



Do YouTube Fitness Videos Help YouTube user to Learn Fitness?

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The purpose of this study was to explore the impact of learning motivation and learning distress on fitness YouTube users. Fitness YouTube users as the research object, the questionnaires were collected online, a total of 403 valid questionnaires were collected, the effective recovery rate was 80.6%. All collected data was analyzed through descriptive statistic, cross-analysis, independent t-test, and structural equation modelling (SEM). The results are as follows: 1. the main Fitness YouTube users are female, student, aged between 17-25 years old; female YouTube users will watch female YouTubers; male YouTube users will watch male YouTubers. 2. Male YouTube users have significantly more "inner goals" in learning motivation, which is higher than women. 3. The motivation of learning of YouTube users has a positive influence on learning outcomes; learning motivation has a negative influence on learning disturbances; learning distress has a negative influence on learning outcomes. Fitness YouTube videos explain the clarity and professional knowledge, which will enable users to generate learning interest and learn achievements. Watching fitness videos from YouTube is better than the traditional way of learning, which can effectively improve fitness skills.



Key words: *YouTube, YouTubers, Cyberstar, Learning Motivation, Learning Distress, Learning Outcome.*

Introduction

The advancement of network technology has brought us many possibilities and conveniences and also has accelerated the circulation and accessibility of videos. The virtual world of the Internet shares a lot of resources; it is up to the learner on how to analyze use these resources. According to the "The Values of YouTube" report released by Google and the Australian 2and2 research organization in October 2017, 70% of users around the world will seek help through YouTube when they encounter problems; 86% of users regularly watch videos on YouTube to learn new things. The diversity of network resources can satisfy the interests and needs of different viewers, and also allows viewers to balance between teaching guidance and independent exploration. It is the best tool for the personalization of the learner's learning path, and it is also one of the necessary skills for modern fitness learners (Chun, 2017).

Most of the research on the application of information technology in education has positive effects, and it has a positive impact on improving students' learning motivation and learning effectiveness (Horng & Wei, 2015; Huang, 2015; Li, 2017; Chen & Lee, 2017; Suy, Choun & Chhay, 2018). However, there are still a few studies that find that science and technology learning may not enhance students' motivation and effectiveness (Hsu, 2018; Wyslocka, 2015). When people develop a direction, and plan, there are favorable conditions for learning (Lee & Shan, 1997). Motivation is the foundation of learning; it can lead to continuous learning. Good learning motivation can improve the efficiency and performance of learning and help to achieve learning outcomes.

Although online learning can be free from fixed time and space constraints, it saves time for teaching and learning places, making learning methods independent and flexible, and viewers can learn to achieve greater learning outcomes according to their needs (Marton, Bednar and Modrak, 2014; Haseeb et al., 2019). However, there are limitations and problems in the implementation. For example, YouTuber's fitness teaching videos may not be able to achieve the accuracy of the action that an instant interaction with the coach would achieve. It is easy to produce some training errors, resulting in learning problems. According to the study, learning motivation and learning distress have a significant negative impact (Chu, 2000; Shih, 2016; Jelonek, Dunay, and Illes, 2017); Owagbemi, 2018). The higher the motivation of learning, the easier it is to learn by yourself, and the less learning



disturbances, the better the learning outcomes. Further, the lower the learning motivation, the more passive the learning, the more difficult the learning, and the less effective the learning (Jabarullah and Hussain, 2019).

Fitness teaching videos are quite popular tools in today's society. YouTube's teaching allows people, who lack the free time to go to the gym, to learn at home. In view of this, this study explores the motivation of fitness YouTube users and the learning habits of fitness YouTube users. The research results will contribute to improving the effectiveness of online learning and the exercise habits of the Taiwanese people.

Therefore, the purpose of this study is as follows:

- (1) Understand the current status of fitness for YouTube users.
- (2) Exploring the differences in motivation, learning distress and learning effectiveness among YouTube users, in gender.
- (3) The SEM adaptation of YouTube user in learning motivation, learning distress and learning effectiveness.

Research Method

Research Subject

The research subject of this study was the fitness YouTube user. A total of 500 questionnaires were distributed online, 403 valid questionnaires were collected, and the effective rate was 80.6%.

Research Tools

The research questionnaire includes the basic information of fitness YouTube users, the learning motivation scale, the learning distress scale, and the learning effectiveness scale. The pretest questionnaire was distributed to 150 fitness YouTube users and the results were as follows.

Learning Motivation Scale

The learning motivation scale was referred a total of 25 questions (Tai (2012), Chang (2014)). Through item analysis, factor analysis, and Cronbach α , the motivation scale could be divided into five facets "inner goal", "external goal", "work value", "self-efficacy" and "expectation success", the total explanatory variation is between 49.799% and 63.023%, and the Cronbach's α coefficient is .949.



Learning Distress Scale

The learning distress scale was referred to Tseng (2012), a total of 9 questions. Through item analysis, factor analysis, and Cronbach α , the learning distress scale could be divided to two facets “personal factors” and “teaching factors”, the total explanatory variation is between 45.282% and 64.743%, and the Cronbach's α is .811.

1. Learning Outcome Scale

The learning effectiveness scale was referred to a total of 17 questions (Chung and Yang (2006), Li (2017)). Through item analysis, factor analysis, and Cronbach α , the learning effectiveness scale could be divided to three facets "Learning Satisfaction", "Knowledge Acquisition" and "Skill Enhancement", the total explanatory variation is between 63.719% and 70.357%, and the Cronbach's α is .948.

Data Analysis

All collected data was analyzed through descriptive statistic, cross-analysis, independent t-test, structural equation modeling (SEM) by SPSS 21.0 and AMOS 21.0 to understand the issues and purpose discussed in this study.

Results and Discussion

Subject Data Analysis

The subjects in this study were majority female (56.0%), male (44.0%); age around 21-25 (52.6%); the occupation was dominated by students (70.2%). Further discussion through cross analysis (table 3-1) found that male YouTube users prefer watching male YouTubers; female YouTube users prefer female YouTubers.

Based on the above research, the YouTube users are more female than male. The sampling of 80 universities and 32,000 students across the country found that the proportion of female non-exercise population (11.3%) is higher than that of males (5.8%); the “104-year Sports City Survey” pointed out that the participation rate and regular exercise rate of female at each stage are lower than those of male (Sport Administration, Ministry of Education, 2015), and the main difference is in the age 18-24 years old" (Lin, Wen, Wai, 2007). According to Yang et al. (2018), after watching the related videos or articles from cyberstar, teenagers will actually promote participation in sports. Liang (2015) found that females prefer static fitness

over sports, also females are more concerned about environmental factors (Humbert, 1995; Hsu & Tseng, 2015; Yang & Chen, 2016).

This study investigated 4 YouTubers who are the very popular cyberstars on the Internet. The filming of the fitness video is a static physical fitness exercise that can be carried out in the home environment. With YouTube video learning, the sports environment is no longer a factor that plagues female sports, perhaps due to various reasons which caused these results.

Table 3-1: User Gender and YouTuber Cross Analysis Summary

	健人蓋伊			Coffee林芊妤	
	Not seen	Seen		Not seen	Seen
Male	85	94	Male	143	36
Female	177	47	Female	130	94
Total	262	141	Total	273	130
Chi-square	43.48		Chi-square	21.74	
P value	.000		P value	.000	
	Zoey周六野			CYFIT兆佑	
	Not seen	Seen		Not seen	Seen
Male	149	30	Male	116	63
Female	143	81	Female	198	26
Total	292	111	Total	314	89
Chi-square	18.77		Chi-square	32.17	
P value	.000		P value	.000	

Differences in learning motivation, learning distress and learning outcomes among YouTube users of different genders

There were no significant differences between the different genders of YouTube users in learning distress and learning outcomes ($p > .05$). There were significant differences in the “inner goals” in learning motivation ($p < .05$), and the males ($M = 4.11$) had higher perceptions than females ($M = 3.98$), as shown in Table 3-5. The results of this study show that men are more willing to try new, challenging, difficult and unseen fitness content and to find unclear fitness knowledge when watching YouTube fitness videos. The findings of the study match with a study conducted by Lin, Wen and Wai (2007). They found that males tend to be more involved in competitive and challenging sports when they are younger, and become more moderately-sized when they grow older. Females are more likely to exercises with lower intensity or to exercise for weight loss and body sculpting.

Table 3-5: Learning Motivation Independent T-Test Summary

Factor	Gender	Number	Mean	Standard Deviation	T value	P value
Inner Goal	Male	179	4.11	.613	2.156*	.032
	Female	224	3.98	.562		
External Goal	Male	179	4.08	.657	-.474	.636
	Female	224	4.11	.555		
Work Value	Male	179	4.03	.638	-.444	.657
	Female	224	4.06	.599		
Self-Efficacy	Male	179	3.81	.712	1.611	.108
	Female	224	3.70	.676		
Expectation success	Male	179	4.01	.682	1.437	.152
	Female	224	3.92	.598		

*p<.05

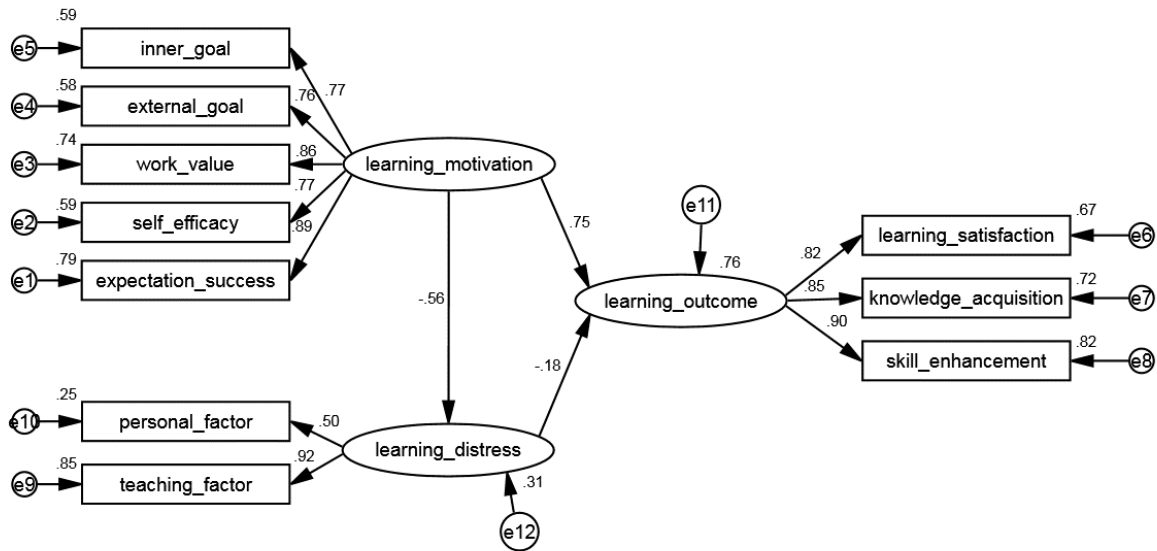
Model Fit of Learning Motivation, Learning Distress and Learning Outcomes

This study constructs the behavior patterns of YouTube users based on past research and analyzes the structural equations model through the AMOS 21 to test the model fit and the hypothesis. In the normality test, the c.r. value of Multivariate kurtosis was found to be 22.88, which was consistent with the multivariate normal distribution. It was found that the model fit of YouTube has reached the standard. The overall behavior model of the study was well-fitted.

Table 3-9: The overall behavior model fit of YouTube users

Indices	χ^2/DF	GFI	AGFI	SRMR	NFI	RFI	CFI	PNFI	PCFI
Evaluation Criteria	$1 < \chi^2/DF < 5$	>.80	>.80	<.08	>.90	>.90	>.90	>.50	>.50
Model indices	4.126	.93	.88	.03	.95	.93	.96	.68	.68

Figure 1. Path Analysis of Learning Motivation, Learning Distress and Learning Outcomes



According to the figure 1 path analysis, the R^2 of learning motivation and learning distress to learning outcome is .76, while the R^2 of learning motivation to learning distress is .31. Learning motivation has a positive influence on learning outcomes, the standardization coefficient is .75, t value is 13.581, indicating that the stronger the motivation for users to learn fitness through YouTube, the higher their learning outcomes. Li (2017) point out that learning motivation will affect learners to participate in learning activities, learners would expect relative achievements through the learning process, learners will adjust the motivation to learn according to their own learning experience in order to achieve the desired learning outcomes and objectives. Therefore, learning motivation is a very important factor affecting learning outcomes. In addition, this study also found that the facets of learning motivation had a positive influence, the standardization coefficient is between .76 to .89, the expected success (.89) is the highest, followed by the work value (.86), indicating that in the process of learning fitness, the user will have an interest and study the relevant fitness knowledge, identify themselves, get achievements and share the discussion with friends, and apply what they have learnt in every daily life.

Learning motivation has a negative influence on learning distress, the standardization coefficient is -.56, t value is -11.010, indicating that the stronger the motivation for the user to learn fitness through YouTube, the weaker their learning distress. At the same time, it can be found that the facets of learning distress have a positive influence, the standardization coefficient is a personal factor of .50 and a teaching factors of .92, which indicates the



content of the fitness YouTuber videos, the clarity of the explanation, the teaching methods and the expertise of the YouTubers, impact learning distress. MacIntyre and Rebecca (2012) pointed out that learning motivation is the driving force for participants to initiate and maintain learners' participation in learning activities. When users are more motivated to learn fitness through watching YouTube, they are willing to spend more time and effort to participate in and maintain fitness habits. Users are willing to find and solve the factors that may cause interruptions, so the doubts and troubles in watching YouTube fitness videos are relatively low.

Learning distress has a negative influence on learning outcome, the standardization coefficient is $-.18$, t value is -3.419 , indicating that the more troublesome the user is aware of when learning the fitness process through YouTube, the less effective the learning outcome will be. Learning distress refers to the difficulties and obstacles encountered by users in the process of learning. These obstacles hinder the learning effect and cannot improve their learning standards (Chen & Tseng & Huang, 1992; the user is faced with difficulties in the process of learning, which leads to troubles, which may result in the inability to play properly and lead to unsatisfactory learning outcomes (Chang, 2000). In addition, the facets of the learning outcome has a positive influence, the standardization coefficient is between $.82$ to $.90$, the skill improvement ($.90$) is the highest, followed by the knowledge acquisition ($.85$), indicating that the user can effectively improve the fitness technology, fitness ability, and break through the old fitness concepts and methods through the study of fitness through YouTube videos because the knowledge gained is more effective than the traditional learning knowledge.

Conclusion

1. Fitness YouTube users are mostly female students, aged 17-25. Male users will prefer to watch male YouTubes, and female users will prefer to watch female YouTubers.
2. There are significant differences in the "inner goals" of YouTube users in learning motivation. Males are more willing to try new, challenging, difficult and unseen fitness content, when watching YouTube fitness videos, than female, and are willing to find ways to understand unclear fitness knowledge.
3. The stronger the motivation for fitness YouTube users to learn fitness through YouTube, the higher their learning outcomes and the lower their learning distress; the lower the learning distress, the higher their learning outcomes. The content of fitness YouTube videos, the



clarity of teaching, the teaching methods and the professional knowledge of YouTubers are important factors that reflect the learning outcomes. Through the fitness YouTube video learning, users will be interested, learn related fitness knowledge, identify themselves, and achieve goals. Sharing and discussing with colleagues, effectively improving fitness skills, physical fitness, breaking through old fitness concepts and methods, and learning more knowledge than traditional learning methods, and applying what they have learned in daily life.

Suggestions

Sparling and Snow (2002) pointed out that the best period for cultivating exercise habits is in the academic stage. 84.7% of college students have regular exercise behavior during their studies, and they will still maintain the habit of regular exercise after graduation.

Yang et al. (2018) also found that when teenagers watch sports-related videos or articles, they will actually participate in sports. According to Huang and Shih (2015) research on the integration of YouTube video sharing sites has also confirmed that providing correct, complete, relevant, useful and easy to understand content will directly affect the perceived usefulness and perceived usability of YouTube video sharing websites, and in turn, affect the user's behavioral intentions. However, the exercise videos from the Sports administration, whose purpose is to promote health, do not get a lot of views. Therefore, according to the results of this study, it is recommended that relevant units cooperate with these well-known YouTubers to jointly shoot some official teaching videos, with different male and female needs, to promote fitness via the Internet, schools or various media. Exercise can effectively improve the motivation of users and improve the learning habits of users. It can not only help to improve female's exercise habits but also be effective in developing regular movements of all people.



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