RESEARCH ON THE SUSTAINED USAGE INTENTION OF USERS ON ONLINE FITNESS PLATFORMS: A PERSPECTIVE BASED ON THE HEALTH BELIEF MODEL (HBM)

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This study focuses on the online fitness industry, exploring the motives and sustained usage behavior of users on online fitness platforms within the online network environment. The research background is rooted in the health issues arising from insufficient physical activity in real-world society, especially exacerbated by the COVID-19 pandemic. The study uses ideas from the Flow Theory and the Health Belief Model (HBM) to build a research framework to look into how platform incentives, content quality, subjective norms, perceived usefulness, flow experiences, exercise self-efficacy, health awareness, and other things affect users' plans to keep using the platform. Through the collection of 606 valid questionnaires and employing SPSS and AMOS software for differential analysis, regression analysis, and path analysis, all research hypotheses are successfully validated. Results indicate that content quality, platform incentives, and subjective norms significantly positively influence users' perceived usefulness and flow experiences. Furthermore, perceived usefulness and flow experiences have a significant positive impact on users' sustained usage intentions, playing crucial mediating roles in users' sustained behavior. The study also reveals that exercise self-efficacy positively moderates the relationship between users' perceived usefulness and sustained usage intentions, and health awareness serves as a positive moderator in the relationship between users' flow experiences and sustained usage intentions.

Keywords: online fitness; flow experience; self-efficacy; continuance intention
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Introduction

In the rapidly evolving landscape of fitness and well-being, the advent of online fitness platforms has marked a significant paradigm shift in how individuals engage with physical activities. This study delves into the exploration of users' sustained engagement with online fitness platforms, adopting a theoretical perspective rooted in the Health Belief Model (HBM). The COVID-19 pandemic's restrictions have made sedentary lifestyles and health concerns more prevalent in today's society, which serves as the backdrop for this study. Online fitness platforms emerged as an alternative, quickly gaining traction and reshaping the fitness industry.

Despite the swift development of the online fitness sector, challenges such as low user retention rates and limited user loyalty persist. To address these issues, this study formulates its research objectives and central questions: identifying the internal and external motivational factors influencing users' intentions for continued engagement on online fitness platforms. Additionally, the study seeks to understand how these factors, in conjunction with users' emotional experiences and other mechanisms, impact their willingness to persist in platform usage.

Constructed upon established theoretical frameworks like flow theory and the health belief model, this research introduces a comprehensive framework. It investigates the influences of platform incentives, content quality, subjective norms, perceived usefulness, flow experiences, exercise self-efficacy, and health awareness on users' intentions for sustained platform engagement. Gathering insights from a diverse sample of 606 participants, the study employs statistical analysis tools such as SPSS and AMOS to conduct differential analysis, regression analysis, and path analysis.

The successful validation of all research hypotheses indicates that content quality, platform incentives, and subjective norms significantly and positively influence users' perceived usefulness and flow experiences. Moreover, perceived usefulness and flow experiences significantly influence users' intentions for sustained platform usage, with both factors acting as crucial mediators in user persistence.

Furthermore, the research uncovers the positive moderating effect of exercise self-efficacy on the relationship between users' perceived usefulness and their intentions for sustained platform usage. Additionally, health awareness is identified as having a positive moderating effect on the relationship between users' flow experiences and intentions for sustained usage.

By offering a deep theoretical investigation and empirical analysis, this study enhances our comprehension of user behavior on online fitness platforms, providing practical guidance for platform operators. The results contribute innovative insights to the business models within the online fitness industry and hold practical significance for health promotion and public well-being. This research aims to elevate user engagement and conversion rates, thereby contributing to the sustained and healthy development of online fitness platforms.

Objectives

In order to solve the practical problem of how to better maintain the continued use of original users of online fitness platforms and the gaps and deficiencies in theoretical research, this article combines flow theory and technology acceptance model (TAM) and other related
theories, trying to comprehensively, deeply, and systematically understand the user behavior of online fitness platforms by exploring the impact and mechanism of emotional experience and other factors on users' continued use intentions, thereby providing healthy, sustainable, and effective solutions for online fitness platform companies. Provide a theoretical basis and development and operation suggestions for stable development. The specific research purposes of this article are as follows:

Reveal the intrinsic mechanism of continued use of online fitness platforms and the Technology Acceptance Model (TAM) to construct a model of continued use of online fitness platform users, thereby gaining in-depth insights into users' continued use behavior of online fitness platforms.

**Literature review**

**Technical acceptance model (TAM)**

As the acceptance model of information technology is an important research model for the use and adoption of information systems, it is originally the theory of rational behavior (Theory of Reasoned Action, TRA) based on the field of psychological research by Davis et al. (1989), which is one of the theoretical models widely used in the field of user behavior research on information systems.

The model believes that the adoption and use of the new information system depend on the user's behavioral intention. The user's behavior intention (Behavioral Intention) will be influenced by the user's attitude (Attitude) and perceived usefulness (Perceived Usefulness). In addition, the user attitude in the model is determined by perceived usefulness and perceived ease of use (perceived ease of use). The initial technical acceptance model was constructed (Technology Acceptance Model, TAM), as shown in the initial TAM model. Perceived usefulness and perceived ease of use are key direct factors that directly influence use attitudes and can indirectly influence the user's behavior and intention through the attitude.

External variables, such as system characteristics, task characteristics, and user characteristics (external variables), as precursor variables, have a positive impact on the perceived usefulness and perceived ease of use and indirectly affect the users' attitude towards using the information system through these two variables. The user's final system use behavior is directly determined by the user's use behavior intention and is indirectly affected by the use attitude.

After the initial technical acceptance model was proposed, it was widely used in the acceptance behavior of information system users. With the deepening of relevant research, Davis et al. (1996) continuously improved the initial TAM in order to enhance the explanatory power of the technical acceptance model.

Venkatesh et al. (2003) found that the use attitude variable only reflects the user's emotional preferences and cannot effectively and completely convey the direct influence of perceived usefulness and ease of use on the user's behavior, thus deleting the use attitude variable in the initial TAM, modifying the initial TAM, and proposing the revised TAM model.

This study takes one of the improved TAM theories as the basic model to build the model of continuous willingness to use users, which can help us better understand user behavior.
**Health Belief Model (HBM)**

In the early 1850s, the Public Health Service of the United States focused on epidemic prevention, and preventive measures were usually provided to the public for free or at a very low cost.

However, preventive measures and asymptomatic disease screening tests (such as cervical cancer, testing and prevention of dental diseases, rheumatic fever, myelopoliomyelitis, and influenza tests) are generally not accepted by the public. In this context, it is important to understand why the public does not adopt preventive health behaviors, so social psychologists Hochbaum, Rosenstock, and Kegels in the US Department of Public Health developed the HBM to explain the processes by which individuals perceive, assess, respond, and change behavior to health threats (Janz & Becker, 1984).

In 1974, Health Education Monographs published a full-issue series of papers that introduced HBM. These papers summed up the results of studies that used HBM to explain why people do or don't do different health-related behaviors. They also showed that HBM was valid. Over time, HBM has become the most prominent model of social behavior, and the theory is able to effectively explain and predict health behaviors, thus avoiding a range of health risks.

Early HBM models suggested that health behavior decisions were generated by the combination of two cognitive concepts: risk perception and behavioral evaluation (Janz & Becker, 1984; Rosenstock et al., 1988).

Among them, risk perception includes two subsets: perceived severity and perceived susceptibility; behavioral evaluation consists of two subsets: perceived disorder and perceived benefit. Later, based on this model, scholars introduced self-efficacy to further improve the interpretation strength of the model (Rosenstock et al., 1988).

Perceptual susceptibility refers to the subjective perception of the probability of a disease; perceived severity is the judgment of the severity of the adverse consequences; perceived benefits emphasize the positive results of successful health behaviors; and perceived barriers emphasize the possible negative effects of specific health behaviors (Janz & Becker, 1984).

Moreover, self-efficacy is the difficulty an individual needs to perform a behavior, while health awareness focuses on the individual's concerns about health issues (Becker et al., 1977).

These concepts are widely used in the field of health behavior to help practitioners understand and predict people's willingness to change their health behavior.

The health belief model states that if individuals believe that negative health outcomes are serious (perceived severity), consider themselves vulnerable (perceived susceptibility), consider the benefits of reducing such outcomes high (perceived benefit), and consider that barriers to taking these behaviors are low (perceived impairment), these individual behaviors are likely to occur (health behavior).

**Flow theory (Flow Theory)**

The heart flow theory (Flow Theory) was first proposed by psychologist Mihaly Csikszentmihalyi (1975), who defines heart flow (Flow) as a feeling that puts individual spirit on a certain activity with a high degree of positive emotions such as excitement and fulfillment, also known as "optimal experience" (Optimal Experience).
Flow theory includes nine characteristics: clear goals (Clear Goalson Task, CGT), instant feedback (Immediate Feedback on Tasks, IFT), individual skills matching to the task challenge (Balance between Challenges and Skills of the Task, BCST), the fusion of action and perception (Merging of Action and Awareness, MAA), focus on what you do (Concentration on the Task at Hand, CTH), a potential sense of control (Sense of Control, SOC), loss of self-awareness (Loss of Self-Consciousness, LSC), time experience distortion (Time Distortion, TD), and a purposeful experience (An Experience that Becomes Autotelic, A EBA) (Csikszentmihalyi, 1997; Chen et al., 2009).

The heart circulation model (the Model of the Flow State) is closely related to flow theory. The model believes that the balance between skills and challenges is at the core of the flow state. Csikszentmihalyi Initially, skills and challenges are taken as horizontal and vertical coordinates. According to the different matching degrees of the two, three areas are divided on the coordinate map. When the challenges and skills reach balance, they can enter the flow state. These areas are called channels.

However, the follow-up study found that when skills and challenges are at a low level, even if the two are in balance, it is difficult to stimulate flow state, so the follow-up research further proposed the eight-channel model, where the horizontal axis represents personal skill level and the vertical axis represents task challenge difficulty. Personal skill level and task challenge difficulty are two important factors affecting flow. According to the combination of "skill" and "challenge," you can get awakening, heart flow, mastery, relaxation, boredom, indifference, worry, and anxiety.

The heart flow state is only generated when the individual skill level matches the challenge and difficulty of the task. The heart channel model has been used to determine flow in a large number of empirical studies, and several researchers have developed scales to measure flow (Karelina, 2015).

**Health and behavior change study**

Kasl & Cobb (1966) first proposed the concept of health behavior. They believed that health behavior is the behavior taken by individuals to prevent disease or detect it early in the disease, and that these individuals considered their bodies healthy.

Early studies on health behaviors mainly focused on status quo investigation and practical application and lacked theoretical guidance. Since the theory of health faith (health belief theory) was proposed in the 1950s, the relevant theoretical models of health behavior have been continuously improved and developed, providing theoretical support and a framework for the study of health behavior change.

Currently, the research on health behavior change mainly focuses on the theoretical research of health behavior change and the predependent variables.

In the study of health behavior change, it was found that the intervention of health behavior has a better theoretical model of health behavior change from a psychological perspective (Kaljee et al., 2004).

Since the introduction of the health belief model (Health Belief Model, HBM), several representative theoretical models in the field of health behavior change have been used by many scholars, including planning behavior theory, health belief theory, protective motivation theory, and the cross-theoretical model (Lin et al., 2005).
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Conceptual framework

Based on the S-O-R (stimulus-body-reflection) model analysis framework, the continuous use of willingness as the research variable, external motivation (platform incentive, content quality, subjective specification) as independent variables, internal motivation (flow experience, perceived usefulness) as intermediary variables, and individual traits (exercise self-efficacy, health awareness) as regulatory variables.

This paper draws on the research results of predecessors while at the same time combining online fitness research situations to build the platform incentive, content quality, subjective norms, perceived usefulness, flow experience, exercise self-efficacy, health consciousness, and continuous use. It contains eight core variables of the online fitness platform continuous use model.

Methodology

The structural equation model method (Structural Equation Modeling, SEM) is a statistical method to analyze the relationship between variables based on the covariance matrix of variables. It is an important tool for multivariate data analysis. In many concepts involving psychology, pedagogy, sociology, management, and so on, it is difficult to measure directly and accurately. This variable is called a latent variable, such as intelligence, learning motivation, family social and economic status, etc.

Therefore, only some explicit indicators (observable indicators) can be used to indirectly measure these latent variables. Traditional statistical methods cannot deal with these latent variables effectively, while structural equation models can deal with the latent variables and their indicators simultaneously.

The structural equation model is essentially based on the causal relationship between a set of potential variables that can be measured directly. Therefore, in the practical application process, researchers need to construct the potential variables in the research situation according to the theoretical basis or previous research results and design the measurable explicit indicators of each potential variable to obtain sample data that can reflect the potential variables.

Later, it is necessary to combine relevant theories and previous studies to assume the causal relationship between the potential variables and draw the path structure model diagram (Path Diagram) of the theoretical model to intuitively describe the proposed theoretical model. Subsequently, the questionnaire design is based on the measurement model, the study sample data obtained through the questionnaire survey, and the reliability and validity of the measurement model.

Finally, using structural equation model analysis tools (such as LISREL, AMOS, and EQS) to test model adaptation and structural model path analysis based on the model parameters to determine whether the actual data and the theoretical path relationship hypothesis represent significant discrimination, to test the theoretical hypothesis is established, explain and discuss the empirical results.
Table 1 – Research hypotheses
(made by co-authors)

<table>
<thead>
<tr>
<th>dimension</th>
<th>number</th>
<th>Suppose the relationship</th>
<th>Suppose the direction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Content quality of online fitness platforms positively affects users' perceived usefulness</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>H 1a</td>
<td>The platform incentive of the online fitness platform positively affects the users' perceived usefulness</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>H 1b</td>
<td>Subjective norms positively affect the perceived usefulness of online fitness platform users</td>
<td>+</td>
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<tr>
<td></td>
<td>H 1c</td>
<td>The content quality of the online fitness platform positively affects users' heart flow experience</td>
<td>+</td>
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<tr>
<td></td>
<td>H 2a</td>
<td>The platform incentive of the online fitness platform positively affects the users' heart flow experience</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>H 2b</td>
<td>Subjective norms positively affect the heart flow experience of online fitness platform users</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>H 2c</td>
<td>The content quality of online fitness platform positively affects users' willingness to use it</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>H 3a</td>
<td>The platform incentive of online fitness platform positively affects users' willingness to use it</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>H 3b</td>
<td>Subjective norms positively affect the continuous use willingness of users of online fitness platforms</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>H 3c</td>
<td>The perceived usefulness of online fitness platform positively affects users' willingness to use it</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>H 4a</td>
<td>The perceived usefulness of online fitness platform positively affects users' willingness to use it</td>
<td>intermediary</td>
</tr>
<tr>
<td></td>
<td>H 4b</td>
<td>The perceived usefulness of the online fitness platform users plays a mediating role between the platform incentive and the users' willingness to use it continuously</td>
<td>intermediary</td>
</tr>
<tr>
<td></td>
<td>H 4c</td>
<td>The perceived usefulness of online fitness platform users plays a mediating role between subjective norms and users' willingness to use it continuously</td>
<td>intermediary</td>
</tr>
<tr>
<td></td>
<td>H 4d</td>
<td>The heart flow experience of online fitness platform users positively affects users' willingness to continuously use it</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>H 5a</td>
<td>User flow experience of online fitness platforms plays an intermediary role between content quality and users' willingness to continuously use it</td>
<td>intermediary</td>
</tr>
<tr>
<td></td>
<td>H 5b</td>
<td>User flow experience of online fitness platform plays an intermediary role between platform incentive and users' willingness to continuously use it</td>
<td>intermediary</td>
</tr>
<tr>
<td></td>
<td>H 5c</td>
<td>User flow experience of online fitness platform plays an intermediary role between subjective norms and users' willingness to use it continuously</td>
<td>intermediary</td>
</tr>
<tr>
<td></td>
<td>H 6</td>
<td>The exercise self-efficacy of users on online fitness platform positively regulates the relationship between users 'perceived usefulness and users' willingness to continuous use</td>
<td>+ regulate</td>
</tr>
<tr>
<td></td>
<td>H 7</td>
<td>The health awareness of online fitness platform users positively regulates the relationship between users' heart flow experience and continuous willingness to use it</td>
<td>+ regulate</td>
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</tbody>
</table>
There are 19 hypotheses in the assumption model of people who use online fitness platforms. Nine of them are about external incentives (H 1a, H 1b, H 1c, H 1d, H 2a, H 2b, H 2c, H 3a, H 3b, H 3c), eight are about intrinsic motivation (H 4a, H 4b, H4c, H4d, H 5a, H5b, H5c, H5d), and two are about personal traits (H 6 and H7). The hypotheses are summarized in the Tab.1.

Results

In the study, after referring to the previous studies and combining them with the actual research situation, the measurement scale and questionnaire were designed, and then extensive research was conducted to obtain the effective sample data. A total of 606 valid sample data points were obtained with the support of the investigation team.

Finally, through the empirical testing of the reliability and validity of the sample data, the results show that the sample data has good reliability and validity, which is suitable for further validation of the structural model. In this study, SPSS 25.0 and AMOS 25.0 were used to test the constructed models with hypothesis testing. The results show that all 19 hypotheses proposed in this study passed the test.

Based on the final model analysis, the following results are obtained: Content quality, platform motivation, and subjective norms have significant positive effects on users' perceived usefulness, heart flow experience, and continuous use intention, respectively. Perceived usefulness and flow experience had positive effects on willingness to continue use. Perceived usefulness partially mediates between content quality, platform incentives, and subjective norms and users' willingness to use them continuously.

Flow experience plays a partial intermediary role between content quality, platform motivation, subjective norms, and users' willingness to use it continuously. Exercise self-efficacy has a positive modulation on the relationship between users' perceived usefulness and willingness to continue use, and health awareness also has a positive modulation on the relationship between users' flow experience and willingness to continue use.

Based on the above analysis results, this study believes that the online fitness platform can improve the quality of content, improve the platform incentive measures, and create a subjective standard environment so as to achieve the continuous use willingness of users.

At the same time, the platform should pay attention to the improvement of users' heart flow experiences by creating a positive user environment and experience. In addition, platforms should focus on the cultivation of self-efficacy and health awareness to regulate the relationship between users' perceived usefulness and flow experience and their willingness to continuously use them.

These results provide a useful reference for online fitness platforms, help them improve user experience, increase user engagement, and promote continuous user willingness and engagement.

Further analyze the research results and put forward the management enlightenment of improving platform management and service quality, shaping the distinct coach brand effect, building diversified and flexible marketing strategies, and promoting technology guidance and innovative application.
Discussion

This study deepens the understanding of user acceptance and continuous use of new technology application systems by deeply analyzing the continuous use and willingness of users of online fitness platforms. The research combines the technical acceptance model (TAM), the health belief model (HBM), and the heart flow theory to form a comprehensive research framework. The framework covers platform incentives, content quality, subjective norms (independent variables), perceived usefulness, flow experience (mediation variables), exercise self-efficacy, health awareness (regulatory variables), and users' willingness to continuously use it (dependent variables). The results show that platform motivation, content quality, and subjective norms have a significant positive impact on perceived usefulness, flow experience, and willingness to use continuously, and perceived usefulness and flow experience play a mediating role between external incentive-related variables and willingness to use continuously.

Moreover, exercise self-efficacy and health awareness had a positive modulation of the relationship between users' perceived usefulness and flow experience on willingness to continue use, respectively, further improving willingness to continue use. The following analysis of each pathway is followed:

Content quality, platform motivation, and subjective norms have significant positive effects on users' perceived usefulness, flow experience, and willingness to continue continuously, and these variables play important roles in the process of user acceptance and use of an online fitness platform. These factors may improve their perceived experience and influence their willingness to continue it by improving their cognitive evaluation of the platform. This provides a strategic basis for the platform to improve users' willingness to use it; that is, by improving the quality of content, improving the incentive mechanism, and creating a subjective normative atmosphere, the perceived usefulness and continuous use willingness of online fitness platform users can be effectively improved.

Perceived usefulness and flow experience have an important impact on users' willingness to continue to use, while perceived usefulness and flow experience play a partial mediating role between external incentive factors (content quality, platform incentives, and subjective norms) and the willingness to use continuously, respectively.

According to Davis's (TAM's) technology acceptance model (1989), users are more likely to accept and continue using a new technology if they feel useful to them, while perceived usefulness partially mediates external incentives (content quality, platform incentives, and subjective norms), which are supported by the results of this study. Flow experience also plays a partial mediating role between external incentive factors (content quality, platform incentives, and subjective norms) and users' willingness to continuously use them.

Exercise self-efficacy has a positive regulatory effect on the relationship between users' perceived usefulness and willingness to continue using, and health awareness also has a positive regulatory effect on the relationship between users' heart flow experience and willingness to continue using. In this study, the connotation of exercise self-efficacy was consistent with the self-efficacy in the Health Belief Model (HBM), which refers to the confidence that users should be able to exercise effectively and achieve their expected fitness effects through an online fitness platform.
Conclusion

In today's digital age, the rapid development of health technology is constantly changing people's lifestyles and health management habits. Online fitness platforms are widely used as an important tool to promote healthy lifestyles, and to realize their full potential, it is essential to understand the motivation and behavior of users' continuous use of these platforms. Based on the technology acceptance model (TAM) and the health belief model (HBM), this study explores the key factors that affect the continuous willingness of users of online fitness platforms. Through the analysis of 606 validated questionnaires, this study not only verified a series of hypotheses but also made important theoretical contributions in the following three aspects.

(1) It responds to the impact of external influences such as the platform and society on users' perceptions and continuous use intentions. This study expands the application scope of the technical acceptance model (TAM) and the health belief model (HBM) through an in-depth analysis of the continuous use willingness of the online fitness platform users. In traditional TAM models, where user technology acceptance is mainly influenced by perceived usefulness and perceived ease of use, this study introduced platform incentives, content quality, and subjective norms as leading variables, which are particularly important in the specific context of health-like technology platforms. By validating the significant impact of these external incentives on users' perceived usefulness, this study not only enriches the theoretical connotation of the TAM model but also provides a new perspective for understanding and predicting users' acceptance of online health-related technologies. Furthermore, this study highlights the important role of social influences (e.g., subjective norms) in the technology acceptance process of online fitness platforms. In the health belief model, an individual's health behaviors are influenced by their health beliefs, and this study revealed the influence of the social environment and others' attitudes on individual health behavior decisions by incorporating subjective norms into the analytical framework. This finding not only responds to the research needs of user behavior from the perspective of management psychology but also provides important practical guidance for the design and promotion of online health promotion platforms.

(2) Explore the path model of irrational instinctive motivation of online fitness platform users, such as heart flow experience. By integrating heart flow experience into the research framework of user behavior on an online fitness platform, this study provides a new perspective for understanding the psychological experience of users during the use of online fitness platform technology. Flow experience, as a deep, immersive mental state, is often associated with a high degree of concentration and enjoyment. In this study, flow experience was not only confirmed to directly affect users' willingness to continue it but also acted as a mediator between content quality, platform incentives, and subjective norms and the willingness to continuously use it. This finding shows that the user experience design of an online fitness platform should not only focus on the transmission of information and the realization of functions but also pay more attention to the psychological feelings and emotional experiences of users.

Moreover, this study systematically explored and verified the role of flow experience in user behavior models, providing empirical support for the application of flow theory in such technical fields. This theoretical contribution not only enriches relevant research on the
development of flow experience but also provides a rationale for the design of more attractive and effective health promotion interventions.

(3) It reveals the boundary role of individual factors such as exercise self-efficacy and health awareness in online fitness behavior research. In this study, the introduction of exercise self-efficacy and health awareness as regulatory variables provides new perspectives into understanding how individual trait differences influence health technology acceptance and use. The high and low levels of exercise self-efficacy were shown to modulate the relationship between perceived usefulness and willingness to continue to use, suggesting that the level of confidence in their abilities is an important factor affecting the sustainability of their health behaviors.

This finding not only provides new empirical evidence for the application of self-efficacy theory in the field of health behavior but also suggests the need to focus on improving individual self-efficacy in health promotion practice.

As another regulatory variable, health awareness’s regulatory effect on the relationship between flow experience and willingness to continue to use reveals the importance of individual health concerns in the acceptance and use of health technology. This finding not only enriches the application scope of related theories but also provides a theoretical basis for designing personalized health promotion strategies for users with different levels of health awareness.

**Recommendations**

*Optimize the interactive experience to improve user perception and usefulness*

According to the results, if users feel that their exercise ability is strong (i.e., high exercise self-efficacy), this will enhance the relationship between perceived usefulness and willingness to continue to use. On the contrary, if their exercise self-efficacy is low, their perceived usefulness of a technology or product affects their willingness to continue, which affects their willingness to use it. This may be because users with high self-efficacy will have higher confidence and motivation to challenge and solve the problems caused by the use of new technologies or products, and they will also have a stronger perception. They are more likely to see the advantages and usefulness of these technologies or products, which will also affect their continued willingness to use them.

Users with low exercise self-efficacy may feel the difficulty and frustration of using new technologies or products because of their lack of confidence and motivation, which will affect their objective perception of the use of these technologies or products, which will greatly reduce the relationship between their perceived usefulness and their willingness to continue to use them. Therefore, for technology or product designers and providers, they can improve the user's exercise self-efficacy, such as according to different users, provide an easy-to-understand and operate interface, increase intelligent interaction and auxiliary systems, or provide perfect tutorials and services to improve the user's perception of its product usefulness and the user's continuous use intention.

In order to improve the user perception of a useful platform, the platform needs to constantly optimize the user experience, which can include, respectively, interface design, operation process, content, accessibility, etc., specific measures such as: interface design optimization: design an intuitive, easy-to-operate user interface, reduce the user's learning...
cost, and use difficulty. The design elements and layout should be concise and easy to understand and use.

Operation process simplification: simplify the steps to complete fitness activities and access related information, allowing users to obtain the required services or information in the shortest time; content accessibility optimization: whether users can easily find and obtain the content they are interested in, which directly affects their experience.

Therefore, optimizing the search system, providing personalized recommendations, and establishing an effective classification and labeling system are all important means to improve the accessibility of content.

**Community value co-creation to create a subjective and standardized atmosphere**

The role of subjective norms in the formation of users' continuous willingness to use them cannot be ignored. Therefore, the platform should strengthen community construction in various ways, attract specific groups, and actively lead the subjective regulation of the social environment. In this study, it was found that health awareness significantly positively regulated the relationship between flow experience and users 'willingness to continue it, thus improving users' willingness to continue it by improving their health awareness.

In the current market environment, online fitness platform enterprises can carry out fitness (health) community construction through a variety of channels, focusing on promoting user interaction. In addition, the platform can also provide various communication tools, such as forums, chat rooms, comment areas, etc., to encourage users to share their fitness experiences, ask questions, and seek answers, so as to promote interaction and communication between users.

At the same time, by planning attractive community activities, such as an online fitness challenge, an interactive quiz, and sharing, we can build a knowledge-based fitness (health) community.

This can not only realize knowledge precipitation but also realize the purpose of user education: to enhance the health awareness of users, which will affect the users' willingness to continue using different channels. It can also enhance users' engagement in the process and further enhance their sense of belonging to the platform.

**Innovate activity planning to improve the platform incentive effect**

In order to improve the incentive effect of the platform, we will combine personalized service with recommendations and offline service. For example, develop a personalized fitness plan that combines big data and artificial intelligence technology and provides a personalized fitness and incentive plan according to each user's health status, fitness goals, preferences, and other factors.

Provide personalized health advice: using big data and artificial intelligence technology, the platform can provide personalized health advice for each user, such as diet advice, exercise advice, etc. In addition, through the online electricity, fitness platform, and offline other sports brand stores, gyms, and health food, the combination of providing members with integral gift exchange, equipment purchase, and training camp services in the above way makes users easier to access products and services in accordance with their actual situation, improves the incentive and training effect, and makes users more likely to achieve fitness goals.
References:


