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A comparative study on the influence of media attention and information encounter on college students' indoor fitness willingness

-- the mediating role of self-efficacy

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Abstract

This study adopts quantitative research method, takes CMM as the theoretical basis, and introduces self-efficacy as an intermediary variable. By designing and distributing online questionnaires for college students, data on the influence of media attention and information encounter on their behavioral intention of indoor fitness are collected. This paper explores the correlation between media attention, information encounter and college students' behavioral intention of indoor fitness. The results show that both media attention and information encounter have a positive impact on college students' behavioral intention of indoor fitness, but college students' information encounter with indoor fitness information can trigger more relational thinking and have a higher sense of self-efficacy, and self-efficacy as an intermediary variable also positively promotes college students' behavioral intention of indoor fitness. In addition, according to the conclusion, this study proposes how to better use media resources to provide fitness support for relevant college students, in order to promote the healthy lifestyle of college students.

Keywords

College students, media attention, information encounter, Cognitive mediation model, self-efficacy.

1. Introduction

Under the wave of digitization, social media has become an important part of People's Daily life[1]. Especially among college students, the use of social media is not only an important way to obtain information, but also a key stage for individuals to express themselves and build social identity. In this context, fitness as a healthy and active lifestyle is increasingly favored by the younger generation. By actively seeking or accidentally encountering fitness information in social media[2,3], they constantly adjust and shape their health concepts and behavior patterns.

Fitness behavior is generally divided into outdoor fitness and indoor fitness. Compared with outdoor fitness, indoor fitness is subject to few constraints such as age, gender, time and space, and environment, and is a more suitable fitness behavior for all people to participate in[4]. With the explosion of aerobics in the past two years, it has promoted indoor fitness into a boom. According to the data of China Information Network in March 2024, as of December 2023, China's fitness members were about 69.75 million, the market size of China's fitness industry reached 991.7 billion yuan, the number of fitness studios was 42,177, and the proportion of fitness private education revenue reached 62.79%, the highest value in recent years. This shows that indoor fitness has become a hot topic in China. Tencent News' fitness member physical test data in March 2024 shows that: according to the member physical test data

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provided by the report, the average FFMI (body fitness index) increase of retest members between 20 and 24 years old is the highest. This age group is mainly college students, indicating that this group's participation and effect in fitness are relatively significant.

However, the proliferation of fitness information on social media has also created a dilemma of choice. Different information sources, various fitness methods and complex effect evaluation on the media make college students feel confused and uncertain when facing these information[5]. According to the cognitive mediation model, media attention can influence the dissemination of information and thus gain information knowledge. Therefore, it is important to understand how this information affects their willingness to exercise.

Some studies have shown that social media messages have a positive impact on college students' willingness to exercise. Based on the cognitive mediation model, this study divides social media information exposure into media attention and information encounter. From these two perspectives, the impact mechanism of social media information on college students' indoor fitness willingness is deeply discussed. Through empirical research, it is hoped to reveal the difference in the role of these two types of information exposure in the formation of college students' indoor fitness willingness, and introduce the mediating variable of self-efficacy to explore its mediating role in "media information exposure -- indoor fitness willingness".

It is expected that the results of this study will not only enrich and improve the existing theoretical system on the relationship between social media and health behavior, but also provide reference for social media platforms to optimize fitness information dissemination strategies, and promote the positive role of social media in college students' indoor fitness willingness. And it can guide college students to establish scientific fitness concepts and cultivate healthy living habits. At the same time, it is also hoped that through this study, more academic discussions and practical exploration can be stimulated to jointly promote the development of college students' health cause.

2. Organization of the Text

2.1. Theoretical basis

2.1.1. Cognitive Mediation Model (Eveland, 2002)

Cognitive Mediation Model (CMM,Eveland,2001) : Eveland proposed this thesis based on the "O-S-O-R" model (O-Orientations, S-Stimulus, O-Organism, R-Response) when studying the communication effect of political news. The purpose is that people contact and use media due to their own motives (before contact with media), pay more attention to specific content in the media, and devote more attention, that is, media attention. After receiving the information, the information is refined, the new information is connected with the past knowledge and experience and the accumulated relevant information, and the new information is integrated and processed, that is, "elaboration" (Zhou Baohua, 2008), which is transformed into the knowledge acquired by different users after processing media content.[6]

2.1.2. Media attention and information encounters

Media attention: proposed by Eveland, refers to the psychological tendency to focus on specific content in the media, based on the user's motivation before contact with the media, the process of focusing attention on specific media content, is expected information contact.

Information encountering: A concept developed by Sundar Eldreth, meaning unexpectedly acquiring information useful or interesting to the person's own perception, is an unexpected contact with information.[7]

2.1.3. Self-efficacy

Proposed by Bandura, it refers to the degree of confidence and likelihood of an individual to carry out a certain behavior.[8]

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2.2. Research hypothesis

H1: Media attention on fitness information positively affects college students' elaboration. (information refinement processing)

H2: Information encounters of fitness information positively affect college students' elaboration. (information refinement processing)

H3: College students' elaboration about the relevance of fitness information (information refinement processing) positively affects the information knowledge they acquire.

H4: The media fitness information obtained by college students positively affects their self-efficacy.

H5: Self-efficacy positively affects college students' indoor fitness intention.

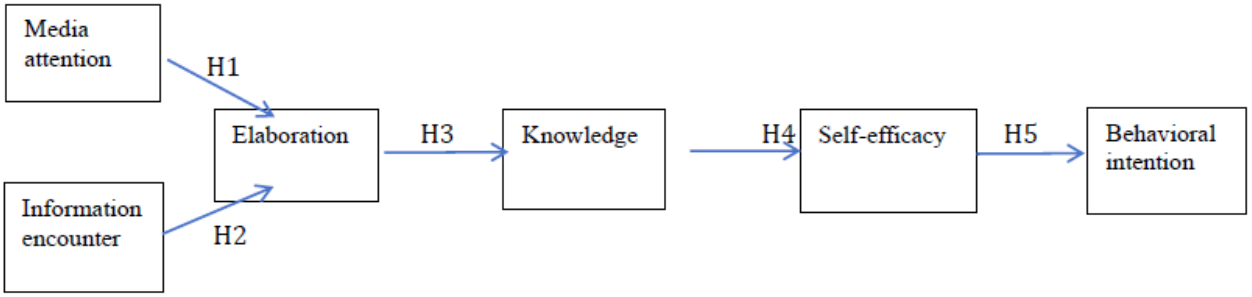

Fig.1 Theoretical model diagram

2.3. Literature review

At present, the research on the influence of social media information on college students' fitness willingness has attracted wide attention. However, most of the existing studies focus on the macro concept of social media information, and the mechanism of the influence of media attention and information encounter on college students' fitness intention is still lacking. This study aims to fill in this research gap, and on the basis of systematic review and summary of existing research results, provide a theoretical framework and research direction for subsequent research.

Li Mengdi from Chongqing University explored the relationship between exposure to social media fitness information and exercise self-efficacy in “An empirical study on the impact of Social Media Fitness Information on College students' Fitness Behavior”[9]. Research shows that fitness information on social media platforms can significantly improve college students' exercise self-efficacy, and thus promote their fitness behavior. The boost is not only in the direct delivery of information, but also in the interactive environment provided by social media, which allows college students to actively participate in discussions about fitness. Through comments, sharing and communication, individuals are able to receive support and encouragement from others, and this interaction helps to increase their confidence in their own fitness abilities. Fitness communities and groups on social media can help college students establish and maintain fitness habits by providing them with a sense of social support and making them feel more motivated and confident in the face of challenges. Therefore, exercise self-efficacy plays an important mediating role between exposure to fitness information on social media and actual fitness behavior. This finding not only reveals the potential of social media in promoting healthy behaviors, but also provides new perspectives and ideas for future research, suggesting that we can further improve college students' fitness self-efficacy and actual behaviors by optimizing social media content and interaction mechanisms.

Hu Xiaotian from South China University of Technology explored the influence of social media on the differences in fitness intention and Fitness behavior of college students in his Research on the “Differences in fitness intention and behavior of college students under the influence of social media”[10]. Exposure to fitness messages on social media can lead to behavioral gaps in

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college students, research suggests. On the one hand, the appearance-oriented fitness culture in social media can stimulate college students' interest in fitness, improve their fitness willingness and the possibility of action. Fitness gurus and success stories on social media may make college students passionate about fitness and willing to try new fitness programs. On the other hand, this culture may also lead college students to expect too much of themselves. When they face the challenges and setbacks encountered in the actual fitness process, they may feel disappointed and frustrated, resulting in willingness but no action, or quickly quit after action. This phenomenon is closely related to the idealized body image and extreme fitness goals often presented in social media, which may make college students feel too far from their expectations in practice. Therefore, when making fitness goals and plans, designers need to fully consider the individual's psychological endurance and actual situation, and set realistic and achievable goals to avoid frustration caused by excessive expectations. In this way, college students can be helped to establish a more practical and sustainable fitness plan and improve the long-term stability of their fitness activities.

Based on the cognitive mediation model, this study conducted a preliminary study on the influence of social media information exposure on college students' indoor fitness intention. By dividing information contact into media attention and information encounter, and limiting fitness intention to indoor fitness intention, this study aims to deeply understand how these two forms of information contact affect college students' cognitive evaluation of fitness information, and then affect their indoor fitness intention. At the same time, this study also incorporated self-efficacy into the model, and constructed a model of "knowledge -- self-efficacy -- behavior" to further improve the mediating role of self-efficacy.

To sum up, social media has significant potential in stimulating college students' fitness willingness, but it also has certain limitations. Future research should continue to deepen the understanding of media attention and information encounters, and explore how to effectively utilize the advantages of social media while overcoming its potential negative effects to promote the formation of healthy lifestyles among college students.

2.4. Scale

Table.1 Measuring scale

Variable	Reference source	Items	Questions
Media attention	Beaudoin&Thorson,2004 Eveland,2001	3	1. On social media, I pay more attention to indoor fitness information 2. I'd like some information about indoor fitness 3. I'd like to know the latest developments in indoor fitness
Information encounter	Erdelez，2004	3	1. I don't pay more attention to indoor fitness information on social media 2. I will pay attention to the perceived useful indoor fitness information that I encounter 3. I will pay attention to indoor fitness information that perceives interesting encounters
Elaboration	Beaudoin&Thorson,2003 Eveland,2001,2004	3	1. When I see something about indoor fitness, I think about it 2. When I see content about indoor fitness, I will carefully analyze the content 3. When I read about indoor fitness, I think of other things I already know
Knowledge	2023 National Fitness Knowledge Competition	5	1. Aerobic exercises for indoor fitness include treadmill and jump rope

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			2. Yoga and Pilates are two different types of aerobic exercise for indoor fitness 3. Use a fitness tracker to help monitor heart rate and calorie consumption 4. When exercising indoors, using a stationary bicycle is more likely to cause knee injury than a treadmill 5. When exercising indoors, the role of the mirror is to correct the posture
Self-efficacy	Chinese self-efficacy for exercise scale, SEE-C	6	1. When I don't feel the pleasure of sports, I have the confidence to exercise 2. When I feel pain during exercise, I am confident to exercise 3. I exercise with confidence when I am alone and without company 4. I have the confidence to exercise when I am busy with other things 5. I have the confidence to exercise when I feel tired or stressed 6. When I am feeling blue, I have the confidence to exercise
Behavioral intention	Gao Sisi（2013）	3	1. I like to spend my time on exercise 2. I think I need to exercise 3. I can find fun in exercise

2.5. Data analysis

2.5.1. Basic information

A total of 424 valid questionnaires were collected in this questionnaire survey, the proportion of male and female were 60.61% and 39.39% respectively. The data show that most college students obtain indoor fitness information through information encounter, accounting for 84.67%.

In this study, SPSS software was used to measure each variable in the questionnaire. Except for knowledge, the scale was measured using Likert's 5-point measurement method, that is, "strongly disagree =1, strongly disagree =2, generally =3, strongly agree =4, strongly agree =5". 5 judgment questions are set to measure the amount of knowledge about indoor fitness obtained by the audience. A correct answer to a question will score 1 point. Finally, the total number of correct answers will be calculated.

2.5.2. Correlation analysis

This study adopts Pearson correlation coefficient for correlation analysis, that is, -1 indicates negative correlation between two variables, 0 indicates no correlation between two variables, and 1 indicates positive correlation between two variables. The closer the absolute value is to 1, the higher the correlation will be.

Table.2 Correlation analysis

Correlation

		Media attention	Information encounter	Elaboration	Knowledge	Self-efficacy	Behavioral intention
Media attention	Pearson correlation	1	.476**	.462**	-.005	.509**	.459**
	Sig.（双尾）		.000	.000	.923	.000	.000

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	个案数	424	424	424	424	424	424
Information encounter	Pearson correlation	.476**	1	.778**	-.038	.803**	.757**
	Sig. (two-tailed)	.000		.000	.431	.000	.000
	Number of cases	424	424	424	424	424	424
Elaboration	Pearson correlation	.462**	.778**	1	-.017	.822**	.790**
	Sig. (two-tailed)	.000	.000		.730	.000	.000
	Number of cases	424	424	424	424	424	424
Knowledge	Pearson correlation	-.005	-.038	-.017	1	-.043	-.012
	Sig. (two-tailed)	.923	.431	.730		.375	.803
	Number of cases	424	424	424	424	424	424
Self-efficacy	Pearson correlation	.509**	.803**	.822**	-.043	1	.835**
	Sig. (two-tailed)	.000	.000	.000	.375		.000
	Number of cases	424	424	424	424	424	424
Behavioral intention	Pearson correlation	.459**	.757**	.790**	-.012	.835**	1
	Sig. (two-tailed)	.000	.000	.000	.803	.000	
	Number of cases	424	424	424	424	424	424

**. At level 0.01 (two-tailed), the correlation was significant.

The data show that both media attention and information encounter are positively correlated with elaboration, but the positive correlation degree of information encounter is higher. In other words, the information encounter of indoor fitness information can more trigger college students' elaboration.

In terms of knowledge measurement, the correct rate of 5 questions was 26.65%, 36.79%, 72.41%, 37.5%, 76.65%. In terms of relevance measurement, the correlation between elaboration and knowledge acquisition and knowledge acquisition and self-efficacy is not significant. The reason may be that indoor fitness is more inclined to practical rather than theoretical, and it is possible to carry out indoor fitness without mastering too much theoretical knowledge. The correct rate of college students who take media attention as the way to obtain indoor fitness information is 29.23%, 36.92%, 69.23%, 32.31%, 80%. The correct rates of

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college students who use information encounter as the way to obtain indoor fitness information are 26.18%, 36.77%, 72.98%, 38.44% and 76.04%. On the whole, there is little difference in knowledge measurement between the two kinds of information acquisition methods.

There is a significant correlation between self-efficacy and behavioral intention. That is, the higher the self-efficacy of college students, the more willing to do indoor fitness. The average score of college students who take information encounter as the way to obtain indoor fitness information is 3.78 in self-efficacy and 3.77 in behavioral willingness. The average score of college students who paid attention to the way of obtaining indoor fitness information was 2.04 in self-efficacy and 3.04 in behavioral willingness. This indicates that information encounter makes college students have higher self-efficacy than media attention, but there is no big difference between the two ways in the final behavioral willingness.

2.5.3. Intermediate effect test

This study explores the mediating role of self-efficacy in "knowledge, self-efficacy and behavioral intention". If the independent variable (X) has an effect on the dependent variable (Y) through the variable (M), then M is said to be an intermediate variable between X and Y. In the mediation model of this study, knowledge is X, self-efficacy is M, and behavioral intention for indoor fitness is Y.

Table.3 Intermediate effect test(1)

Model summary c

Model	R	R square	Adjusted R squared	Errors in standard estimates	Change statistics				
					Change in R squared	Change in F	Degree of freedom1	Degree of freedom 2	The change in significance F
1	.012a	.000	-.002	.966180927460400	.000	.062	1	422	.803
2	.835b	.698	.696	.531859173054516	.698	971.631	1	421	.000

a. predictor：(constant), knowledge

b. predictor：(constant, knowledge, self-efficacy

c. Dependent variable：behavioral intention

Table.4 Intermediate effect test(2)

Coefficient a

Model		Unnormalized coefficient		Standardization coefficient	t	significance	correlation			Collinearity statistics	
		B	Standard error	Beta			Rank 0	partial	section	allowance	VIF
1	(constant)	3.531	.122		28.884	.000					
	knowledge	-.011	.045	-.012	-.250	.803	-.012	-.012	-.012	1.000	1.000
2	(constant)	.444	.120		3.710	.000					
	knowledge	.022	.025	.024	.892	.373	-.012	.043	.024	.998	1.002
	Self-efficacy	.856	.027	.836	31.171	.000	.835	.835	.835	.998	1.002

a. Dependent variable：behavioral intention

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The data show that the adjusted R square is 0.696, and the change of R square reaches 0.698. When only the independent variable X is included, the coefficient of the independent variable is -0.011; when the intermediary variable M is added, the coefficient of the independent variable is 0.022, and the coefficient of the intermediary variable M is 0.856. When only the independent variable X is included, its significance is 0.803, and when the intermediary variable M is added, the significance of the independent variable X becomes 0.373. The significance of the intermediary variable M on the dependent variable Y is 0, so it has a significant impact. The significance of the independent variable X on the dependent variable Y changes from 0.803 to 0.373 after the addition of the intermediary variable M. Although the independent variable X still has no significant impact on the dependent variable Y, the significance increases significantly (closer to 0.05). Therefore, it is believed that the intermediary variable M plays an intermediary role between the independent variable X and the dependent variable Y.

3. Conclusion

In today's era, most college students acquire indoor fitness information through information encounter, that is, they do not pay more attention to indoor fitness information, but they will pay attention to indoor fitness information that is perceived as useful or interesting.

Both media attention and information encounter have positive effects on college students' access to indoor fitness information, but information encounter is more likely to trigger college students' elaboration and significantly higher in terms of self-efficacy. This also indicates that current college students mainly obtain information by chance encounter when they contact fitness information on social media. Campus media can regularly publish fitness related content, and introduce short videos, interactive games and other ways to enhance the interest and usability of the content, or put indoor fitness related advertisements on apps and websites frequently visited by students to promote college students to carry out indoor fitness.

Self-efficacy plays a positive mediating role between media information exposure and indoor fitness intention, and the effect is significant. Informational encounters were more likely to boost self-efficacy than media attention, making indoor fitness more likely. Schools can inspire college students to get fit by inviting fitness gurus on and off campus to share their stories or experiences.

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