

Functionality of Fitness Applications and the Physical Activity of College Students

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Abstract:

The study determined whether the functionality of fitness applications predicts the level of physical activity of Chinese college students. In the process, the study assessed the level of physical activity and functionality of fitness apps in terms of exercise, recreation, and sports. Data were gathered through online survey with the use of a researcher made questionnaire. The study showed that the respondents were engaged in light physical activity only. This is true in all the sub-variables of physical activity which are exercise, recreation, and sports. The study also showed that the respondents rated their fitness apps as slightly functional only in exercise, recreation, and sports. Simple linear regression was used in determining whether the functionality of fitness apps significantly predict physical activity.

Keywords: fitness apps, physical activity, exercise, recreation, sports

Introduction

China has reported improvement in the overall physical activity of its children and adolescents in the last six years, however, there are still significant shortcomings in many indicators that are needed to be addressed [1]. The areas where improvement is needed are in sports activities, and in unorganized physical activity [2]. At present, most of the college students exercise three times a week by running and walking, and playing ball games [3]. Overall, however, exercise among the college students is on a downward trend, decreasing year after year [4]. It is hoped that fitness applications (apps) can help reverse the trend in the physical activity among of Chinese college students.

The promotion of physical activity through fitness apps is gaining recognition. Some studies like that of Suh & Li [5] have found that fitness apps have beneficial effects to the user's health outcomes. The frequency of fitness apps utilization is positively associated with exercise adherence [6]. However, other studies like that of Milne-Ives et al. [7] claim that there is no strong evidence supporting its effectiveness in physical activity improvements. One possible reason for this according to Romeo et al. [8] is the short-lived use of the apps, especially among the younger people [9]. The unclear association between fitness apps and physical activity implies that more studies should be conducted on the said subject [5]. As Barkley et al. [10] claimed, the association between fitness apps use and physical activity behavior is not well studied yet. In line with this, the study looked into whether certain functions of fitness apps predict the level of physical activity of students.

The study is based on the Technology Acceptance Model (TAM) which is widely used in information technology [11]. TAM postulates that the acceptance of technology like fitness apps is predicted by its usefulness and the ease of use.

Method

Using the quantitative method allowed the researcher to use data from a survey and transform them to numeric data that described the respondents’ utilization fitness apps, and their physical activity as well. According to Profillidis and Botzoris [12], quantitative methods enable researchers to relate rationally the independent variable on the dependent variable. In this study, the independent variable is the functionality of the fitness apps while the dependent variable is physical activity. Simple linear regression was utilized to determine the predictive role of fitness apps functionality on physical fitness of the respondents. The study was conducted in Chongzou City in China during the academic year 2022-2023. Two hundred (200) college students were purposively selected as respondents from three higher education institutions in the city. The use of fitness apps was the primary criterion for the selection of the respondents.

The study used a researcher made questionnaire for gathering data related to the functionality of fitness app, and the level of physical activity of the respondents. Both variables were measured in terms of exercise, recreation, and sports. Some of functionalities of the fitness apps were presentation of videos of latest exercise trends, provision of geolocation for outdoor recreational walks, and tracking vital body information during sports drills. Each survey item in the questionnaire was provided with a four-point response scale. The questionnaire underwent validations by experts in physical education and was pilot tested for reliability using Cronbach alpha. The survey questionnaire showed acceptable validity in all the different clusters of items. The computed alpha for the physical activity are as follows: exercise (0.78). recreation (0.81), and sports (0.88). On the other hand, the computed alphas for fitness apps functionality are: exercise (0.93), recreation (0.89), and sports (0.91). The survey was conducted using an online platform.

Results

The assessment of fitness apps functionality showed the following means and standard deviations: functionality in exercise ($\bar{x} = 1.87, SD = 0.61$), functionality in recreation ($\bar{x} = 1.82, SD = 0.56$), and functionality in sports ($\bar{x} = 1.85, SD = 0.55$). The overall mean is 1.85. Meanwhile, the respondents’ assessment of their physical activity showed the following means and standard deviations: exercise ($\bar{x} = 2.16, SD = 0.67$), recreation ($\bar{x} = 1.98, SD = 0.61$), and sports ($\bar{x} = 2.39, SD = 0.81$). The overall mean for physical activity is 2.18.

The results of the simple linear regressions are in table 1.

Table 1: Simple Linear Regression Results

Fitness Apps Functionality	Physical Activity	Beta	R ²	Sig
Functionality in Exercise	Exercise	0.664	0.369	.000
Functionality in Recreation	Recreation	0.512	0.262	.000
Functionality In Sports	Sports	0.744	0.251	.000

The fitness apps functionality in exercise significantly predict (Beta =0.664, Sig =.000) the physical activity in terms of exercise, accounting for 36.9% of its variance (R² =0.369). Likewise, fitness apps functionality in recreation significantly predict (Beta =0.512, Sig =.000) recreational physical activity accounting for 26.2. % of its variance. Functionality in sports is also a predictor (B=0.744, Sig =.000) of sports as physical activity. It accounts for 25.1 % of the variance in sports.

Discussion

The assessment of fitness apps functionality for physical activity showed low utilization. The respondents consider their fitness apps as slightly functional when it comes to doing exercise, recreation, and sports. The finding contradicts the claim of Baubonyte et al. [13] that sports apps is evaluated positively by users reporting enjoyment, ease of use, usefulness, and reliability. With low utilization of fitness apps, it is expected that the respondents are not physically active as well. As seen earlier, the respondents have light physical activity only which reflects the finding of Liu et al. [14]. They found that the level of physical activity of Chinese youths are low and below the recommended guidelines. According to Chen et al. [1], 82.5% to 89.8% of 18-year old Chinese male students and 21 year-old Chinese female students are physically inactive.

The low utilization of fitness apps and the low physical activity of the respondents are statically connected. It turned out that the utilization of fitness apps significantly predicts the physical activity of the respondents. A unit increase in utilization of fitness apps in the three dimension of physical activity will result to 0.644 improvement in exercise, 0.512 in recreation, and 0.744 in sports. The finding is partly similar to some studies. Estrada-Marcen et al. [15] reported that fitness center users who utilizes fitness apps were motivated towards the achievement of their daily physical activity goals. The finding has some similarity also to the report that fitness apps users were more physically active [16,1].

Conclusion

The study has established the predictive role of fitness apps functionality on physical activity. However, it does not provide a solution to the problem of declining physical activity among Chinese students. The low utilization of fitness apps itself is a concern that has implications on information and communication industry. Further studies must also be conducted to provide a conclusive information on the role of fitness apps in physical activity; whether they motivate physically inactive individuals to engage in exercise, recreation, and sports, or they simply enhance the experience of individuals who are physically active already.

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