MOTIVES FOR PHYSICAL ACTIVITY AMONG PATH-FIT STUDENTS: A STRUCTURAL EQUATION MODELING APPROACH

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Abstract:

Motives for school physical activity should be encouraged by fostering intrinsic motivation and educating students about its health benefits. However, participation decreases as students move, evolving global and national reports. This quantitative study aimed to explore a best-fit model that predicts PATH-Fit students' motives for physical activity in Region X using Structural Equation Modeling (SEM). The study employed PATH-Fit students in SUCs using systematic random sampling. The data were collected using an adapted and modified survey instrument. The result showed very high autonomy support, moderate exercise self-efficacy, moderate goal orientation, and high motivation for physical activity. The best-fit model, with acceptable goodness-of-fit indices, demonstrated the direct influence of exercise self-efficacy on motives for physical activity. Further, autonomy support and exercise self-efficacy are crucial in promoting PATH-Fit students' motives for physical activity. Clearly outline practical applications.

Keywords: autonomy support, exercise self-efficacy, goal orientation, motives for physical activity, structural equation model, Philippines

1. Introduction

Physical Activities (PAs) are important drivers for social transformation and enablers of Sustainable Development Goals (SDGs) (WHO, 2018). It is also often concretized concerning the unique contribution of PA to health (SDG 3) and education (SDG 4) (United Nations, 2015). However, as part of the health and education concern, there has been a claim made that schools need to encourage PA by fostering intrinsic motivation

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(i.e., student-favorite sports), providing support from teachers, helping students feel more competent, and elevating the values of PA by educating them about its health benefits (Codina *et al.*, 2016). In fact, Deforche *et al.* (2015) found in their previous study that participation in PA decreased when students moved from high school to college, while Corder *et al.* (2017) found in their meta-analysis of 49 studies that PA levels decreased as students moved from childhood to adulthood.

In Canada, Tulchin-Francis *et al.* (2021) reported that university students are physically inactive and need to meet the recommended physical activity guidelines. In Latin America, Mamani *et al.* (2017) reported that university students' low levels of PA. Meanwhile, in India, the Verma *et al.* (2022) study reported that about 14.5 percent of all students fall under the inactive category regarding PA levels. Additionally, about 71.3 percent of all students fall under the highly active category. Moreover, in China, some studies have shown that PA levels decrease dramatically in adolescents and young adults (Fan *et al.*, 2019; Sevil *et al.*, 2018). The mean for every subject's level of PA fell into the low range, indicating that students still frequently neglect to engage in regular PA.

Similarly, a recent report on worldwide trends in insufficient PA has shown that almost 40 percent of Filipinos need to be more adequately active. According to surveillance data, inadequate PA among young Filipinos is startlingly high (Guthold, 2020). Filipinos need more time and are too lazy to exercise, which may interfere with their school-related tasks (Manasan *et al.*, 2023). Additionally, most Filipino college students are too lazy and do not have time for exercise because of their obligations at home, academic obligations, and medical conditions (Mungcal *et al.*, 2021). In addition, De Souza *et al.* (2021) observed a prevalence of students' physical inactivity of 67 percent. Although many studies have examined the motives of PA in university students, more research is needed concerning the university students' level of motives for PA in Region X, Mindanao, Philippines. Even though the researcher observed that for most university students, only a few would have their motives for PA, it is better to encourage university students to engage in PA, which could be crucial to guarantee that they form healthy lifestyle patterns that they can carry into adulthood. Thus, university students must increase their PAs (Pituk & Cagas, 2019).

The abovementioned findings of the study highlighted that students throughout the world are fighting physical inactivity and finding it challenging to find time for PA. This might also influence things like school duties. Even though exercise is crucial for health, many students do not exercise. The most common reasons given by students for their inability to adopt an active lifestyle are lack of time for exercise (Koh *et al.*, 2022), lack of interest, enjoyment, and confidence (Hoare *et al.*, 2017). Other common reasons include fatigue, stress, and safety concerns (Sabharwal & Sabharwal, 2018). Most of these studies were descriptive in nature and did not employ state universities and colleges as research respondents. Hence, this study was intended to investigate the autonomy support, exercise self-efficacy, and goal orientation to motives for PA. The distinction between this proposed study and the previous research is the intent of proposing a robust multi-variate model for motives for PA.

In this study, one hypothesized model is presented based on the consideration of theoretical and conceptual frameworks. The hypothesized model of the study is shown in Figure 1. The latent variables are exercise self-efficacy, autonomy support, and goal orientation. The students' motives for PA were measured in their enjoyment, competence, appearance, fitness, and social.

Figure 1: Hypothesized Model of the Study
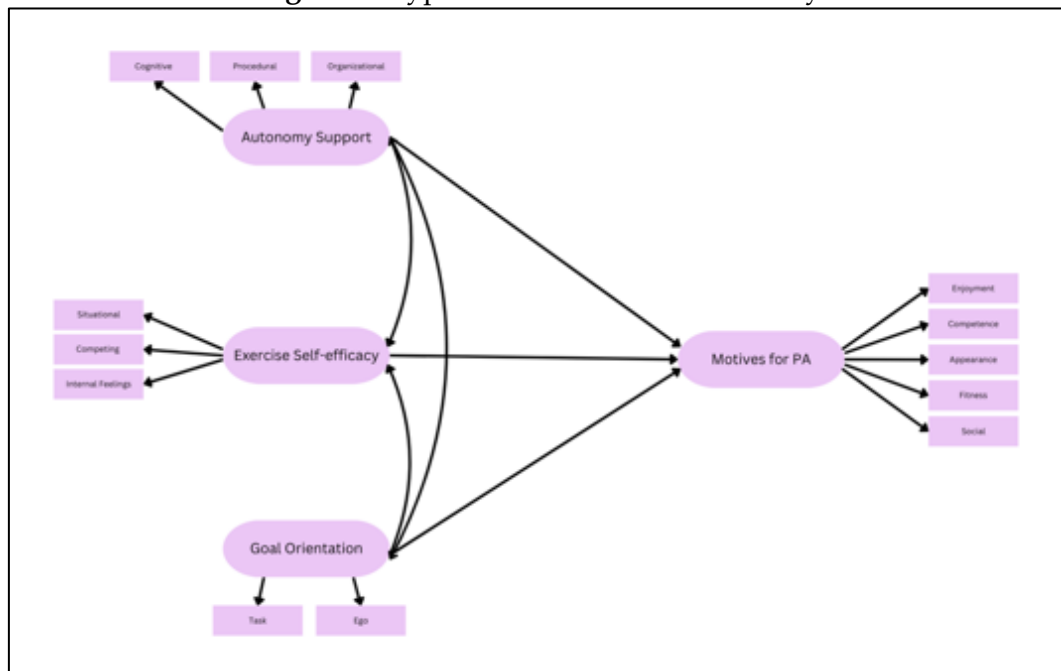
2. Literature Review

2.1 Autonomy Support

In the school setting, teachers observed that when students felt their teacher supported their autonomy, their intrinsic motivation improved (Kılınç *et al.*, 2018). According to Hernández *et al.* (2020), broader autonomy support coming from the PE teacher will have a positive mindset and the intention to engage in PA. Their impression of autonomy support highlights students' effort and perseverance in PE classes (Franco & Coterón, 2018). Furthermore, students who perceive higher levels of autonomy support also attain higher levels of autonomous motivation, promoting the development of excellent and adaptive outcomes (Behzadnia *et al.*, 2018).

2.2 Exercise Self-Efficacy

Exercise self-efficacy is one of the strategies to promote PA in an individual, and it has been shown to correlate with the level of PA (Farren *et al.*, 2016). Consequently, it has been demonstrated that engaging in PA helps students feel more confident in themselves (Wang *et al.*, 2022). Further investigation of upper-class students' accounts of PA difficulties they faced in their first year of university was carried out by Wilson *et al.*

(2020). During their first year of university, the most common barriers that prevented students from engaging in regular PA were a lack of enthusiasm and difficulty participating in PA. Additionally, according to Ryan and Deci (2017), self-efficacy and enjoyment are the primary drivers of motivated activities such as sports and PA. Likewise, Rieder *et al.* (2020) state that to support interventions, PA must address self-efficacy attitudes. Furthermore, students with high self-efficacy may find it easier to adopt healthy habits like increasing their exercise (Caetano *et al.*, 2020). Moreover, students show that PA programs significantly increase self-efficacy (Blake *et al.*, 2017). Furthermore, self-efficacy may impact PA through social influences, such as the effects of engaging in PA through social support or indirect experience of PA, even though this effect is primarily linked to the mastery experience of PA (Ilham *et al.*, 2023).

2.3 Goal Orientation

Goal orientation describes the difference between students who have avoidance goals and those who have approach goals: avoidance objectives aim to prevent bad outcomes (Yang *et al.*, 2016). Most researchers mainly investigated mastery and performance goal orientations within goal orientations (Urdan & Kaplan, 2020). The study by Ahmed *et al.* (2017) emphasizes the significance of goal orientation. Likewise, the primary focus of Tomczak *et al.*'s (2021) study was the accomplishment of goal orientations in PA. The study also emphasized the impact of task and ego orientations on views of achievement, the objectives of PE and sports, and other outcome variables. Moreover, according to the Sellers *et al.* (2015) study, encouraging students to participate in PE or sports activities by implementing programs like "Biggest User" can significantly impact their health. Giving students access to knowledgeable fitness instructors can also boost their motivation and assist them in defining and achieving their fitness goals. Furthermore, according to the study by Lutchenko *et al.* (2020), students' motivation and dedication to their fitness journeys can be further boosted by implementing systems that reward fitness accomplishments.

2.4 Motives for Physical Activity

Motives are internal processes that provide conduct energy and direction. They can arise from actual requirements and thoughts or emotions that may or may not align with these needs (Reeve, 2018). Examples of these types of emotions include those found in goals or expectations that one has for oneself. On the other hand, motives refer to people's justifications for participating in PA (Rhodes *et al.*, 2019). Moreover, numerous research studies on the motivations behind PAs suggest that the information they provide be utilized to suggest activities to students according to their motives (Morris & Roychowdhury, 2020). Research suggests that understanding the relative significance and variety of various motivations for engaging in PA can help shape programs, initiatives, and interventions aimed at promoting PA participation across the population, in particular subgroups, and in relation to various activity kinds (Schmid *et al.*, 2020). Furthermore, research on the reasons behind participation in PA frequently suggests that

health and sports professionals should match an individual or a particular group of individuals with specific types of PA by using their understanding of the variations in motivations based on the kind of activity and social background (Pedersen *et al.*, 2021 & Morris & Roychowdhury, 2020).

3. Material and Methods

This study employed a quantitative research method. It examined the interrelationship of autonomy support, exercise self-efficacy, goal orientation, and motives for physical activity.

Some State Universities and Colleges (SUCs) in Region X, Philippines, were randomly selected using a lottery method. After this, the students were selected using systematic random sampling to ensure a representative sample of PATH-Fit 1 and 3 students. The systematic random sampling method relies on choosing units within a specified gap called the sample interval (Martnez-Mesa *et al.*, 2016). A total of 602 PATH-Fit 1 and 3 students participated in the study. There were four adapted and modified instruments used in this study: Multi-dimensional Perceived Autonomy Support (MPAS) by Trigueros *et al.* (2020), Exercise Self-Efficacy Scale (ESS) by Hakim *et al.* (2020), Goal Orientation in Exercise Measure (GOEM) by Ersöz *et al.* (2017), and Motives for Physical Activity Measure-Revised (MPAM-R) by Albuquerque *et al.* (2017). Experts in the field of education evaluated these questionnaires for content validity. The responses, corrections, and recommendations provided by these experts were integrated into the final version of the questionnaires. Furthermore, to ensure the reliability of the survey questionnaire, the researcher conducted a pilot test with approximately 79 respondents. Those selected during the pilot test were not included in the final administration of the questionnaire.

Mean was used to describe the level of autonomy support, exercise self-efficacy, goal orientation, and motives for PA. Standard deviation was used to determine the responses' homogeneity and heterogeneity, including the dataset's dispersion relative to its mean. Pearson r was utilized to look for the significance of relations of multi-autonomy support, exercise self-efficacy, goal orientation, and motives for PA. Structural Equation Modeling was used to explore the best-fit model of motives for PA. In evaluating the goodness of fit of the models, the following indices were computed: CMIN/DF, Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA) and P of close Fit (PCLOSE).

4. Results and Discussion

4.1 Level of Autonomy Support

The cognitive autonomy support is described as very high, with a mean of 4.26. Similarly, procedural autonomy support is also at a very high level, with a mean of 4.35. Likewise, the organizational autonomy support is also at a very high level, with a mean of 4.24. Combining cognitive, procedural, and organizational indicates as very high level of

autonomy support among PATH-Fit students with an overall mean of 4.38. This means that cognitive, procedural, and organizational autonomy support is always observed among PATH-Fit students (Table 1.1). Thus, the very high description of autonomy support of PATH-Fit students means that when the PATH-Fit students receive high autonomy support from their teacher towards their sports participation and PA, they are more likely to participate actively and sustain their involvement, which can lead to greater engagement. This affirms the claim of Behzadnia *et al.* (2018) that students who perceive higher levels of autonomy support also attain higher levels of motivation, promoting the development of excellent and adaptive outcomes to sports participation and PA.

Table 1.1: Level of Autonomy Support

Autonomy Support			
Cognitive Autonomy Support	**Mean**	**SD**	**Description**
1. Interesting when they share their experiences in doing physical exercise or sports.	4.22	0.91	Very High
2. Listening and responding to them when they are expressing their opinion about the physical or sports exercise they do in their free time.	4.25	0.85	Very High
3. Respecting the physical exercise or sport they do in their free time.	4.32	0.87	Very High
4. Allowing them to express their opinion about the physical exercise or sport they do in their free time.	4.25	0.90	Very High
5. Trusting them that they can do my sport or physical exercise in their free time.	4.24	0.94	Very High
Category Mean	**4.26**	**0.76**	**Very High**
Procedural Autonomy Support	**Mean**	**SD**	**Description**
1. Guiding them in their search for physical exercise or sports according to their interests.	4.24	0.83	Very High
2. Allowing them an overview of the different types of physical or sports exercise they can do in their free time.	4.33	0.86	Very High
3. Describing why they need to do physical exercise in their free time.	4.43	0.85	Very High
4. Giving them advice on selecting the physical exercise or sport that is best for them.	4.30	0.88	Very High
5. Explaining the effect that physical exercise or sport has on them.	4.44	0.82	Very High
Category Mean	**4.35**	**0.71**	**Very High**
Organizational Autonomy Support	**Mean**	**SD**	**Description**
1. Permitting them to choose different exercise or sports options in their free time.	4.25	0.86	Very High
2. Displaying confident in their ability to find solutions for physical exercise or sports in their free time.	4.17	0.87	High
3. Granting them to choose different sports exercise options.	4.20	0.91	Very High
4. Acknowledging them to choose different options for physical exercise.	4.27	0.88	Very High
5. Showing them, different types of physical exercise or sport depending on where it is practiced.	4.32	0.89	Very High
Category Mean	**4.24**	**0.76**	**Very High**
Overall Mean	**4.28**	**0.68**	**Very High**

4.2 Level of Exercise Self-Efficacy

As to the exercise self-efficacy, the situational/interpersonal were described as high level with the mean of 3.41. Both competing demands and internal feelings have moderate degree with the mean of 3.14 and 3.11. Meanwhile, the three indicators of exercise self-efficacy have an overall mean of 3.22, described as a moderate level (Table 1.2). This means that the moderate description of exercise self-efficacy of PATH-Fit students means that when the PATH-Fit students receive moderate exercise self-efficacy from their intentions to do PA, there is still room for improvement. This improvement needs the students' targeted interventions, such as skill-building, to strengthen their belief in their capability to perform and sustain PA. Because of this, the study of Öner and Baysal (2021) showed that students were physically active at a moderate level in terms of the level of exercise self-efficacy. Besides, they added that the students' exercise self-efficacy scores are subject to improvement, which may increase as exercise changes stages and PA levels increase.

Table 1.2: Level of Exercise Self-Efficacy

Exercise Self-efficacy			
Situational/Interpersonal *They can manage to carry out their exercise intentions even when they are…*	**Mean**	**SD**	**Description**
1. feeling depressed.	3.53	1.04	High
2. receiving visitors.	3.30	1.16	Moderate
3. doing other things.	3.36	1.06	Moderate
4. nothing to reach their exercise goals.	3.43	1.04	High
5. doing so even without support from their family or friends.	3.57	1.18	High
6. traveling during their vacation.	3.47	1.11	High
7. juggling other time commitments.	3.35	1.05	Moderate
8. experiencing challenges after family problems.	3.27	1.21	Moderate
Category Mean	**3.41**	**0.80**	**High**
Competing Demands *They can manage to carry out their exercise intentions even when they are…*	**Mean**	**SD**	**Description**
1. recovering from after an injury that caused them to stop exercising.	2.98	1.12	Moderate
2. feeling physical discomfort while exercising.	3.11	1.10	Moderate
3. readjusting after returning from their vacation.	3.34	1.10	Moderate
4. having too much work to do at home.	3.12	1.13	Moderate
Category Mean	**3.14**	**0.92**	**Moderate**
Internal Feelings *They can manage to carry out their exercise intentions even when they are…*	**Mean**	**SD**	**Description**
1. feeling tired.	3.08	1.13	Moderate
2. realizing under pressure from work.	3.09	1.11	Moderate
3. exercising during bad weather.	3.13	1.14	Moderate
4. experiencing during or after personal problems.	3.12	1.14	Moderate
Category Mean	**3.11**	**0.98**	**Moderate**
Overall Mean	**3.22**	**0.81**	**Moderate**

4.3 Level of Goal Orientation

Ego orientation was described as moderate level with a mean of 2.71. On the other hand, task orientation was described as high level with a mean of 3.87. The overall mean of 3.29 indicates that the description of the goal orientation is moderate which means that it is sometimes evident (Table 1.3). The moderate description of goal orientation of PATH-Fit students means that they should balance between ego and task orientation. This indicates that while students prioritize personal improvement and achieving task orientation, there is less emphasis on comparing themselves to their ego orientation. Pérez-Quero *et al.* (2023) reported that students' goal orientation is moderate when their task-oriented disposition increases their intention to practice PA in their leisure time. This result was supported by Moore *et al.* (2024) that when students focus on their improvement and mastery, they are more likely to intend to participate in PA during their leisure time.

Table 1.3: Level of Goal Orientation

Goal Orientation			
Ego Orientation	**Mean**	**SD**	**Description**
1. Showing other exercise enthusiasts that they are better than everyone else.	2.79	1.27	Moderate
2. Verifying to others that they are the best.	2.79	1.33	Moderate
3. Knowing that they are more capable than other exercisers.	2.75	1.28	Moderate
4. Proving to themselves that they are the only ones who can do a certain exercise task.	2.59	1.30	Low
5. Assessing exercise enthusiasts as not doing as well as they do.	2.64	1.29	Moderate
Category Mean	**2.71**	**1.18**	**Moderate**
Task Orientation	**Mean**	**SD**	**Description**
1. Achieving the exercise goal, they set for themselves.	3.62	1.09	High
2. Making progress.	3.88	0.95	High
3. Feeling like they have improved.	3.86	1.02	High
4. Exercising to the best of their ability.	3.96	0.97	High
5. Doing exercise at a level that reflects personal improvement.	4.03	0.98	High
Category Mean	**3.87**	**0.86**	**High**
Overall Mean	**3.29**	**0.87**	**Moderate**

4.4 Level of Motives for Physical Activity

As to the motives for physical activity, four factors, namely enjoyment, competence, appearance, and social, were described as high level with the mean of 4.16, 4.05, 3.85, and 3.65, respectively. Consequently, fitness was described as a very high level with a mean of 4.34. The overall mean of 4.01 suggests that motives for PA are high, which means that it is oftentimes manifested (Table 1.4). This implies that PATH-Fit students are strongly motivated to engage in PA, with this motivation often evident. The low standard deviation indicates consistent responses, reflecting a shared focus on the importance of PA. This suggests an opportunity to build on this motivation to promote sustained engagement and lifelong fitness habits. It was supported in the study of Morris and Roychowdhury (2020) that several studies on the motivations of PAs also recommend

that the data they offer be used to recommend activities to students based on their motivations.

Table 1.4: Level of Motives for Physical Activity

Motives for Physical Activity			
Enjoyment *They do physical activity because they are…*	**Mean**	**SD**	**Description**
1. thinking it is fun.	4.25	0.90	Very High
2. doing the activity.	4.14	0.94	High
3. knowing it makes them happy.	4.15	0.94	High
4. believing it is interesting.	4.17	0.90	High
5. enjoying the activity.	4.19	0.92	High
6. finding the activity stimulating.	4.15	0.90	High
7. loving while spending time with others doing the activity.	4.07	1.08	High
Category Mean	**4.16**	**0.81**	**High**
Competence *They do physical activity because they like…*	**Mean**	**SD**	**Description**
1. engaging in activities which physically challenge them.	4.01	0.98	High
2. learning new techniques and wanting to obtain new skills.	4.16	0.89	High
3. pushing themselves while enjoying the challenge.	4.01	0.99	High
4. having activities which are physically challenging.	4.01	0.99	High
Category Mean	**4.05**	**0.88**	**High**
Appearance *They do physical activity because they are…*	**Mean**	**SD**	**Description**
1. wanting to lose or maintain weight, so they look better.	4.02	1.06	High
2. desiring to define their muscles, so they look better.	3.86	1.10	High
3. loving to improve their appearance.	3.98	1.07	High
4. preferring to be attractive to others.	3.48	1.26	High
5. wishing to improve their body shape.	3.99	1.06	High
6. yearning to feel physically attractive.	3.79	1.19	High
Category Mean	**3.85**	**.94**	**High**
Fitness *They do physical activity because they are…*	**Mean**	**SD**	**Description**
1. craving to have more energy.	4.29	0.88	Very High
2. seeking to improve their cardiovascular fitness.	4.33	0.88	Very High
3. aiming to maintain their physical strength to live a healthy life.	4.36	0.86	Very High
4. hoping to maintain their physical health and well-being.	4.39	0.87	Very High
Category Mean	**4.34**	**0.79**	**Very High**
Social *They do physical activity because they are…*			
1. longing to be with their friends.	3.71	1.16	High
2. appreciating to be with others who are interested in this activity.	3.71	1.14	High
3. desiring to meet new people.	3.72	1.12	High
4. knowing their friends wanting them to do.	3.31	1.29	Moderate
5. enjoying while spending time with others doing the activity.	3.79	1.17	High
Category Mean	**3.65**	**1.02**	**High**
Overall Mean	**4.01**	**.73**	**High**

4.5 Significance of Relationship Between Autonomy Support, Exercise Self-efficacy, Goal Orientation, and Motives for Physical Activity

The data shows in Table 2.1 that there is a significant relationship between autonomy support and motives for PA since the p-value is less than 0.05. The value of R, which is 0.38, suggests that there is a strong correlation between autonomy support and motives for PA. The results suggest that PATH-Fit students' engagement in PA increases when they can choose and customize activities to suit their interests and objectives. It was affirmed by Fin *et al.* (2019) that autonomy support and satisfaction/enjoyment have a positive correlation; this could be because of the diversity of activities students must perform in PATH-Fit classes.

Moreover, there is a significant relationship between exercise self-efficacy and motives for PA since the p-value is less than 0.05. The value of R, which is 0.56, indicates a strong relationship between exercise self-efficacy and motives for PA. This positive correlation implies that PATH-Fit students are more likely to engage in PA when they have confidence in their abilities. The preceding result affirms that Samara *et al.* (2015) found a positive correlation between PA and exercise self-efficacy, indicating that students, particularly the females who were more driven to exercise, were often more active. Additionally, it was supported by Wang *et al.* (2022) that there is a positive correlation between PA and exercise self-efficacy.

Furthermore, there is a significant relationship between goal orientation and motives for PA since the p-value is less than 0.05. The value of R, which is 0.67, indicates a strong relationship between goal orientation and motives for PA. The results suggest that PA programs should help students set clear and realistic fitness goals to boost their motivation, allowing them to stay focused, enjoy their progress, and stay motivated to be active over the long term. It was supported in the study of Gråstén and Watt (2016) that goal orientation during PATH-Fit sessions was positively correlated with light to moderate PA intensity.

Table 2.1: Test of the Significance of Relationship Between Autonomy Support,
Exercise Self-efficacy, Goal Orientation, and Motives for Physical Activity

Variables Paired	r	p-value	Remarks
Autonomy Support and Motives for Physical Activity	0.38	0.00	Significant
Exercise Self-efficacy and Motives for Physical Activity	0.56	0.00	Significant
Goal Orientation and Motives for Physical Activity	0.67	0.00	Significant

4.6 Influence of Autonomy Support, Exercise Self-Efficacy, and Goal Orientation on the Motives for Physical Activity

It shows that autonomy support, exercise self-efficacy, and goal orientation have positive standardized beta and have a highly significant influence on the motives for PA (p<0.00). In other words, the regression weight for autonomy support, exercise self-efficacy, and goal orientation in the prediction of motives for PA is significantly different from zero at the 0.05 level (two-tailed). Thus, for every unit increase in autonomy support, exercise self-efficacy, and goal orientation, there is a corresponding increase in the motives for PA

by 0.26, 0.16, and 0.44, respectively (Table 2.2). This would imply that autonomy support, exercise of self-efficacy, and goal orientation have significant contributions to motives for PA.

This conforms to the recent study by Tilga *et al.* (2021), showing autonomy support as one of the significant predictors of PA. This is further supported by Lewis *et al.* (2015), who state that exercise self-efficacy is one of the significant predictors of motives for PA. Furthermore, Temel *et al.* (2024) supported the idea that goal orientation is one of the significant predictors of PA.

Furthermore, the regression analysis results showed that 53 percent of the variance of motives for PA was explained by the three independent variables, autonomy support, exercise self-efficacy, and goal orientation, as indicated by R2 = 0.53. The combined influence of motives for PA is significant. This would mean that 47 percent of the variation can be attributed to other factors besides the three independent variables. This finding underscores the study by Tao *et al.* (2024) on the multifaceted nature of motivation for PA, highlighting the importance of considering additional elements such as social support, environmental factors, and individual differences in future research to understand what drives individuals to engage in PA fully.

Table 2.2: Test of Influence of Autonomy Support, Exercise
Self-Efficacy, Goal Orientation on the Motives for Physical Activity

|	Standardized Coefficients Beta	t	p-value	Interpretation
Autonomy Support	.26	8.222	.00	Significant
Exercise Self-Efficacy	.16	4.699	.00	Significant
Goal Orientation	.44	14.150	.00	Significant
R = .73				
R Square = .53				
F = 227.513				
p value = .00				

4.7 Test of Hypothesized Model

The Hypothesized Model 1 presented the direct relationship between the endogenous and exogenous variables. As shown in Figure 2, the amount of variance explained by the combined influence of autonomy support, exercise self-efficacy, goal orientation, and motives for PA is 53%. It can also be gleaned from the model that autonomy support, exercise self-efficacy, goal orientation, and motives for PA are strongly represented by their factors, with beta values that are greater than 0.60.

Meanwhile, the autonomy support ($\beta = 0.10$), exercise self-efficacy ($\beta = -0.57$), and goal orientation ($\beta = 1.37$) significantly influence the motives for PA (P<0.05). However, the goodness of fit revealed that the values were not within the range of the indices criteria, as shown by CMIN/DF > 3.0 (TLI, CFI < 0.90), and RMSEA > 0.08 with a PCLOSE < 0.05. This means that the model does not fit the data.

During preliminary analysis, multicollinearity was detected between motives for PA and goal orientation. After evaluating the variance inflation factor (VIF), it was determined that goal orientation would be omitted from the model to reduce multicollinearity. According to Akinwande *et al.* (2015), removing factors with high variance inflation factors (VIF) in multiple linear regressions can reduce R-squared and be an advantage. Predictors act as suppressor variables, leveraging multicollinearity among independent variables. A suppressor variable can only be allowed in a model if the variance inflation factor (VIF) is below 5, meaning the model's multicollinearity does not render other predictors redundant.

Based on theoretical considerations and high VIF values, goal orientation was removed from the final model due to the multicollinearity between PA motivations and goal orientation. This modification allows the researcher to maintain interpretability and a more economical model.

Figure 2: Test of Hypothesized Model 1
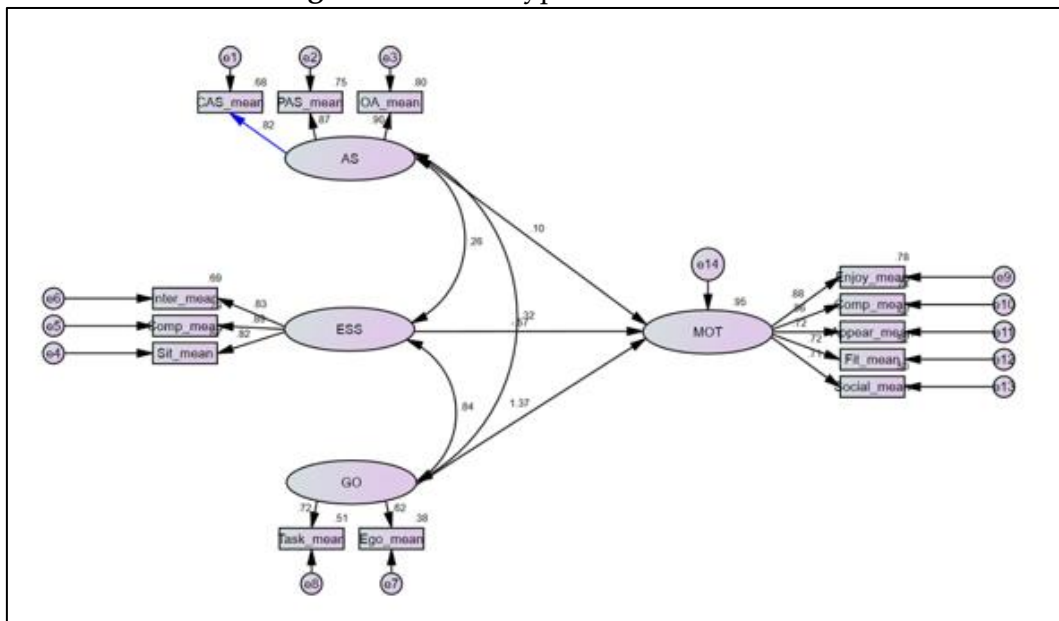
4.8 Goodness of Fit Measures of the Best-Fit Model

Shown in Table 3 are the following criterion values for good-of-fit indices. Scrutinizing the model fit indices, Hypothesized Model 1, which examined the relationships among autonomy support, exercise self-efficacy, goal orientation, and motives for PA.

In this model, the CMIN/df is equal to 5.64. This value is less than 3 and within the acceptable range. The NFI is equal to 0.95. This value is more significant than 0.90 and within the acceptable range. The TLI is equal to 0.94. This value is more significant than 0.90 and within the acceptable range. The CFI is equal to 0.96. This value is more significant than 0.90 and within the acceptable range. The GFI is equal to 0.94. This value is more significant than 0.90 and within the acceptable range. The RMSEA is equal to 0.09. This value is less than 0.08 and indicates a good fit. The p-close is equal to 0.00. This value

is less than 0.05 and within the close acceptable range. Thus, the model yields the acceptable goodness-of-fit index for the motives for PA, making it the best-fit model.

Table 3: Goodness of Fit Measures of the Best-Fit Model

Index	Criterion	Model Fit Value
CMIN/DF	< 3.0	5.64
NFI	> .90	.95
TLI	> .90	.94
CFI	> .90	.96
GFI	> .90	.94
RMSEA	> .08	.09
PCLOSE	< .05	.00

4.9 Best-Fit Model of Motives for Physical Activity

Shown in Figure 3 is the structural equation model that visualizes the relationships between latent variables, such as autonomy support and exercise self-efficacy, and their associated observed variables, such as motives for PA, particularly the enjoyment, competence, appearance, fitness, and social. It examines how various constructs influence motives for PA.

Figure 3: Best Fit Model of Motives for Physical Activity
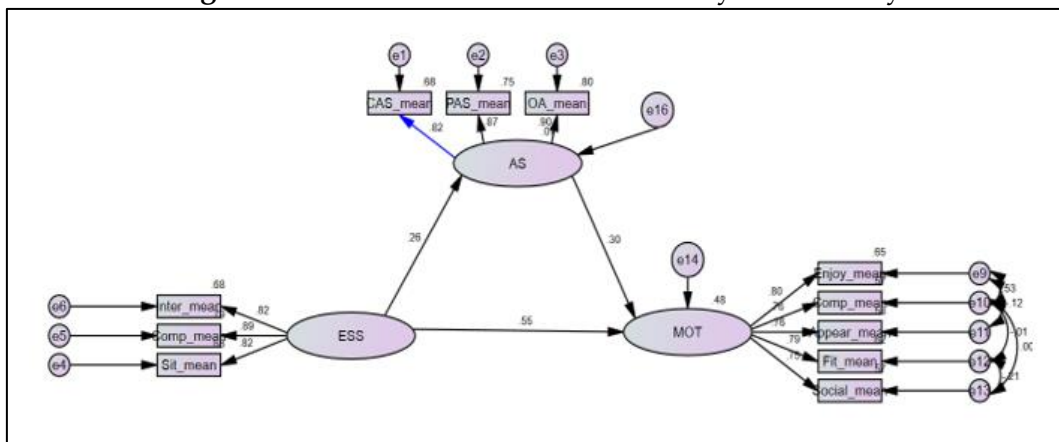
Legend:

AS	=	Autonomy Support	MOT	=	Motives for Physical Activity
CAS	=	Cognitive Autonomy Support	Enjoy	=	Enjoyment
PAS	=	Procedural Autonomy Support	Comp	=	Competence
OAS	=	Organizational Autonomy Support	Appear	=	Appearance
			Fit	=	Fitness
ESS	=	Exercise Self-efficacy	Social	=	Social
Inter	=	Internal Feelings			
Comp	=	Competing Demands			
Sit	=	Situational/Interpersonal			

The direct influence of autonomy support on motives for PA confirms that Abula *et al.* (2018) found that perceived autonomy support in PE positively predicted

autonomous motivation in both PE and leisure-time contexts, suggesting that autonomy-supportive teaching can enhance students' motivation to engage in PA outside of school.

The direct influence of exercise self-efficacy on motives for PA confirms the findings of a study by Blom *et al.* (2021), which indicated that enhancing exercise self-efficacy through targeted interventions positively influenced students' intrinsic motivation to engage in PA.

On the one hand, exercise self-efficacy demonstrates the most substantial direct influence on motives for PA, based on the literature of Reide *et al.* (2023), suggesting that students with well-defined exercise self-schema are more motivated for PA. On the other hand, Tao *et al.* (2024) found that exercise self-efficacy has a significant positive correlation with exercise motivation among emerging students.

The model confirms the self-determination theory (Deci & Ryan, 2000). The theory examines how social contexts, and individual differences facilitate different types of motivation, exceptionally autonomous and controlled motivation, predicting learning, performance, experience, and psychological health. This theoretical claim contends that external reinforcements and consequences, rather than intrinsic motivation, are the primary drivers of learning, performance, and behavior. In this study for PATH-Fit students, autonomy-supportive teaching enhances exercise self-efficacy, fostering intrinsic motivation and strengthening their motives for PA engagement.

The paths of showing the PATH-Fit students autonomy support and exercising self-efficacy to motives for PA confirms the Achievement Goal Theory by highlighting how autonomy support can influence students' motivation and engagement in PA (Nicholls, 1984). These emphasize the importance of goal-oriented behaviors in shaping motivation. By providing autonomy support, teachers can enhance students' competence and self-efficacy, boosting the student's engagement and motivation in PA.

The way PATH-Fit students show their exercise self-efficacy has a direct impact on autonomy support. The PATH-Fit student's autonomy support can also indirectly influence exercise self-efficacy, affecting PA motives. This is affirmed by the Social Cognitive Theory (Bandura, 1997), which emphasizes that PATH-Fit students' exercise self-efficacy is built upon their belief in their ability to perform PA. Higher exercise self-efficacy enhances their motivation for PA, while positive outcomes, such as verbal encouragement from teachers and reduced perceived barriers, further strengthen their self-efficacy.

5. Conclusion

The study reveals in Region X, PATH-Fit students show high autonomy support, encompassing cognitive, procedural, and organizational autonomy. This approach allows students to control their time, make wise choices, and fully engage in their PATH-Fit learning process. Exercise self-efficacy varies among students, and targeted treatment and support groups can promote consistent exercise regimens. Goal orientation is high, with ego and task orientation being prevalent. Students' motivations for physical activity

are diverse, focusing on health, wellness, personal satisfaction, social interaction, and self-improvement. Recognizing these motivations can help develop programs that sustain engagement and address the diverse reasons individuals pursue an active lifestyle. Targeted treatment and support groups can promote consistent exercise regimens and raise PA self-efficacy.

The significant positive correlation between autonomy support, exercise self-efficacy, and goal orientation to motives for PA indicated a holistic approach to autonomy support, exercise self-efficacy, and goal orientation, which contributed to stronger motives for PA.

The structural model generated in the study is the best fit to predict motives for PA. Hence, autonomy support and the exercise of self-efficacy are crucial in promoting motives for PA of PATH-Fit students.

The exercise self-efficacy of PATH-Fit students, particularly their situational/interpersonal, competing demands, and internal feelings, played a critical role in shaping how students approach and persist in PA.

6. Recommendations

PATH-Fit teachers can support PATH-Fit students by allowing them to choose activities they enjoy and providing them with a menu of available exercises. They can also explain the importance of physical activity in their free time. With moderate exercise self-efficacy, PATH-Fit teachers can create gradual, challenge-based activities, personalize fitness goals, and provide regular feedback. They can also propose workshops to help students set task- and ego-oriented fitness goals. PATH-Fit teachers can integrate PA log sessions with a points system to ensure student engagement, offering recreational activities and social events. The PA log will be collected before term examinations, and the students' PARQ test results will be used to verify their engagement.

Since autonomy support and exercise self-efficacy are crucial elements of motives for PA, the program head for BPEd or coordinator for PATH-Fit programs may have a comprehensive program integrating autonomy support and exercise self-efficacy, and goal orientation into PA may be developed into selected PATH-Fit courses. This program may enable students to make choices, build confidence, and set short- and long-term goals.

Since the model generated in this study is the best fit in predicting PATH-Fit students' motives for PA, the Commission on Higher Education (CHEd) may consider revisiting the PATH-Fit curriculum to ensure it aligns with the factors significantly influencing students' motivation for PA, such as autonomy support and exercise self-efficacy. This may involve incorporating innovative teaching strategies, emphasizing goal setting, and fostering intrinsic motivation. Moreover, the BPE Program Head and PATH-Fit Coordinator may review teaching methods and learning experiences within the PATH-Fit program to address key predictors identified in the study.

Further research is recommended to explore more variables for motives for PA. This may provide a better understanding of motivation, ultimately supporting the development of effective strategies for fostering lifelong PA habits.

Conflict of Interest Statement
The authors declare no conflicts of interest.

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