# Social Cognitive Determinants of Exercise Behavior in the Context of Behavior Modeling: A Mixed-Method Approach

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## Abstract

*The objectives of this study involve three main purposes:1) to investigate the factors affecting self-cognition on health, 2) to explore the relationship between motivation-mediated self-cognition on health and sustained-exercise behavior, and 3) to examine the effects of behaviors dominated by individual physical health cognition on sustained-exercise behavior. This is a combination of qualitative and quantitative research methods. Specifically, the sequential-qualitative-first-exploratory method is used in the study. It is divided into two stages: First, qualitative research is used to analyze the important variables affecting learning engagement, the nature and development of the relationship between these variables. Second, chi-square test and multiple regression are used to collect variable data and verify the relationship between variables. Self-cognition on health was selected as the influencing factor of sustained-exercise behavior and studied by qualitative plus quantitative methods, starting with a review of the relevant theoretical literature and in-depth interviews. This paper analyzes the motivation of young teachers in universities in the specific form of sustained-exercise behavior, and the influence of self-cognition on health and motivation, and sustained-exercise behavior is discussed in detail establishing the relevant hypothesis by finding the corresponding alternative variables. A process designed to turn on how self-cognition on health affects sustained-exercise behavior. Then, the empirical data are collected from the issue-level questionnaire, and the theoretical model is empirically studied by linear regression and Z-score method. Conclusion:1) Self-cognition on health has a*

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*significant effect on sustained exercise behavior (P <0.001). 2) Self-cognition on health has a significant effect on motivation (P <0.001). 3) Motivation has a significant effect on sustained exercise behavior, and 4) Self-cognition on health has a significant effect on motivation ( p <0.001), while motivation has a significant effect on sustained-exercise behavior (p <0.001). These suggest a clear mediating role of selective motivation between self-cognition on health and sustained-exercise behavior.*

**Keywords:** Social Cognitive Determinants, Exercise Behavior, Context of Behavior Modeling, Mixed-Method Approach

## Introduction

The lack of physical exercise among young people is worrying. Under the situation of various quantitative assessments such as scientific research and university ranking, the career pressure for young university teachers is increasing, and the phenomenon of overwork is widespread. Reports on health problems related to college teachers have been frequently gotten on search. Himbert et. al (2021) stated that especially during the COVID-19 pandemic, the high intensity of work makes young teachers lack of exercise behavior, exercise persistence, and individual physical health problems frequently (Himbert et. al, 2021).

In the exercise adherence behavior, "Want to exercise", "physical exercise" and "keep exercising" (Box et. al, 2019). Cropanzano and Mitchell (2005) presented Behavior value possibility. When the value of an event is high and there is a high probability of the value, the action is likely to occur (Cropanzan & Mitchell, 2005). The management concept of "sticking to exercise changes health" has become the consensus of individual health management, emphasizing the establishment of long-term cooperation and win-win relationship between exercise behavior and individual health (Biddle & Mutrie, 2018).

With the implementation of the Healthy China 2030 Plan, China has begun to conduct national physical fitness testing on a large scale, the concept of individual health management has been constantly updated, and the exercise behavior pattern of Chinese people has undergone profound changes. In terms of exercise behavior, young people are not only exposed to all kinds of exercise knowledge. The relationship between exercise adherence and the health of young people is gaining increasing attention (Chen, & Harmer 2019).

Since the mid-20th century, some theoretical structures provide explanations for the relationship between exercise and individual health. Social Exchange Theory, SET suggests that the degree of individual health depends largely on the outcome of health behaviors (Coleman & Iso-Ahola, 2000). Subsequently, persistent goals (health and behavior) are directly activated by the context feature, and automatic links will develop between the social context and the goal. Finally, the choice (exercise) becomes an example of social exchangeable sex. If a lasting exercise goal reflects true physical healthy choices, then exercise becomes self-

determined and internally motivated, and thus persistent (Coleman & Iso-Ahola, 2000). Studies in the context of exercise behaviors have highlighted the relationship between the degree of autonomic regulation and some positive behavioral outcomes, such as increased interest (Deci & Ryan, 2008), and exercise behaviors for health purposes (Pelletier et. Al, 2019). On the contrary, whether the social adaptation motivation is clear or not, the exercise behavior requires external social incentives to perform specific behaviors, making it easier to adhere to the exercise (Deci & Ryan, 2000). Under the situation of various quantitative assessments such as scientific research and university ranking in China, the career pressure for young university teachers is increasing, and the phenomenon of overwork is widespread. Reports on health problems related to college teachers have been frequently gotten on search (Qi Si, 2017). College teachers are in a serious sub-health situation. A survey shows that the number of people in sub-health accounts for 42.55% among the surveyed population. Young teachers around the age of 40 are more likely to be in a Sub-Health Symptoms Behavior, and the health status of female teachers is better than that of male teachers (Huijun Yang, 2017).

However, previous studies on exercise behavior have mainly focused on measuring their level of motivation (behavioral motivation), on the early effect of sustained exercise behavior Insufficient study behavior of factors (Rodrigues et. at, 2018). Some researchers recognized the effect of self-cognition on health on exercise behavior and performed an empirical analysis of their relationship. They confirmed the results of exercise behavior with exercise behavior and physical health (Box et. al, 2019). However, some studies have shown that the correlation between sustained exercise behavior and self-cognition on health is weak (Alcaraz-Ibanez et. al, 2019). Therefore, the aim of this study was to provide evidence for examining the relationship between self-cognition on health and sustained exercise behavior. We take the group of young college teachers as a sample. This is because the young teachers in colleges and universities have the training environment and equipment for exercise, and the social environment is relatively stable, and the physical health survey is easy to be carried out (Cho & Tian, 2021).In addition, young teachers in colleges and universities are multiple problems of serious health problems reported online in China, which makes our study sample more representative (Yuxiang & Sun, 2019).Moreover, previous studies on exercise adherence

behaviors have rarely comprehensively examined the relationship between individual physical health cognition and exercise adherence behaviors from the perspectives of behavioral performance and personal motivation. Therefore, we introduced motivation in our study, aiming to build a self-cognition on health and sustained exercise behavior model. We also used an empirical approach to examine the relationship between the variables.

In the above studies, there were some differences in health and other factors in the relationship between self-cognition on health and exercise behavior. According to previous studies, there are several questions requiring further validation. The specific expression form is as follows:(1) Whether there is a correlation between self-cognition on health of young teachers and exercise behavior.(2) Whether there is a correlation between the self-cognition on health degree of Chinese young teachers and the Motivation.(3) Whether there are differences in their exercise behavior levels in different domains, gender and living habits.(4) The intensity of the influence of motivation on exercise behavior needs to be further verified. Most of the selected measurement tools used in the current studies on the behavioral relevance of exercise adherence among young teachers are psychologically oriented, that is, more about the identification and clinical application of “physical illness” in young teachers. These tools are very effective in judging individual physical diseases. However, the accuracy of motivation assessment in large-scale young people at social management needs further research and discussion. The physical and mental health of young teachers in colleges and universities is the essential guarantee of the quality education in China’s colleges and universities. For that reason, It is of great significance to explore the exercise and persistence behavior of young teachers in China. Based on the needs of scientific theory and practical research, large-scale samples were selected to explore the relationship between individual health status and exercise adherence behavior level of young teachers in Chinese universities. Various factors affecting the exercise behavior and Motivation status of the young people are deeply analyzed and discussed. This study not only has theoretical implications for revealing these relationships, but also provides a practical reference for improving relevant evaluations and improving health status.

Research objectives aimed to investigate the relationship between motivation-mediated self-cognition on health and sustained exercise behavior, and to examine the effects of behaviors dominated by individual physical health cognition on exercise adherence behaviors.

## Literature Review

**Self-Cognition on Health.** The definition and interpretation of "Health" made by the World Health Organization (WHO) objectively reflects the requirements of individuals and the society for health: "Having no disease is only one sign of being healthy. Being mentally healthy, socially adaptive and morally appropriate are also important characteristics, all of which constitute the multi-dimensions of health", that is to say, the health is a state of multi-factors combination and interdependence, and the Self-Cognition on Health itself is not enough to reflect the health degree of an individual (McCartney et. al, 2019). In Self-cognition on health this level, Sjg et. al (2017) according to the condition of multidimensional health, should pay attention to individual social factors: (income, family background, etc.), lifestyle factors (nutrition, sleep, travel, etc.), physical fitness (physical health, physical function), mental health factors (happiness, social adaptation, etc.) (Sjg et. al,2017). The present study divided self-cognition on health into: Social Environment Background, Living habits, Physical fitness, and Mental health. According to the researches at home and abroad, the common problems of young people sub-health are physical decline, behavioral disorders, emotional disorders, manifested as obesity, anxiety, depression, loneliness, fear and other symptoms, which may lead to poor social adaptation, poor working status, difficult to maintain friendship and others. However, most studies have also confirmed that the physical and mental development of young people is unstable, so the judgment of young people sub-health should be treated from the developmental perspective. In addition, most of the previous studies on young people sub-health status adopted the perspective of clinical medical treatment, that is, the measurement tools tended to be "clinical diagnosis" type, which may not reflect the sub-health status of this group scientifically and objectively.

**Sustained Exercise Behavior.** A conscious or unconscious drive to provide a goal or direction, or a personal willingness to make a physical and mental effort to exercise the goal or outcome level. Based on the self-determination theory, Mullan, E., Markland, D., & Ingledew, D. K. (1997) BRE-Q, which measures external, internal, recognition and intrinsic regulation and Ryan and Deci (2000) MPAM-R, evaluates five different physical activity motives (appearance, health and fitness, social, ability and enjoyment) (Markland & Ingledew, 1997). Sallis & Hovell, (1990), according to the investigation of physical activity behavior.

Centralized expression as “Health Behavior” is a benign behavior, “Sub-Health Behavior” is the negative bad behavior “Sub-Health Symptoms Behavior” is the most negative bad behavior, this is a persistent negative behavioral state between disease and health, seriously restrict the healthy development of individual social functioning and physical and mental potential. The investigation of individual health status can understand one’s health status and affect their own exercise behavior. According to the literature investigation, the dimensional status of Sustained Exercise Behavior, it is divided into three dimensions: “Health Behavior”, “Sub-Health Behavior” and “Sub-Health Symptoms Behavior”.

**Motivation.** Biddle and Mutrie (2000) believes that: individual health has a strong tendency to their favorite sports, and is willing to invest time and energy in them, and regards the sport as a core feature of self-identity. Including compulsive sports passion (interest motivation) and harmonious sports passion (health motivation) (Biddle & Mutrie, 2000). Based on the self-determination theory, the aim is to assess motor behavior with motivation. Blais et. at (2017) tests a three-level motivation model from my theory of behavior. According to this model, health motivation (represented by social adaptation goals) affects participation motivation (motor participation motivation), which affects regulation motivation (motor behavior regulation) and thus affects behavior (motor participation). According to the model theory, it is found that social adaptation is also a key dimension affecting exercise behavior. Motivation plays a mediator between health and exercise participation. Therefore, motivation can be studied as a mediator between individual physical health and exercise behavior, divided into Fun motivation, Health motivation, Social motivation, and three dimensions (Blais et. at, 2017). To sum up, we define Motivation as the psychological drive to complete exercise needs and meet exercise needs under the condition that external conditions are met. This driving force enables individuals to keep exercise regularly until the needs and goals are completed.

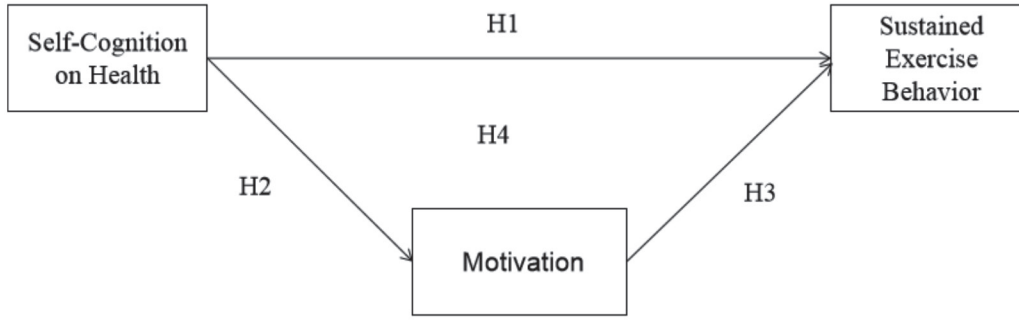


**Figure 1** Conceptual Framework

**Note.** (Sallis & Hovell,1990) (Rodrigues et. al, 2018) (Blais et. al,2017) (Caudwell & Keatley, K, 2016)

In this study, according to social exchange theory (SET) and Trans Theoretical Model. (TTM), we investigated the physical health of the exercise behavior, analyzed whether the motivation is adjusted in the middle and changed the process of exercise behavior. Young teachers want to have a healthy body, they will want to change their physical state from the exercise persistence behavior, with the motivation to exercise, this is a social exchange of behavior state (Shaver, E. R, 2019).

According to the literature survey, In the context of motor behavior: the conceptual framework of self-cognition on health and sustained exercise behavior is shown in the figure below:

In this study, according to social exchange theory (SET) and Trans Theoretical Model. (TTM), we investigated the physical health of the exercise behavior, analyzed whether the motivation is adjusted in the middle and changed the process of exercise behavior. Young teachers want to have a healthy body, they will want to change their physical state from the exercise persistence behavior, with the motivation to exercise, this is a social exchange of behavior state (Shaver et. al,2019), This study was conducted from (Table 1) Four aspects of the study:

Hypothesis 1: Self-cognition on health (Social environment background, Living habits, Physical fitness, Mental health) has a significant positive impact on exercise adherence behavior.

Hypothesis 2: Self-cognition on health has a positive effect on motivation.

Hypothesis 3: Motivation had a significant positive effect on sustained exercise behavior.

Hypothesis 4: Motivation mediates the effect of self-cognition on health had a significant positive effect on sustained exercise behavior.

## Methodology

Data Note. From 2021 to 2022, the "stratified cluster random sampling" method was adopted to select some cities in each administrative region, and randomly select about 30 young male and female young teachers aged between 24-45 in various urban universities, among young college teachers in China, we selected at least 370 samples within 95% confidence interval. Considering that this study was an exploratory study and that, we set the range of error between 3.5% and 2.5% according to the Margin of Error, including 727-1332 people with a sample size of 1293 people.

The youth exercise behavior scale was determined, and after the scientific screening of various health measurement tools, the youth exercise behavior assessment questionnaire and motivation using the-revised version (MPAM-R) were used. To investigate the exercise adherence behavior. The questionnaire showed good validity and reliability in statistical evaluation, theory was consistent with factor structure assumption, and achieved good results in large-scale testing. In the questionnaire, the evaluation indicators of exercise continuous behavior were divided into fun motivation, health motivation, social motivation, sub-health behavior, and sub-health symptoms behavior (Frederick & Ryan, 1995). To check the internal consistency of the measurements. Cronbach's alphas. The analysis of independent variables, mediators and dependent variables are shown in Table 1 and Table 2 respectively.

**Table 1** Preliminary Investigation Questionnaire

| | Variables | Number of items | Reference |
|---|---|---|---|
| Self-Cognition on Health | Social Environment Background | 12 | Liu (2018) |
| | Living Habits | 14 | |
| | Physical fitness | 10 | |
| | Mental health | 6 | |
| Motivation | Fun motivation | 14 | Frederick & Ryan (1995) |
| | Health motivation | 11 | |
| | Social motivation | 13 | |
| Dependent Variable | Sub-Health Behavior Sub-health Symptoms Behavior | 39 | Coleman, D., & Iso-Ahola, S. E. (2000) |
| Total | | 119 | |

*Note:* Frederick & Ryan,1995.

**Table 2** Cronbach's Alpha Coefficients of Each Variable

| variable | Measuring item | Cronbach's Alpha |
|---|---|---|
| Fun motivation | Q1-Q14 | .843 |
| Health motivation | Q15-Q26 | .821 |
| Social motivation | Q26-Q32 | .845 |
| Sustained Exercise Behavior | Q 33-Q71 | .878 |

*Note:* Frederick & Ryan (1995)

After the questionnaire is completed, the expert validity of the questionnaire structure and content of the validity, the researcher invited health, physical health experts in the structure of the questionnaire comprehensive evaluation, design and content, the evaluation results prove that the questionnaire has good validity. In this study, the "retest method" was adopted, selecting young teachers from Taiyuan Institute of Technology to fill in the questionnaire for reliability test. The first questionnaire was conducted

on August 8,2022, and the second test was conducted one week later. The correlation coefficient of the results of the two tests was 0.87, which showed that the results proved that the reliability of the questionnaire was relatively high. The questionnaire was using rating scale 1 to 5.

Data Analysis. Data collected by TenCent questionnaire star, descriptive analysis using card square test compare different gender, different ages, different regions of different, different eating habits, different physical activity level, different health consciousness, different sleep habits young teachers exercise behavior detection, using linear regression analysis to explore various factors to exercise behavior, personal physical health and the influence of the dimensions. The data were analyzed using SPSS 25.0. The F test was used to compare the differences between the indicators of physical health in different groups of motivation and exercise behavior. Using the Pearson test for the different nutritional status of different sustained exercise behavior populations, Height, to compare the rank detection rates of weight, the power of gripping, vital capacity, step test, vertical jump, sit-ups, sit forward, choice reaction time, and stand on one foot with your eyes closed, thus determining the correlation between different exercise behavior and self-cognition on health rank. The influence relationship between self-cognition on health and sustained exercise behavior, self-cognition on health and motivation, and motivation and sustained exercise behavior was analyzed by linear regression analysis at $P < 0.05$.

## Findings

We analyzed the data using SPSS 25.0, self-cognition on health, sustained exercise behavior, motivation (Fun motivation /Health motivation /Social motivation) were tested for normal distribution, skewness absolute value < 2, Kurtosis absolute value< 2, and the data fit to normal distribution.

In the test for homogeneity of variance, the results were all $p > 0.05$ in the Pearsonc$^2$ test, indicating that there is no significant difference between sampling and population, and were tested by the test of homogeneity of variance.

For the test for independence, $P < 0.05$, indicating a significant difference between the samples, passed the sample independence test.

**Demographic factors and the self-cognition on health of young teachers**

**Table 3** Basic Information of the Subjects

| Variable | Male N (%) | Female N (%) | Population N (%) |
|---|---|---|---|
| Administration Region | | | |
| East China | 82 (13.6) | 106 (15.3) | 188 (14.5) |
| North China | 86 (14.3) | 132 (19.1) | 218 (16.9) |
| Central South China | 120 (20.0) | 94 (13.6) | 214 (16.6) |
| Northwest China | 101 (16.8) | 110 (15.9) | 211 (16).3 |
| Southwest area | 102 (17.0) | 129 (18.6) | 231 (17.9) |
| North-East China | 110 (18.3) | 121 (16.7) | 231 (17.9) |
| Place of Residence | | | |
| Income | | | |
| Less than 5,0000 | 214 (35.6) | 225 (32.5) | 439 (34.0) |
| 5001-10000 | 245 (40.8) | 315 (45.5) | 560 (43.3) |
| 10001-20000 | 106 (17.6) | 110(15.9) | 216 (16.7) |
| Above the 20,000's | 36 (6.0) | 42 (6.1) | 78 (6.0) |
| Spouse Education | | | |
| 2-3 years College | 50 (8.3) | 59 (8.5) | 109 (8.4) |
| Bachelor | 139 (23.1) | 144 (20.8) | 283 (21.9) |
| Master | 120 (19.9) | 143 (20.7) | 263 (20.4) |
| Doctor | 119 (19.8) | 144 (20.9) | 263 (20.4) |

Table 3 shows the basic information statistics of the subjects in this paper. In this study, 188, 218, 214, 211, 231 and 231 people in six administrative regions of East, North, Central South, Northwest, Southwest and Northeast China are selected, with a total number of 1293. The number of young college teachers in each region is roughly 1:1, and the number of male and female in each region is about 1:1. The monthly income level of the families in the study is mostly 10,000 Yuan to 20,000 Yuan, with 43.3%

of more than 10,000 Yuan, followed by 34.0% of less than 5,000 Yuan. In addition, in terms of spouse education, the highest proportion of bachelor's degree is 21.9%, and the proportion of master's degree and doctor's degree is very similar, both of which account for about 20%.

**Table 4** Detection Rate of Sub-Health Behavior in Different Gender (%)

| Self-Cognition on Health | Male | Female | Ensemble | χ2 | *P* |
|---|---|---|---|---|---|
| Sub-health behavior | 153 (25.5) | 261 (37.7) | 414 (32.0) | | |
| Sub-Health Symptoms Behavior | 186 (30.9) | 114 (16.5) | 300 (23.2) | 14.137 | ** |
| Physical health | 262 (43.6) | 317 (45.8) | 579 (44.8) | | |
| Fun motivation. | 188 (31.3) | 157 (22.7) | 345 (26.7) | 1.166 | 0.283 |
| Health motivation | 177 (29.5) | 149 (21.5) | 326 (25.2) | 7.326 | ** |
| Social motivation. | 139 (23.1) | 96 (13.9) | 235 (18.2) | 18.527 | ** |

*Note:* *p<.05.**p<.01.

Table 4 shows that the detection rates of fun motivation, health motivation and social motivation among male young Chinese college teachers are 31.3%, 29.5% and 23.1%, and 22.7%, 21.5% and 18.2% among female ones, respectively. The comparison in conduct and social motivation. is statistically significant. in terms of the detection rate of sub-health behavior and sub-health status, there are 25.5% and 30.9% for male and 37.7% and 16.5% for female. The detection rate of male sub-health behavior is lower than that of female, and the sub-health status is higher than that of female, which is statistically significant.

**Table 5** Detection Rate of Behavior in Different Age Groups (%)

| Age | Number | Health Behavior | Sub-health Behavior | Sub-Health Symptoms Behavior |
|---|---|---|---|---|
| 24-34 | 641 | 261 (40.7) | 266 (41.5) | 114 (17.8) |
| 36-45 | 651 | 317 (48.7) | 148 (22.7) | 186 (28.6) |
| tote | 1293 | 782 (62.0) | 392 (27.5) | 301 (10.5) |
| $\chi 2$ | | | 57.534 | |
| *P* | | | ** | |

*Note:* *p<.05.**p<.01.

Fun motivation, health motivation and social motivation among male young Chinese college teachers are 31.3%, 29.5% and 23.1%, and 22.7%, 21.5% and 18.2% among female ones, respectively. the comparison in conduct and social motivation is statistically significant. In terms of the detection rate of sub-health behavior and sub-health status, there are 25.5% and 30.9% for male and 37.7% and 16.5% for female. The detection rate of male sub-health behavior is lower than that of female, and the sub-health status is higher than that of female, which is statistically significant.

**Table 6** Detection Rate of Self-Cognition on Health Dimensions in Different Age Groups

| Age Group | Number | Fun motivation. | Health motivation | Social motivation. |
|---|---|---|---|---|
| 24-35 | 641 | 161 (25.1) | 125 (19.3) | 132 (22.5) |
| 35-45 | 652 | 184 (28.3) | 201 (30.9) | 112 (17.2) |
| $\chi 2$ | | 22.300 | 22.500 | 116.248 |
| *P* | | ** | ** | * |

*Note:* *p<.05.**p<.01.

Table 6 shows that the detection rate of physical health, sub-health behavior and sub-health status are 40.7%, 41.5% and 17.8%, respectively, and 48.7%, 22.7% and 28.6%, respectively, which is statistically significant. As can be seen from the table, the physical health testing rate is below 50%. The detection rate of Sub-health behavior between 24 and 35 is the highest and the detection rate of sub-health status between 36

and 45 is the highest.

From the statistical results, the self-cognition on health dimension is statistically significant for sustained exercise behavior, (P <0.05) and self-cognition on health is the main factor affecting sustained exercise behavior. The relationship between the variables was statistically significant. body composition, lifestyle, health status and mental state in self-cognition on health all have positive effects on exercise behavior. Rutchick et, al. (2018) according to the demographic analysis. Therefore, the independent variable of personal physical health status meets the requirements and is the main factor affecting the continuous behavior of exercise (Rutchick et, al.,2018).

**Study on The Self-Cognition on Health and Motivation of Teachers in Sustained Exercise Behavior**

**Table 7** Linear Regression Analysis of Young Teacher Self-Cognition on Health on Sustained Exercise Behavior

| Model | | Unnormalized coefficient | | Standardized coefficient | $R^2$ | t | P |
|---|---|---|---|---|---|---|---|
| | | B | Standard error | Beta | | | |
| 1 | (Constant) | .395 | .004 | .824 | .435 | 103.862 | ** |
| | Self-Cognition on Health | 1.605 | .009 | .824 | .435 | 187.335 | ** |

*Note:*.Dependent variable a: Sustained Exercise Behavior.*p<.05.**p<.01.

Table 7 linear regression analysis was performed with sustained exercise behavior as the dependent variable and self-cognition on health as the independent variable. The results show that, self-cognition on health had a significant effect on sustained exercise behavior (beta = 0.824, p <0.001), indicating that the choice of sustained exercise behavior depends on the accurate perception of self-cognition on health. Suppose H1 support.

**Table 8** *Linear Regression Analysis of Individual Physical Health Cognition on Motivation*

| | Fun motivation | | | | | Health motivation | | | | | Social motivation | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unnormalized coefficient | | t | P | $R^2$ | Unnormalized coefficient | | t | P | $R^2$ | Unnormalized coefficient | | t | P | $R^2$ |
| | B | Standard error | | | | B | Standard error | | | | B | Standard error | | | |
| (Constant) | .612 | .017 | 15.177 | ** | | .136 | .009 | 15.177 | ** | | .451 | .014 | 32.871 | ** | |
| Self-Cognition on Health | 6.931 | .038 | 133.574 | .* | 0.386 | 2.698 | .020 | 133.574 | ** | 0.384 | 5.087 | .031 | 164.548 | ** | .473 |

*Note:* Dependent variable a: Motivation. *p<.05 **p<.01.

Table 8 linear regression analysis was performed with motivation as the dependent variable and self-cognition on health as the independent variable. Self-cognition on health had a significant effect on motivation, and self-cognition on health had a significant effect on fun motivation (beta = 0.815, p<0.001). self-cognition on health had a significant effect on health motivation (beta=0.720,p <0.001) and self-cognition on health on social motivation (beta = 0.788, p <0.001) . Suppose H2 Support.

**Table 9** Linear Regression Analysis of Young Teacher Motivation on Sustained Exercise Behavior

| Model | B | Unnormalized coefficient | | Standardized coefficient | $R^2$ | t | P |
|---|---|---|---|---|---|---|---|
| | | Standard error | Beta | | | | |
| 1 | (Constant) | .292 | .004 | | .534 | 76.740 | .** |
| | Fun motivation | .781 | .010 | .440 | .534 | 78.066 | ** |
| | Health motivation | .568 | .010 | .318 | .438 | 57.584 | ** |
| | Social motivation | .481 | .011 | .228 | | 42.481 | ** |

*Note:* Dependent variable: Sustained Exercise Behavior *p < .05 **p < .01

Table 9 linear regression analysis was performed with sustained exercise behavior as the dependent variable and motivation as the independent variable. The results show that, motivation has a significant effect on sustained exercise behavior, fun motivation has a significant effect on sustained exercise behavior (Beta = 0.440, P<0.001). Health motivation has a significant effect on sustained exercise behavior (Beta = 0.318, P<0.001. Social motivation has a significant effect on sustained exercise behavior (Beta = 0.228, P<0.001). Suppose H3 Support.

**Table 10** Linear Regression Analysis of individual Physical Health and Motivation on Sustained Exercise Behavior

| | | Unnormalized coefficient | | Standardized coefficient | | | |
|---|---|---|---|---|---|---|---|
| | Model | Standard | | | | | |
| | B | error | Beta | | | t | P |
| 1 | (Constant) | .395 | .004 | | | 103.862 | ** |
| | Self-Cognition on Health | 1.605 | .009 | .824 | .564 | 187.335 | * |
| 2 | (Constant) | .330 | .004 | | | 90.309 | .** |
| | Self-Cognition on Health | .921 | .015 | .473 | .408 | 61.709 | .** |
| | Fun motivation | .066 | .002 | .287 | .437 | 35.273 | .** |
| | Health motivation | .038 | .004 | -.074 | .412 | 10.785 | .** |
| | Social motivation | .065 | .002 | .217 | .453 | 29.110 | .* |

*Note:* Dependent variable a.: Sustained Exercise Behavior. *p<.05.**p<.01

Table 10 It can be seen from the table that the absolute value of the non-standardized B:1.605 before the non-standardized B adds the mediation variable, and then the absolute value of the non-standardized B:0.921, so it is a partial intermediary. Suppose H4 Support.

## Discussion

This study explores the factors influencing sustained exercise behavior among young college teachers from the dimension of sustained exercise behavior. Based on the construction of models, the dimension of health, the Sustained Exercise Behavior theory, the achievement goal theory, Based on the in-depth interviews, Multiple regression analysis was used to classify Sustained Exercise Behavior dimensions into two categories: Sustained exercise behavior and mental health, sustained exercise behavior includes three dimensions: health behavior, sub-health behavior, and sub-health symptoms behavior, self-cognition on health includes three dimensions: social influencing factors, living habits, and social adaptation. Motivation includes Fun motivation. The research findings were Self-cognition on health had a significant effect on sustained exercise behavior (Beta = .824, p <.001). Hypothesis H1 is supported, indicating that the choice of sustained exercise behavior depends on the accurate perception of self-cognition on health. Self-cognition on health had a significant effect on motivation, and self-cognition on health had a significant effect on fun motivation (Beta = .815, P <.001). Self-cognition on health had a significant effect on health motivation (Beta=.720P <.001) and self-cognition on health on social motivation (Beta = .788, P <.001). Hypothesis H2 is supported. This indicates that during the development of motor behavior, young teachers are constantly faced with the changing individual health needs and the exploration of various motives, which often support individual health. Exercise behavior involves multiple health problems, so if the individual physical health has enough motivation to have a deep understanding of the behavior and professional exercise knowledge, this is the key to promoting exercise adherence behavior. Motivation has a significant effect on sustained exercise behavior, fun motivation has a significant effect on sustained exercise behavior (Beta = .440, P<.001), Health motivation has a significant effect on sustained exercise behavior (Beta = .318, P<.001), Social motivation has a significant effect on sustained Exercise Behavior (Beta = .228, P<.001), The hypothesis H3 is supported, make known, self-cognition on health. Self-cognition on health had a significant effect on motivation (Beta = .473, P <.001), while motivation had a significant effect on Sustained Exercise Behavior (Beta = .824, P <.001). The hypothesis H4 is supported, suggesting a clear mediating role of selective

motivation between self-cognition on health and sustained exercise behavior.

Self-Cognition on health has a positive effect on sustained exercise behavior. Self-cognition on health includes the social environment background, living habits, physical fitness, and mental health factors. sustained exercise behavior refers to the subjective judgment of whether a person can adhere to motor behavior. It can be seen that when people have good self-cognition on health, they have successful experiences that enhance their sustained exercise behavior. Conversely, if the self-cognition on health is low, the sustained exercise behavior is very weak. The findings support the suggestions of (Markland & Ingledew, 1997).

This indicates that during the development of motor behavior, young teachers are constantly faced with the changing individual health needs and the exploration of various motives, which often support individual health. Rebar et. al (2019) stated that Exercise behavior involves multiple health problems, so if the individual physical health has enough motivation to have a deep understanding of the behavior and professional exercise knowledge, this is the key to promote exercise adherence behavior (Rebar et. al, 2019).

The response effect of motivation on behavior, which led us to speculate that the persistence of exercise behavior is responsible for the stability of motivation, when young teachers have higher motivation, it will further stimulate the self-healthy acceptance and identification of young teachers, thus in higher sustained exercise behavior (Rutchick et, al. 2018).

Self-cognition on health affect sustained exercise behavior through the mediating role of motivation. suggesting a clear mediating role of selective motivation between self-cognition on health and sustained exercise behavior. According to Bartholomew et. al (2011), there is an urgent need for interventions to support the development of the mediating effects of motivation so that they can have the motivation of continuous exercise to improve individual physical health. Management scientists think that this is an opportunity to shift from deficit-oriented sports psychology practice to note-oriented sports psychology practice, and the key is to focus on the interest, health and happiness of young teachers' sports (Bartholomew et. al,2011).

## Conclusion and Recommendations

Trade unions in colleges and universities should intervene in sustained exercise behavior from self-cognition on health, regularly give exercise behavior online lectures or knowledge points to young teachers, popularize knowledge of self-cognition on health, and encourage young teachers to exercise.

Cultivate the good lifestyle and habits of young people, this includes persistent exercise, adequate sleep, and a balanced nutritional intake, how to cultivate young teachers healthy good eating habits become we cannot ignore the work, in addition, not only from the perspective of eating habits, should also take comprehensive prevention strategies involving No smoking is allowed, reduce alcohol consumption and other factors to improve and enhance the level of college young teachers' sustained exercise behavior.

Fun motivation and health motivation are the key to exercise adherence behavior, and the interest of exercise program should be repeatedly intervened. It is suggested that more sports that enhance cardiopulmonary endurance, flexibility and waist strength should be included in the youth trade union in sports activities.

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