, it is vital that students prioritize physical activity to maintain a healthy weight and prevent potential health complications associated with obesity.

Exercises and sports are part of physical activity that is essential for maintaining a healthy lifestyle. Exercise is "a type of physical activity that involves planned, structured, repetitive, and purposive in the sense that improvement or maintenance of one or more components of physical fitness is an objective" [9]. Exercise programs, such as weightlifting, aerobics, cycling, and yoga, have numerous benefits for physical and mental health. Regular exercise can help to control weight, improve cardiovascular health, and strengthen bones and muscles. It can also reduce the risk of chronic diseases such as diabetes and heart disease [10]. Exercise also boosts mental health by reducing stress, anxiety, and depression. It can improve mood, self-esteem, and cognitive function [2]. Additionally, sports can help individuals build discipline, perseverance, and respect, valuable traits that can be applied in other areas of life [11]. Sport is "physical activity governed by formal or informal rules that involve competition against an opponent or oneself" [12]. Sports like basketball, soccer, and tennis allow individuals to challenge themselves, work on teamwork and strategic thinking, and improve their physical fitness. Engaging in sports also provides social benefits, allowing individuals to connect with others and develop teamwork skills [13]. Regardless of the type of physical activity, incorporating it into daily life can lead to significant health benefits and enhance one's quality of life.

Ensuring physical activity among university students is essential for maintaining a healthy lifestyle, and universities play a crucial role in facilitating their participation in such activities. Engaging in sports and exercise can improve body shape, alleviate the monotony of studying, and enhance physical and mental well-being [14]. Therefore, universities should prioritize providing physical and recreational activities that promote their students' social, psychological, cognitive, and physical development. The university dramatically emphasizes student engagement in physical activities by providing sports amenities and arranging sports and recreational competitions. However, a study has disclosed that a mere 30% of female students at King Saud University adhere to the recommended physical activity guidelines, citing a lack of resources, time, and social influence as contributing factors [15]. Similarly, the study found that only 63% of female students at Hafr Al Batin University are physically active, citing their lack of energy, resources, willpower, time, and social influence as barriers [16]. At Umm Al-Qura University, about 48% of male students exhibited low physical activity, while 62% were moderately and vigorously active. Furthermore, 45% of female students at Umm Al-Qura University display low physical activity, and 55% are moderately and vigorously active [17]. In addition, according to a study, 77% of female and 20% of male students at Sultan Qaboos University do not engage in physical activity [18].

The Self-determination Theory (SDT), developed

by Deci and Ryan, is a significant contemporary theory in understanding motivation and personality [19]. The theory explains that individuals can become self-motivated and self-determined when their psychological needs are met, which include competence, autonomy, and relatedness. Competence refers to the feeling of ability and proficiency from performing a behavior. At the same time, autonomy is related to an individual's choice of behavior based on their desire and independent of external influences. Relatedness pertains to the extent to which behavior satisfies the social needs of the individual. The SDT is based on two types of motivation: intrinsic and extrinsic. Intrinsic motivation involves psychological processes that bring an individual personal satisfaction and enjoyment from their behavior. On the other hand, extrinsic motivation causes an individual to engage in behavior to seek external rewards, reinforcement, or to avoid punishment. For instance, athletes and practitioners have varying motives to participate in physical activities, as some are motivated by internal factors, such as enjoyment, revitalization, or challenge. In contrast, others are motivated by external factors, such as appearance or social recognition [20]. The SDT is an essential theoretical approach to understanding why students participate in physical activities as it establishes psychological needs and intrinsic and external motivation regulation. Consequently, this theory is crucial in promoting and maintaining the participation of individuals in physical activity.

A study aimed at measuring the motivational factors behind physical activity revealed that female university students had higher motivation levels in weight management, appearance, stress management, positive health, and nimbleness compared to their male counterparts. Conversely, male college students showed higher motivation levels in challenges, social recognition, affiliation, competition, health pressures, and strength and endurance [21]. Another study focused on determining the level of enthusiasm among college students toward exercising. The results indicated that male students were more motivated to engage in physical activities than female students. In addition, significant differences were observed between male and female students in various Exercise Motivation Inventory-2 (EMI-2) categories, such as stress management, revitalization, enjoyment, challenge, social recognition, affiliation, competition, and strength and endurance. However, female students showed more interest in weight management and appearance than male students [18]. Additionally, a study investigated the reasons for differences in sports participation motives between males and females at The University of Ljubljana. The study found that male participation in sports was motivated by enjoyment, challenge, social recognition, affiliation, competition, strength, and endurance. In contrast, female students were motivated by stress and weight management, revitalization, ill-health avoidance, positive health, appearance, and nimbleness [22]. Furthermore, a study conducted using the Exercise Motivations Inventory revealed that college students had different motivational factors associated with physical exercise. The study found that males emphasized exercise participation for affiliation, competition, and social recognition. In contrast, females rated weight management and health rehabilitation more significantly than males [23].

A study was conducted to identify the factors that motivate college students to exercise based on their gender, age, and economic background. The results indicated that male students prioritized exercise for strength, endurance, and competition, while female students focused more on weight management and appearance [24]. Additionally, a study was carried out to examine the relationship between various motives for exercise. The findings revealed that the majority of students exercised to improve their health, strength, and endurance, as well as their appearance. However, a smaller group of students exercised social recognition, affiliation, and competition. Notably, there were differences between male and female participants. Female students rated health, strength, endurance, appearance, revitalization, and stress management higher than male students. On the other hand, male students were more motivated by enjoyment, challenge, competition, and social factors [25]. Another study examined how participation in sports or exercise affected male and female students' motivation for physical activity. The research found that female college students who engaged in sports had more enjoyment and revitalization than those who exercised. Additionally, female students prioritized stress management and nimbleness when exercising. However, both genders considered exercise to be more beneficial for their health than sports, and male students were more motivated by challenges,

competition, social recognition, and strength and endurance, while female students were motivated by weight management. The study also found that respondents were generally more motivated to engage in physical exercise for appearance, strength and endurance, stress management, weight management, and overall health factors such as avoiding ill-health and positive health than their motivation for sports participation [26].

This study aimed to analyze the motives behind male and female college students' participation in physical activity and the type of physical activity they engage in. The results of this study could be beneficial for those involved in planning, evaluating, and implementing physical activity programs that aim to increase college students' participation in physical activities. The main research question of this study is: To what extent does the type of physical activity (exercises and sports) for male and female college students differ in their motivation to engage in physical activity?

Materials and Methods

Participants

The study was conducted on health and fitness courses for undergraduate students at the University of Hafr Al Batin in the Eastern region of Saudi Arabia. Only physically active students were allowed to participate in the study. The sample included 768 undergraduate students, with 58.33% females and 41.67% males, aged between 18 to 24 years old. The students were from four different university branches, with the majority studying at Hafr Al Batin. The sample consisted of 57% exercise participants and 43% sports participants. The respondents reported participating in physical activity for two to three days a week, with duration of 30 to 60 minutes per session. Stratified random sampling was used to collect data because the study involved participants of different genders and physical activity levels. Participation in the survey was voluntary. The descriptive statistics of the participants are presented in Table 1.

Table 1. Demographic characteristics of participants.

Variables		**Frequency**	**%**
Male	Exercise	105	13.67
	Sport	215	28
	Total	320	41.7
Female	Exercise	333	43.36
	Sport	115	14.97
	Total	448	53.3
Total	Exercise	438	57
	Sport	330	43
	Total	768	100
Exercise duration (days)	1	27	6.2
	2	123	28.1
	3	117	26.7
	4	59	13.5
	5	41	9.4
	6	32	7.3
	7	39	8.9
	Total	438	100
Sport duration (days)	1	45	16.4
	2	107	32.4
	3	92	27.9
	4	35	10.6
	5	23	7
	6	15	4.5
	7	4	1.2
	Total	330	100
Time spent on exercise (min)	0-30	121	27.63
	31-60	213	48.63
	61-90	77	17.58
	90+	27	6.16
	Total	438	100
Time spent on sport (min)	0-30	80	24.24
	31-60	167	50.61
	61-90	64	19.39
	90+	19	5.76
	Total	330	100

Procedure

This study involved male and female undergraduate students taking an online health and physical fitness course. The Principal Investigator (PI) specifically chose students involved in physical activity for the research study. This was determined by including a questionnaire about their participation in sports or exercise. As a result, participants who were not actively engaged in sports or exercise were excluded from the study based on their questionnaire responses. The PI informed the students about the study's purpose, and that participation was voluntary. Students provided their consent before receiving a link to participate on the blackboard. The survey took place over one month, starting in September 2022.

Measurement

The measurement instrument included two stages: Demographic characteristics and Exercise Motivation Inventory-2 (EMI-2).

Demographic characteristics: This part contained common questions aimed towards students, covering aspects such as their gender, age, the kind of physical activity they engage in (either exercise or sports), how frequently they participate in physical activities each week, and the duration of their physical activity sessions.

The EMI-2 questionnaire: The Exercise Motivation Inventory-2 (EMI-2) comprises 14 factors, namely affiliation, appearance, challenge, competitor, enjoyment, health pressure, ill-health avoidance, nimbleness, positive health, revitalization, social recognition, strength and endurance, stress management, and weight management, each consisting of three to four items. The questionnaire utilized a six-point Likert scale (0=not at all true for me, 5=very true for me) to measure responses to the 51 items. A total score of six indicated high motivation levels for physical activity, while a score of zero indicated low motivation levels. Each item was preceded by the statement, "personally, I participate in exercise or sport (might participate in exercise or sports)…" Confirmatory factor analysis revealed that the EMI-2 was able to differentiate between the exercises motives of males and females, thus indicating acceptable validity coefficients for the scale [27]. Moreover, all 14 factors of the exercise motivation inventory-2 demonstrated good internal consistency reliability, with coefficient alpha scores ranging from 0.73 to 0.85.

Data analysis

The data analysis was carried out using Statistical Package for the Social Sciences (SPSS) Statistics 23. Descriptive statistics were employed to measure personal information and the outcome measures for the study variables. To investigate the impact of two types of physical activities and gender on participants' motivations to engage in physical activity, two-way Multivariate Analysis of Variance (MANOVA) tests were performed. The statistical significance level was set at $P<0.05$.

Results

This study discovered that the participants had a moderately positive motivation to engage in physical activity. The overall mean motivation score for all participants was 3.54 out of 5.00. It was observed that male students had a higher motivation level (M=3.62, SD=0.72) compared to female students (M=3.48, SD=0.83). Although, there was no significant difference between students who participated in sports (M=3.58, SD=0.75) and exercises (M=3.50, SD=0.82).

Comparing different types of motivation

This study aimed to examine the motives behind male and female college students' participation in physical activity and the types of physical activities they engage in. The research question of interest was, "to what extent do the types of physical activity differ in motivating male and female college students to engage in physical activity?" A 2 x 2 MANOVA was performed to answer this question, with gender (male and female college students) and type of physical activity (sports and exercises) as the independent variables. The dependent variable was the 14 motivation subscales of the EMI-2, with higher scores indicating greater motivation to engage in physical activity. This study investigates how gender and the type of physical activity impact all motivation subscales simultaneously. The results of the two-way MANOVA indicated a significant interaction effect between the type of physical activity and male and female college students on their motivations to engage in physical activity (Wilk's $\Lambda=0.831$, $F(14,751) = 6.58$, $p<0.001$, partial $\eta^2=0.169$). Additionally, there were significant main effects for gender (Wilk's $\Lambda=0.818$, $F(14,751) = 11.91$, $p<0.001$, partial $\eta^2=0.182$) and type of PA (Wilk's $\Lambda=0.778$, $F(14,751) = 15.27$, $p<0.001$, partial $\eta^2=0.192$).

Interaction between type of PA and gender

To examine the effect of gender and type of physical activity on each motivation subscale, a 2 × 2 Analysis of Variance (ANOVA) was conducted. The results indicated significant interactions between gender and type of physical activity for four dependent variables: Competition, enjoyment, challenge, and revitalization. Therefore, we performed a follow-up analysis by examining the simple main effects of the type of physical activity for males and females separately and the difference between gender for sport and exercise participation.

Regarding the competition motivation variable scores, female college students reported the same level of competitive motivation for both sports (M=3.02, SD=1.24) and exercise participation (M=2.83, SD=1.51). However, male college students had a higher level of competitive motivation in sport participation (M=4.10, SD=0.88) than in exercise (M=2.60, SD=1.49). Additionally, male and female college students had similar levels of competitive motivation in exercise participation (male: M=2.60, SD=1.49; female: M=2.83, SD=1.51), but male college students (M=4.10, SD=0.88) had a higher level of competitive motivation in sport participation compared to female college students (M=3.02, SD=1.24).

In terms of enjoyment motivation, it was found that female college students had a higher level of motivation for exercises (M=3.75, SD=1.07) compared to sports (M=3.38, SD=1.05), while male college students felt more enjoyment motivation for sports (M=3.86, SD=0.90) than exercises (M=3.00, SD=1.15). Additionally, female college students had a higher level of enjoyment motivation for exercise participation (M=3.75, SD=1.07) compared to male students (M=3.18, SD=1.20), but male college students rated higher enjoyment motivation for sports participation (M=4.00, SD=0.89) than female college students (M=3.38, SD=1.05).

Regarding challenge motivation, female college students had the same level of motivation in exercise and sport participation (M=3.42, SD=1.16) and (M=3.17, SD=1.01), respectively. In contrast, male college students had a higher level of challenge motivation for sports participation (M=3.86, SD=0.94) compared to exercises (M=3.44, SD=1.21). Additionally, male college students rated higher challenge motivation for sports participation (M=3.86, SD=0.94) compared to female college students (M=3.17, SD=1.01), while both genders had the same level of challenge motivation in exercise participation (M=3.42, SD=1.16) and (M=3.44, SD=1.21) for females and males, respectively.

Finally, for the revitalization factor, it was found that female college students had a higher level of revitalization motivation for exercise participation (M=4.03, SD=1.04) compared to sport participation (M=3.62, SD=0.86), while male college students had the same level of revitalization motivation for both sport participation (M=3.78, SD=0.97) and exercise (M=3.64, SD=0.72). In addition, female college students had higher revitalization motivation for exercise participation (M=4.03, SD=1.04) compared to male college students (M=3.64, SD=0.72), while both male (M=3.78, SD=0.97) and female college students (M=3.62, SD=0.86) had the same level of revitalization motivation for sports participation (Table 2).

Table 2. Means, standard deviations, ranking, statistical results and effect size on motivations subscales for gender and type of PA.

DV	Type of PA	Exercise			Sports			Total			Statistical results	Effect
	Gender	M	SD	R	M	SD	R	M	SD	R	IDV: F (df1=1; df2=764); P	(Partial η^2)
Affiliation	Female	2.25	1.36	14	2.67	1.17	13	2.36	1.33	14	Activity: F=25.51; P<0.001*	0.032
	Male	2.53	1.15	14	3.13	1.17	13	2.93	1.2	13	Gender: F=13.17; P<0.001*	0.017
	Total	2.32	1.32	14	2.97	1.19	13	2.6	1.3	14	Interaction: F=0.83; P=0.363	0.001

Appearance	Female	4.06	0.99	3	3.72	1.07	5	3.97	1.02	4	Activity: F=10.32; P=0.001*	0.013
	Male	4.02	0.93	3	3.84	1	6	3.9	0.98	3	Gender: F=0.31; P=0.575	0.001
	Total	4.05	0.97	4	3.8	1.02	4	3.94	1	3	Interaction: F=0.993; P=0.319	0.001
Challenge	Female	3.42	1.16	10	3.17	1.01	10	3.35	1.13	10	Activity: F=0.94; P=0.334	0.001
	Male	3.44	1.21	9	3.86	0.94	5	3.72	1.05	7	Gender: F=16.50; P<0.001*	0.021
	Total	3.42	1.17	10	3.62	1.02	10	3.51	1.11	10	Interaction: F=14.84; P<0.001*	0.019
Competition	Female	2.83	1.51	11	3.02	1.24	11	2.88	1.44	11	Activity: F=64.46; P<0.001*	0.078
	Male	2.6	1.49	13	4.1	0.88	3	3.61	1.32	9	Gender: F=16.19; P<0.001*	0.021
	Total	2.77	1.5	11	3.73	1.14	6	3.18	1.44	11	Interaction: F=38.17; P<0.001*	0.048
Enjoyment	Female	3.75	1.07	7	3.38	1.05	8	3.65	1.07	7	Activity: F=14.13; P<0.001*	0.018
	Male	3	1.15	10	4	0.89	4	3.67	1.09	8	Gender: F=0.612; P=0.434	0.001
	Total	3.57	1.13	11	3.78	0.99	5	3.66	1.08	8	Interaction: F=68.43; P<0.001*	0.082
Health pressure	Female	2.42	1.46	13	2.73	1.32	12	2.5	1.43	13	Activity: F=2.16; P=0.142	0.003
	Male	2.75	0.89	12	2.73	0.96	14	2.74	0.94	14	Gender: F=2.55; P=0.111	0.003
	Total	2.5	1.36	13	2.73	1.1	13	2.6	1.26	13	Interaction: F=2.65; P=0.104	0.003
Ill-health avoidance	Female	4.04	0.99	4	3.77	0.95	3	3.97	0.99	3	Activity: F=3.34; P=0.068	0.004
	Male	3.85	0.84	4	3.84	1.04	7	3.84	0.98	4	Gender: F=0.60; P=0.44	0.001
	Total	4	0.96	5	3.81	1.01	3	3.92	0.98	4	Interaction: F=2.57; P=0.109	0.003

Nimbleness	Female	4.16	0.98	2	3.85	1.09	2	4.08	1.01	2	Activity: F=10.19; P=0.001*	0.013
	Male	3.8	1.19	5	3.51	1.48	11	3.6	1.4	10	Gender: F=13.54; P<0.001*	0.017
	Total	4.07	1.04	2	3.63	1.36	9	3.88	1.21	5	Interaction: F=0.012; P=0.913	0.001
Positive health	Female	4.34	0.88	1	3.94	0.99	1	4.24	0.93	1	Activity: F=13.62; P=0.001*	0.018
	Male	4.38	0.93	1	4.22	0.97	1	4.27	0.96	1	Gender: F=4.54; P<0.033	0.006
	Total	4.35	0.89	1	4.12	0.98	1	4.25	0.94	1	Interaction: F=2.32; P=0.128	0.003
Revitalization	Female	4.03	1.04	6	3.62	0.86	6	3.92	1.01	6	Activity: F=2.93; P=0.087	0.004
	Male	3.64	0.72	7	3.78	0.97	9	3.73	0.89	6	Gender: F=2.31; P=0.129	0.003
	Total	3.93	0.98	6	3.72	0.93	7	3.84	0.97	6	Interaction: F=12.54; P<0.001*	0.016
Social recognition	Female	2.57	1.35	12	2.59	1.24	14	2.57	1.32	12	Activity: F=20.90; P<0.001*	0.027
	Male	2.94	1.53	11	3.36	1	12	3.22	1.21	13	Gender: F=30.87; P<0.001*	0.039
	Total	2.66	1.4	12	3.09	1.15	12	2.84	1.32	12	Interaction: F=3.56; P=0.060	0.005
Strength and endurance	Female	4.03	1.03	5	3.73	0.99	4	3.95	1.02	5	Activity: F=5.53; P=0.019	0.007
	Male	4.21	1.04	2	4.14	0.87	2	4.16	0.93	2	Gender: F=13.84; P<0.001*	0.018
	Total	4.07	1.03	3	3.99	0.93	2	4.04	0.99	2	Interaction: F=2.15; P=0.143	0.003
Stress management	Female	3.64	1.12	9	3.42	1.07	7	3.58	1.11	9	Activity: F=0.34; P=0.561	0.001
	Male	3.46	1.42	8	3.57	1.04	10	3.53	1.18	11	Gender: F=0.04; P=0.846	0.001
	Total	3.6	1.2	8	3.52	1.05	11	3.56	1.14	9	Interaction: F=3.23; P=0.073	0.004

Weight management	Female	3.73	1.27	8	3.35	1.23	9	3.63	1.27	8	Activity: F=4.02; P=0.045	0.005
	Male	3.8	1.24	6	3.79	0.98	8	3.79	1.07	5	Gender: F=7.14; P=0.008	0.009
	Total	3.74	1.26	7	3.64	1.09	8	3.7	1.19	7	Interaction: F=3.78; P=0.052	0.005
Note: M=mean; SD=Standard Deviation; R=Rank; *P<0.0036.												

Main effects of type of PA on motivation factors

Since the ten motivation subscales as dependent variables did not show significant interaction, a series of one-way ANOVA tests were conducted on each dependent variable as a follow-up to the MANOVA. The Bonferroni method tested each ANOVA at the 0.0036 level (0.05/14). The main effects of the type of physical activity for the ten motivation subscales as dependent variables will be reported first. Five of the ten ANOVA tests conducted were statistically significant: affiliation, appearance, nimbleness, positive health, and social recognition. The effect size (partial η^2) ranged from 0.018 (positive health) to 0.032 (affiliation). Therefore, students who engaged in exercises showed higher motivation levels than those who participated in sports for appearance, nimbleness, and positive health. Conversely, students who participated in sports reported more significant affiliation and social recognition levels than exercise participation.

Main effects of gender on motivation factors

In addition to presenting the main effects of physical activity type on ten motivation factors, we also analyzed the main effects of gender on ten motivation subscales as dependent variables. The ANOVA results indicated significant gender differences in four dependent variables: Affiliation, nimbleness, social recognition, and strength and endurance. The effect size (partial η^2) ranged from 0.017 (affiliation) to 0.039 (social recognition). Specifically, male college students reported higher motivation levels than their female counterparts in affiliation, social recognition, strength, and endurance. However, female college students had a higher motivation level for nimbleness than male college students. These findings are presented in Table 2.

Ranking of motivation factors

In addition to analyzing the data for inferential statistics, we converted numerical averages into rankings. This allowed us to compare various motivations and determine which ones were more effective. The study revealed that the respondents' primary motivation for physical activity was positive health, strength and endurance, appearance, and avoiding ill health. Additionally, those who exercise mainly were motivated by positive health, nimbleness, strength and endurance, and appearance. On the other hand, those who participate in sports were primarily motivated by positive health, strength and endurance, avoiding ill health, and appearance. Thus, we can conclude that positive health and strength, and endurance were the most crucial factors that motivated students to engage in physical activity, while affiliation and health pressure were less important motives (refer to Table 2 for the complete list).

Discussion

This study aimed to investigate the differences in motivation levels for physical activity among male and female college students who engaged in sports or exercises. The study was conducted solely on active college students. The results revealed that the mean motivation score for all participants was 3.54 out of 5.00, indicating a moderately positive motivation level for physical activity. Furthermore, the male students had a higher motivation level than the female students.

The individuals who participated in this study identified various reasons that motivated them to engage in sports, such as improving their overall health, building strength, and endurance, enhancing their appearance, and finding enjoyment. These factors are similar to those found in a study conducted on college students, which revealed that they were motivated in sports by positive health, strength and endurance, and enjoyment [28]. Another study indicated that enjoyment was a significant motive for sports

participation, more so than exercise participation [26]. Therefore, it is crucial to incorporate fun in sports to increase participation since enjoyment is essential for positive motivation. The study also found that the highest motivation for exercising was for positive health, nimbleness, strength and endurance, appearance, and avoiding ill-health. Conversely, affiliation, health pressure, social recognition, and competition were not significant factors motivating exercise. These results align with another study, which revealed that most students exercised to gain benefits related to their health, strength, and appearance, whereas only a minority exercised for social recognition, affiliation, and competition [25]. The findings suggest that internal factors drove sports participants, while those who exercised were motivated more by external factors [29].

Furthermore, the study found that students who participated in sports were more motivated by factors related to affiliation and social recognition when compared to those who participated in sports. Conversely, individuals who participated in exercises were more motivated by aspects related to positive health, nimbleness, and appearance when compared to those who participated in sports. This finding is consistent with previous research, which demonstrated that students were generally more motivated to exercise for appearance, strength and endurance, stress management, weight management, and health-related variables. In contrast, sports participation was more associated with affiliation, challenge, competition, enjoyment, and social recognition [26]. A study found that members of sports clubs had higher levels of extrinsic goals, such as seeking social recognition, and intrinsic goals, such as seeking social affiliation. Despite the difference between these goals, they both focus on developing social relationships with peers, which is crucial in motivating individuals to participate and continue in sports [30].

The study revealed some fascinating discoveries through gender-based analyses. The results indicated that male college students were more inclined than their female counterparts to participate in physical activities due to affiliation, social recognition, and strength and endurance. Meanwhile, female college students were more motivated by nimbleness than male college students, which aligned with earlier research demonstrating that female students had a greater affinity for nimbleness, whereas male students had a higher interest in strength and endurance, affiliation, and social recognition in physical activities [21].

In addition to examining the statistical differences between male and female participation in physical activity, we also ranked the motivation subscales according to the participants. Male participants were more motivated by positive health, strength and endurance, appearance, ill-health avoidance, and weight management, while female participants were more motivated by positive health, nimbleness, ill-health avoidance, appearance, and strength and endurance. According to extensive research, female students tend to have lower satisfaction with their bodies and higher levels of concern about their body image than male students. There was a significant difference in body satisfaction between genders, with male students happy with their body image while female students wished to be slimmer [31,32]. Therefore, it is likely that female students engage in physical activity to enhance their appearance and agility.

When analyzing the relationship between gender and physical activity, the study yielded exciting results. Male students who participated in sports were more motivated by competition, challenge, and enjoyment than male students who participated in exercises and female students who played sports. However, male students who participated in exercises were found to be more motivated by revitalization than their male sports-playing counterparts. Female students who exercised were found to be more motivated by enjoyment and revitalization than female students who played sports and male students who played sports, which is consistent with previous research by Cerar et al., [22]. According to Pauline, male students are generally more motivated by challenge and competition. The study also found that good health and enjoyment were the most crucial exercise incentives [21]. Therefore, it is advised that coaches and physical activity instructors prioritize creating an enjoyable experience for female students participating in exercise and male students participating in sports. Additionally, male students participating in sports should be provided with challenges and opportunities for competition to ensure their effective participation.

However, it is essential to consider the limitations of the study. Firstly, the study was conducted solely at the University of Hafr Al Batin, so the findings cannot be generalized to other regions

of Saudi Arabia or other countries. Additionally, the researcher relied on self-reported surveys to evaluate the type of physical activities students engage in, which can be susceptible to external bias. To address this issue in future studies, it is recommended that the researcher utilize directly measured sport and exercise participation instead of self-reported data.

Conclusion

The research has found that the motivations behind college students' participation in physical activities are influenced by the type of physical activity and the gender of the student. Understanding these motivations is crucial in creating effective plans and programs that encourage physical activity among students. The study concludes that intrinsic motivations, such as improving health and enjoyment, and ego-oriented factors, such as competition, challenge, and strength and endurance, are crucial in promoting regular sports behavior, particularly among male university students. On the other hand, external factors, such as appearance and nimbleness, tend to motivate female students who engage in exercise. Based on the study's findings, universities should establish a recreation and athletic center that offers customized programs that meet the interests, needs, and objectives of college students. This initiative can help foster a healthy campus community by promoting physical exercise and sports activities.

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