Physical Exercise Self-Efficacy among High School Female Students: The Mediating Role of Identity, Outcome Expectation, and Social Support for Exercise Behaviors

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Abstract

This study aims to (1) identify whether students' age, body mass index, exercise identity, outcome expectation for exercise, and social support for exercise behaviors can predict their physical exercise Self-Efficacy, and (2) investigate the differences in physical exercise Self-Efficacy, exercise identity, outcome expectation for exercise, and social support for exercise behaviors between the groups of BMI classes and grade.

A descriptive predictive correlational design was used to guide this study. This study was conducted in Ramadi City, Anbar Governorate, Iraq. The study included a simple random sample of 450 female high school students.

The study instrument includes participants' sociodemographic characteristics, the Stages of Change Scale for Exercise (Short Form), The exercise Identity Scale, The Exercise Outcome Expectation Scale, and The Social Support for Exercise Behaviors Scale.

Data were collected using a self-reported instrument. The statistical package for social science, version 27 was used for data analysis.

The study results revealed that participants' age and exercising together positively predict more their Self-Efficacy of engaging in regular physical exercise. On the other hand, participants' BMI negatively predicts their Self-Efficacy. There are statistically significant differences in Negative Affect, Inconvenient to Exercise, and overall Self-Efficacy among grade groups. There is a statistically significant difference in rewards among BMI groups.

The researchers concluded the older the student, the greater the Self-Efficacy of engaging in regular physical exercise. The greater the social support for exercising together, the greater the Self-Efficacy.
Keywords: Adolescents, Exercise Identity, Outcome Expectations, Physical Exercise, Self-Efficacy, Social Support

الملخص

تهدف هذه الدراسة إلى:

تحديد ما إذا كان عمر الطالبات، مؤشر كتلة الجسم، هوية ممارسة الرياضة، توقعات النتائج من ممارسة الرياضة، والدعم الاجتماعي للسلوكيات المتعلقة بالتمارين الرياضية يمكن أن تتنبأ بالكفاءة الذاتية لممارسة النشاط البدني.

التحقق من الفروقات في الكفاءة الذاتية لممارسة النشاط البدني، هوية ممارسة الرياضة، توقعات النتائج من ممارسة الرياضة، والدعم الاجتماعي للسلوكيات المتعلقة بالتمارين الرياضية بين مجموعات مؤشر كتلة الجسم والصف الدراسي.

أُستخدم التصميم الوصفي التنبؤي الارتباطي لتوجيه هذه الدراسة. وقد أُجريت الدراسة في مدينة الرمادي، محافظة الأنبار، العراق. شملت الدراسة عينة عشوائية بسيطة مكونة من (٤٥٠) طالبة من المدارس الثانوية.

تضمنت أداة الدراسة الخصائص الاجتماعية والديموغرافية للمشاركات، ومقياس مراحل التغيير لممارسة الرياضة (النموذج المختصر)، ومقياس هوية ممارسة الرياضة، ومقياس توقع نتائج التمارين الرياضية، ومقياس الدعم الاجتماعي للسلوكيات المتعلقة بالتمارين الرياضية.

جُمعت البيانات باستخدام أداة تقرير ذاتي. واستُخدم البرنامج الإحصائي للحزم الاجتماعية SPSS الإصدار (٢٧) لتحليل البيانات.

أظهرت نتائج الدراسة أن عمر المشاركات وممارسة التمارين مع الآخرين يتنبأان إيجابياً بزيادة الكفاءة الذاتية للمشاركة في التمارين البدنية المنتظمة. من ناحية أخرى، فإن

مؤشر كتلة الجسم للمشاركات يتنبأ سلبياً بالكفاءة الذاتية. كما وُجدت فروق ذات دلالة إحصائية في (التأثيرات السلبية، صعوبة ممارسة التمارين، والكفاءة الذاتية بشكل عام) بين المجموعات الصفية. كذلك وُجدت فروق ذات دلالة إحصائية في المكافآت بين مجموعات مؤشر كتلة الجسم.

واستنتج الباحثون أنه كلما تقدمت الطالبة في العمر، ازدادت كفاءتها الذاتية في ممارسة النشاط البدني المنتظم. وكلما زاد الدعم الاجتماعي لممارسة التمارين مع الآخرين، ازدادت الكفاءة الذاتية أيضاً.

Introduction

The Department of Health and Social Care describes physical inactivity as “silent killer”.

Physical activity is anything that makes individuals’ body moving. Each week adults need 150-minutes of moderately intense physical activity and two days of muscle strengthening activity, in the light of the Physical Activity Guidelines for Americans. Among these factors, human exercise and Physical activity, nutritional intervention, drugs, and surgery are among the options for decreasing weight(Mohammed MY, et al.,2021) Sedentary behaviors (e.g., work-related sitting, leisure-time sitting, TV viewing) may be linked to overweight and obesity regardless of physical activity There is a Physical inactivity has been identified as the fourth leading risk factor for global mortality -6% of deaths globally.(Raa’d K F ,2022)

Regular physical activity is a key element individuals can do for their health (Centers for Disease Control and Prevention [CDC], 2022). It is evident that making physical activity a priority can significantly impact one's quality of life. By committing to regular exercise, individuals can proactively manage their health and reduce the likelihood of developing chronic conditions. Regular exercise refers to “any planned physical activity (e.g., brisk walking, aerobics, jogging, bicycling, swimming, rowing, etc.) carried out to enhance physical fitness” (University of Rhode Island, 2024, para.

1). Such activity needs to be practiced 3 to 5 times weekly for 20-60 minutes per session. Embracing an active lifestyle is a proactive approach to safeguarding one's well-being and enjoying a longer, healthier life (National Health Services Inform, 2022).

Being physically active can improve your brain health in that it brings some benefits on brain health that occur immediately after a session of moderate-to-vigorous physical activity (acute effect) including decreased feelings of state anxiety (short-term anxiety), improved sleep, and improved aspects of cognitive function, self-esteem, help manage weight (Centers for Disease Control and Prevention [CDC], 2023; HealthHub, 2023; HELPGUIDE.ORG INTERNATIONAL, 2024; Mayo Foundation for Medical Education and Research [MFMER]., 2024; National Library of Medicine - MedlinePlus, 2017). Engaging in regular vigorous physical exercise could potentially delay the progression of Alzheimer's disease (Devanand et al., 2023). Being physically active can reduce the risk of disease (CDC, 2023), helps individuals' body manage blood sugar and insulin levels (HealthHub, 2023; National Library of Medicine - MedlinePlus, 2017), combats health conditions and diseases including coronary heart disease (HealthHub, 2023; National Library of Medicine - MedlinePlus, 2017; NHS, 2021), stroke (CDC, 2023; HealthHub, 2023; NHS, 2021), metabolic syndrome, high blood pressure, type 2 diabetes (CDC, 2023; HealthHub, 2023; NHS, 2021), depression, anxiety, dementia, support individuals in developing resilience and coping in a healthy way, preventing many types of cancer (CDC, 2023; HELPGUIDE.ORG INTERNATIONAL, 2024; NHS, 2021; National Library of Medicine - MedlinePlus, 2017), arthritis, osteoarthritis, and falls (MFMER, 2024; MHS, 2021; National Library of Medicine - MedlinePlus, 2017), strengthen bones and muscles (CDC, 2023; HealthHub, 2023; National Library of Medicine - MedlinePlus, 2017), hip fracture (NHS, 2021), and improve your ability to do everyday activities (CDC, 2023), improves mood (HealthHub, 2023; HELPGUIDE.ORG INTERNATIONAL, 2024; MFMER, 2024; National Library of

Medicine - MedlinePlus, 2017), boosts energy (HELPGUIDE.ORG INTERNATIONAL, 2024; MFMER, 2024), promotes better sleep (CDC, 2023; MFMER, 2024), enhances sexual performance (CDC, 2023; HELPGUIDE.ORG INTERNATIONAL, 2024; MFMER, 2024; National Library of Medicine - MedlinePlus, 2017), minimize the risk of early death by up to 30% (NHS, 2021). Physical exercise can potentially facilitate smoking cessation by mitigating cravings and withdrawal symptoms (National Library of Medicine - MedlinePlus, 2017). And it is known that genetic and metabolic factors directly influence weight gain; however, other factors, such as physical inactivity, an unhealthy diet and psychosocial stress increase the risk of developing obesity and socioeconomic status can influence the high school adolescence's intelligence quotient(Khalifa MF,2017)

Regular aerobic exercise will dramatically alter individuals' heart, metabolism, body, and spirits. Exercise has been demonstrated in clinical trials to be a promising remedy for anxiety disorders and clinical depression among endurance athletes (Harvard Health Publishing - Harvard Medical School, 2020). Also, Individuals with a body mass index (BMI) of 25-29.9kg/m2 are considered overweight, while those with a BMI of 30kg/m2 or higher are considered obese (Ahmed M, et al.,2022). Whereas a BMI of over 30 is not the only sign of obesity, it is a straightforward, low-cost diagnostic that offers healthcare professionals information about a patient's general health(Ahmed M et al.,2023) These negative consequences, as well as excessive obesity rates, represent a significant burden on society. Obesity has societal costs that include both direct and indirect expenditures, such as medical costs. Furthermore, the majority of these indirect expenditures occur at work. Obese employees are less productive, have higher absenteeism rates, and are more prone to have

workplace injuries (Ahmed MM, et al.,2021) and additionally individuals with binge eating disorder eat uncommonly a lot of food in a brief timeframe and feel lost control and blame over these bingeing experiences.(Baji, D. M., et al.,2019)

Childhood and adolescence are crucial times for building movement abilities, adopting healthy behaviors, and laying the groundwork for long-term health. Engaging in regular physical activity during childhood and adolescence is beneficial for overall health and fitness. Young individuals who engage in regular physical activity have greater likelihood of have a healthy adulthood. Chronic conditions like heart disease, hypertension, type 2 diabetes, and osteoporosis are not typically developed by children and adolescents. However, studies indicate that obesity and other factors that put individuals at risk for these conditions, like high insulin levels, elevated blood lipids, and high blood pressure, are becoming more prevalent among children and adolescents (U.S. Department of Health and Human Services, 2018).

Bandura (2001) defined Self-Efficacy as what individuals believe about their ability to exert a degree of control over the way they function and over environmental happenings.

Self-Efficacy pertains to a context-specific rather than a broad concept; it involves individuals' belief in their ability to execute required actions to achieve desired results in a specific scenario, like resisting the urge to smoke.

Self-Efficacy theory posits that individuals' confidence in their capability to engage in difficult behavior, such as quitting smoking, influences their success in achieving those behaviors. Individuals who believe in their abilities are more likely to attempt and persevere, while those who do not believe in their capabilities are less likely to make an effort or may leave the given behavior faster (Brannon et al., 2021).also Physical activity (PA) is any bodily movement produced by skeletal muscles those results in energy expenditure(Alabedi G, et al.,2020)

Outcome expectations, a crucial element in self-efficacy theory, refer to individuals' beliefs that engaging in certain behaviors will

lead to positive outcomes, like reducing the risk of heart problems. Bandura's theory highlights the significance of the interplay between Self-Efficacy and outcome expectations in forecasting behavior. To efficaciously follow a health behavior, individuals have to believe that the behavior will result in a valued outcome and that they can successfully accomplish the behavior. Self-Efficacy Theory suggests that individuals have greater likelihood of following various health recommendations such as sticking to a smoking cessation program, managing exercise routines, adhering to diabetes management, and sticking to HIV medication regimens. For instance, a study conducted by Shiffman et al. (2000) investigated the association between Self-Efficacy and smoking relapse. The results revealed that individuals who experienced an initial lapse in their smoking habits were more likely to maintain abstinence if they possessed high levels of Self-Efficacy. Conversely, those with poorer Self-Efficacy were more prone to relapse (Brannon et al., 2021).

Exercise commitment can mediate the correlation between social support and exercise adherence. Exercise commitment pertains individuals' psychological state who are physical exercisers, which is represented by their inclination and resolve to engage in physical activity. This is demonstrated through their psychological attachment to exercise and their behavioral intention to continue engaging in physical activity (He et al., 2022).

Social support plays a significant role in influencing a person's overall health and well-being (Uchino et al., 2018). Exercise commitment is widely regarded by many scholars as a crucial indicator and prerequisite for the enduring and consistent engagement in physical activity (Bum, 2018; Kato et al., 2023). Furthermore, research has demonstrated that social constrains have the potential to compromise individual's commitment to physical activity, whereas social support can enhance an individual's commitment to exercise (He et al., 2022).

Social support from friends and family is found to be a key factor for regular exercise behavior (Eynon et al., 2019, Scarapicchia et al.,

2017). could motivate students to maintain exercising (Hameed, R., et al .,2018) and additionally Enhance the knowledge, attitudes and behaviors of adult related to periconceptional health(Hameed R, et al.,2018)

This study is the first in Iraq, Middle East, and worldwide that sheds the light on physical exercise Self-Efficacy, exercise identity, exercise outcome expectation, and social support for exercise behaviors in one study. This study aims to (1) identify whether students' age, body mass index, exercise identity, outcome expectation for exercise, and social support for exercise behaviors can predict their physical exercise Self-Efficacy, and (2) investigate the differences in physical exercise Self-Efficacy, exercise identity, outcome expectation for exercise, and social support for exercise behaviors between the groups of BMI classes and grade.

Method

Design

A descriptive predictive correlational design was used to guide this study.

Sample and Sampling

The study included a simple random sample of high school female students. The sample size was calculated using G*power software, version 3.1.9.2 based on a moderate effect size (0.25), an alpha error probability of 0.05, a power of 0.95, and 10 groups, the recommended sample size would be 390. The final sample size is 450.

Measures

The Exercise Self-Efficacy Scale (ESES)

The ESES measures persons' perceived ability to overcome each facilitating or constraining condition (Glanz et al., 2015). Particularly, it examines the extent to which individuals are confident to practice physical exercise when other things impede them (Benisovich et al., 1998). The Exercise Self-Efficacy Scale includes the Negative Affect subscale (3 items), the Excuse Making subscale (3 items), Must Exercise Alone subscale (3 items), the Inconvenient to Exercise subscale (3 items), the Resistance from

Others subscale (3 items), and the Bad Weather subscale (3 items). These items are measured on a 5-point Likert scale of 1 for (Not at all confident), 2 for (Somewhat confident), 3 for (Moderately confident), 4 for (Very confident), 5 for (Completely confident). The total score for this scale ranges 6-30 with a higher score indicates greater Self-Efficacy. The Cronbach's alpha for Negative Affect subscale (.852), the Excuse Making subscale (.829), Must Exercise Alone subscale (.869), the Inconvenient to Exercise subscale (.773), the Resistance from Others subscale (.853), and the Bad Weather subscale (.837).

The Stages of Change Scale for Physical Exercise (Continuous Measure)

The Stages of Change Scale for Physical Exercise (Continuous Measure) which represents sequential stages through which individuals proceed to affect lasting behavior change (Marcus et al., 1992). These stages include Precontemplation Non-Believer (people do not intend to take action in the foreseeable future "usually defined as within the next 6 months") which includes 4 items, Precontemplation Believer which includes 4 items, Contemplation (individuals engage in cognitive processes) which includes 4 items, Preparation (individuals intend to adopt a new behavior in the immediate future, usually defined as within the next month) which includes 4 items, Action (individuals have made specific overt modifications in their lifestyles within the past 6 months) which includes 4 items, and Maintenance (individuals still work to prevent relapse, but they do not need to apply change processes as frequently as do people in the action stage) which includes 4 items.

Exercise Identity Scale (EIS)

The EIS (Anderson & Cychosz, 1994) measures persons' salience of identifying exercise as a fundamental part of the concept of self. The Exercise Identity Scale includes nine items that are measured on a 5-point Likert scale of 1 for (Strongly disagree), 2 for (Disagree), 3 for (Not decided), 4 for (Agree), and 5 for (Strongly agree). The total score ranges between 9-45 with a higher score indicates better exercise identity. The internal consistency of this scale is excellent

(Cronbach's Coefficient alpha was .94) (Anderson & Cychosz, 1994).

Exercise Outcome Expectation Scale

The Exercise Outcome Expectation Scale (Resnick et al., 2001) that measures the specific benefits of exercise which includes nine items that are measured on a 5-point Likert scale of 1 for (Strongly disagree), 2 for (Disagree), 3 for (Not decided), 4 for (Agree), and 5 for (Strongly agree). The total score ranges between 9-45 with a higher score indicates greater benefits of physical exercise. The internal consistency of this scale was very good (Cronbach's Coefficient alpha was .89) (Resnick et al., 2001). Other studies confirmed the reliability of the Exercise Outcome Expectation Scale in that the Cronbach's alpha was 0.96 (Dustin et al., 2017), 0.83 (Murrock & Gray, 2014), 0.73 (Choi & Dukyoo, 2012).

The Social Support for Exercise Behavior Scale (SSEBS)

The SSEBS is a part of The Social Support for Diet and Exercise Behaviors Scale which identifies interpersonal behaviors related to exercise habit (Sallis et al., 1987). This scale involves Friends' Support for Exercise Habits subscale which includes five items that are measured on a 5-point Likert scale of 1 for (Never), 2 for (Rarely), 3 for (Sometimes), 4 for (Often), 5 for (Often always). The total score of this subscale ranges between 5-25 with a higher score indicates greater friend's support for exercise habits. The Friends' Support for Exercise Habits subscale demonstrated very good internal consistency reliability (Exercising together 0.84). It also includes The Family Support for Exercise Habits that includes the Participation and Involvement Subscale which includes 12 items that are measured on a 5-point Likert scale of 1 for (Never), 2 for (Rarely), 3 for (Sometimes), 4 for (Often), 5 for (Often always). The total score of this subscale ranges between 12-60 with a higher score indicates greater friend's support for exercise habits. The Participation and Involvement Subscale demonstrated an excellent internal consistency reliability (Cronbach's alpha 0.91). The Family Support for Exercise Habits includes also the Rewards and

Punishments Subscale which includes 3 items that are measured on a 5-point Likert scale of 1 for (Never), 2 for (Rarely), 3 for (Sometimes), 4 for (Often), 5 for (Often always). The total score of this subscale ranges between 3-15 with a higher score indicates greater Rewards and Punishments related to exercise habits. The Rewards and Punishments Subscale demonstrated an average internal consistency reliability (Cronbach's alpha 0.61). The Social Support for Exercise Behavior Scale displayed an excellent content validity (The Content Validity Ratio is 0.94) (Noroozi et al., 2010). And Social support is considered as more beneficial coping methods as reducing stress, lowering social exhaustion level, and increase ability for improving mood(Mohammed Q, et al.,2022)

Results

The mean age is 17.48 ± 1.49; less than a half age 17-18-years (*n = 208*; 46.2%), followed by those who age 15-16-years (*n = 125*; 27.8%), and those who age 19-20-years (*n = 117*; 26.0%).

The study results reveal that more than a half are within normal weigh-to-height proportion (*n = 240*; 53.3%), followed by those who are overweight (*n = 160*; 35.6%), those who have obesity class I (*n = 40*; 8.9%), those who are underweight (*n = 7*; 1.6%), those who have obesity class II (*n = 2*; 0.4%), and one who has obesity class III (*n = 1*; 0.2%).

The stepwise regression model displays that participants' age and exercising together positively predict more their Self-Efficacy to engage in regular physical exercise (p-value = .010, .032) respectively.

On the other hand, participants' BMI negatively predicts their Self-Efficacy to engage in regular physical exercise (p-value = .021).

The study results reveal that there are statistically significant differences in Negative Affect, Inconvenient to Exercise, and overall Self-Efficacy among grade groups (p-value = .000, .035, .019) respectively.

The study results display that there is a statistically significant difference in rewards among BMI groups (p-value = .001)

Table 1. *Stepwise regression model*

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	38.813	6.580		5.899	.000
	Age	.869	.324	.125	2.682	.008
	BMI	-.305	.132	-.108	-2.316	.021
2	(Constant)	35.909	6.992		5.136	.000
	Age	.837	.324	.120	2.582	.010
	BMI	-.312	.131	-.110	-2.380	.018
	Outcome Expectations for Exercise	-.046	.067	-.032	-.690	.491
	Exercising together	.248	.115	.107	2.151	.032
	Participation and involvement	-.014	.063	-.012	-.229	.819
	Rewards	.311	.178	.085	1.752	.080

a. Dependent Variable: Self-Efficacy

Table 2. *Differences in Self-Efficacy subdomains among grade groups*

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Negative Affect	Between Groups	248.159	2	124.079	10.096	.000
	Within Groups	5493.399	447	12.289		
	Total	5741.558	449			
Excuse Making	Between Groups	5.627	2	2.813	.297	.743
	Within Groups	4236.738	447	9.478		
	Total	4242.364	449			
Must Exercise Alone	Between Groups	14.323	2	7.161	.744	.476
	Within Groups	4305.108	447	9.631		
	Total	4319.431	449			
Inconvenient to Exercise	Between Groups	62.699	2	31.349	3.390	.035
	Within Groups	4133.381	447	9.247		
	Total	4196.080	449			
Resistance from Others	Between Groups	26.649	2	13.325	1.587	.206
	Within Groups	3752.231	447	8.394		
	Total	3778.880	449			

Bad Weather	Between Groups	34.045	2	17.023	1.541	.215
	Within Groups	4938.186	447	11.047		
	Total	4972.231	449			
Self-Efficacy	Between Groups	845.352	2	422.676	3.996	.019
	Within Groups	47282.873	447	105.778		
	Total	48128.224	449			

df: Degree of freedom, F: F-statistics, Sig.: Significance

Table 3. *Differences in social support for exercise among BMI groups*

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Participation and involvement	Between Groups	42.093	5	8.419	.117	.989
	Within Groups	31851.427	444	71.737		
	Total	31893.520	449			
Rewards	Between Groups	168.260	5	33.652	4.348	.001
	Within Groups	3436.460	444	7.740		
	Total	3604.720	449			
Family Social Support	Between Groups	120.779	5	24.156	.259	.935
	Within Groups	41407.701	444	93.261		
	Total	41528.480	449			

df: Degree of freedom, F: F-statistics, Sig.: Significance

Discussion

The stepwise regression model displayed that participants' age positively predict more their Self-Efficacy to engage in regular physical exercise. This finding implies that the older the student, the greater the Self-Efficacy to engage in regular physical exercise. This finding could be explained as older students could have more information about the benefits of engaging in regular physical exercise and the consequences of physical inactivity and/or sedentary lifestyle behavior.

Hussien et al. (2022) concluded that there was a moderate association between physical activity and Self-Efficacy to overcome several barriers to physical activity. The stepwise regression model

displayed that exercising together positively predict more their Self-Efficacy to engage in regular physical exercise. This finding implies that the greater the social support for exercising together, the greater the Self-Efficacy to engage in regular physical exercise. This finding goes in line with that obtained by Tian and Shi (2022) who concluded that social support can positively predict exercise adherence among college students.

On the other hand, participants' BMI negatively predicts their Self-Efficacy of enrolling in regular physical exercise. This finding implies that the lower the BMI, the greater the Self-Efficacy of enrolling in regular physical exercise. This finding goes parallel to that obtained by

Clum et al. (2014) who concluded that BMI significantly inversely associates with exercise Self-Efficacy. Consistently, Brooks et al. (2018) concluded that there was a significant difference in Self-Efficacy for exercise among BMI groups.

The study results reveal that the difference in Negative Affect was significant among grade groups. Further post hoc analysis demonstrates that 12th graders enjoy greater Self-Efficacy of enrolling in regular physical exercise in terms of Negative Affect than 11th graders and 10th graders. This finding could be explained as 12th graders could have much information of the value of engaging in regular physical exercise as they obtained this information through their academic courses compared to 11th and 10th graders even when they are in a negative effect.

The study results reveal that the difference in Inconvenient to Exercise was statistically significant among grade groups. Further post hoc analysis displays that 12th graders enjoy greater Self-Efficacy of engaging in regular physical exercise when they find it inconvenient to exercise than 11th graders and 10th graders. This finding could be explained as 12th graders could be explained as 12th graders supposedly have much information of the value of engaging in regular physical exercise to the extent that they maintain exercising regularly even when they find it inconvenient to exercise.

The study results reveal that the difference in overall Self-Efficacy was statistically significant among grade groups. Further post hoc analysis exhibits that 12th graders enjoy greater overall Self-Efficacy of enrolling in regular physical exercise than 11th graders and 10th graders. This finding could be explained as 12th graders could have much information of the value of engaging in regular physical exercise as they obtained this information through their academic courses compared to 11th and 10th graders.

The study results displayed that the difference in rewards was statistically significant among BMI groups. Further posy hoc analysis reveals that participants who are underweight enjoy greater social support from family in terms of rewards and punishment. This finding could be explained as family members could encourage these participants to engage in regular physical exercise since they believe that regular exercising can enhance their physique and overall health. Adolescent is a critical stage in the adoption of behavior relevant to health (Hussein KA ,et al 2012)

The current study involved the limitation of the study data were subjectively collected using a self-reported instrument.

The study involves a number of implications including the reality that this study is the first worldwide that integrates physical exercise Self-Efficacy, exercise identity, exercise outcome expectation, and social support for exercise behaviors in one study. On the other hand, there are a number of factors that can influence individuals' inclination to regular physical exercise including parents' readiness to engage in regular physical exercise, parents' social support for healthy eating habits that the researchers did not consider and future researchers need to consider.

Conflict of Interest

The researchers declare that there is no conflict of interest.

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