

Application of Communication Effectiveness Theory to Fitness Bloggers' Social Media Communication - A Study of Audience Changes in Health Perceptions and Behaviour

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Abstract. *With the popularity of social media, fitness bloggers have become important figures in the dissemination of health information. Based on communication effect theory, this paper investigates the influence of fitness bloggers on audience health perception and behaviour on social media. By analyzing the origin and development of communication effects theory, its main schools and key concepts, and its evolution in the new media environment, the study explores the interactivity and fragmentation of social media communication, the role and influence of fitness bloggers, and the match between platforms and fitness content. It is found that fitness bloggers effectively enhance their audience's health perceptions, stimulate positive health attitudes, and motivate changes in health behaviours through personalized and interactive content design. In particular, the bloggers' long-term interactions and incentives had a significant impact on the sustained change of audience behaviour. In addition, the interactive model of communication effects and audience behaviour change reveals the dynamic relationship among perception, attitude and behaviour. Although this study provides valuable insights into the communication effects of fitness bloggers, it still suffers from a limited sample scope and insufficient data support. Future research should expand the sample scope and incorporate more interdisciplinary theories to further validate and optimize fitness bloggers' information dissemination strategies.*

Keywords: *communication effectiveness theory, fitness bloggers, social media, audience behaviour.*

1. Introduction

In the digital era, social media platforms have become a major channel for information dissemination, especially in the health and fitness field, where fitness bloggers use their influence to deliver health information and fitness advice to their audiences. Communication Effectiveness Theory, as an important tool for analyzing information delivery and audience response, provides a theoretical basis for understanding the effectiveness of health information in social media communication. However, how to effectively use communication effects theory to enhance audience's health perception and behavioral change in fitness bloggers' communication practices is still an urgent issue to be explored. The purpose of this paper is to analyse and explore the ways in which fitness bloggers disseminate health information on social media and their impact on audience health cognition and behavioral change through communication effects theory. By exploring the communication characteristics of fitness bloggers and their actual impact on audiences, this paper hopes to provide valuable insights into future health communication strategies and provide theoretical support for related research.

2. Overview of the theory of communication effectiveness

2.1. Origins and Development of Communication Effectiveness Theory

The origins of communication effects theory can be traced back to communication research in the early 20th century. The earliest studies of communication effects focused on the impact of mass media such as radio and television on audiences, and in the 1920s, scholars such as Herman Hopkins and Lasswell in the United States began to systematically explore the social functions and effects of communication. Hopkins' research emphasized the role of mass communication in social change,

while Lasswell put forward the famous model of communication, i.e. "who says what, through what channel, to whom, and with what effect". In the following decades, communication effectiveness theory has gone through several stages of evolution and development. In the 1950s, Lasswell's "effect theory" was criticized for being too simplistic, followed by the "limited effect theory", which argues that the impact of communication is constrained by the psychological and social contexts of the audience. In the 1950s, Lasswell's "effect theory" was criticized as being too simple. In the 1970s and 1980s, researchers proposed the Use and Satisfaction Theory and the Agenda Setting Theory, which focused more on audience initiative and the influence of media on public issues. In recent years, with the rise of social media, communication effect theories have also been developing, and researchers have begun to pay attention to the complexity and diversity of information dissemination in the new media environment, and to explore the dynamic changes in communication effects and their far-reaching impact on audiences.

2.2. Main Theoretical Schools and Key Concepts

Communication effects theory encompasses a number of major theoretical schools of thought, each of which focuses on the different ways in which the dissemination of information affects the audience. The classic "effects theory" assumes that mass media communication has a direct and powerful effect on the audience, such as Lasswell's "who says what, through what channel, to whom, and with what effect" model. In "limited effects theory", researchers such as Kurt Lewin suggest that the effects of communication are not direct and simple, but are influenced by the audience's psychological state, social context and their interpretation of the message. Usage and Satisfaction Theory, on the other hand, emphasizes the audience's initiative in consuming information and suggests that audiences satisfy their personal needs through selective exposure. Agenda-setting theory, on the other hand, states that the media, while not directly determining public perceptions, are able to influence the priority of issues and problems that the public pays attention to. In recent years, Framing Theory has expanded on these ideas, emphasizing how the media can shape audiences' understanding of events through different frames. In addition, Contextual Theory focuses on the complex interactions in new media environments, examining how audiences interpret and respond to information in different contexts [1]. These schools of thought provide a multidimensional perspective for understanding the process of information dissemination and its effects.

2.3. Evolution of Communication Effectiveness Theory in the New Media Environment

With the rapid development of new media, communication effect theories have undergone remarkable evolution. In the era of traditional mass media, communication effect theory mainly focused on the direct impact on the audience. However, in the context of social media and digital platforms, the ways and effects of information dissemination have become more complex and diverse. The new media environment has introduced the concepts of interactivity and user-generated content, all of which have had a profound impact on communication effectiveness theory. For one thing, the interactivity of social media breaks the traditional one-way communication mode, and the audience is not only the receiver of information, but also participates in the generation and dissemination of information. This two-way interaction makes the communication effect no longer linear, but more dynamic and personalized. Secondly, the data-driven nature of new media platforms allows for a more refined analysis of audience behaviour, making the measurement of communication effects more precise and real-time. For example, by analysing users' click-through rates, shares and comments, it is possible to gain insights into the effectiveness of information dissemination. In addition, "algorithmic recommendation" in the new media environment has also affected the path and effect of information dissemination, and algorithms have changed the traditional mode of information dissemination by pushing relevant content according to users' interests and behaviours [2]. These changes have prompted communication effect theories to adapt to the challenges of the new media environment and explore new theoretical frameworks and research methods to better understand the complexity of information dissemination.

3. Communication characteristics of social media and fitness bloggers

3.1. Interactivity and fragmentation of social media communication

The interactivity and fragmentation of social media communication are its distinctive features, which have profoundly affected the way information is disseminated and received by the audience. First, the interactivity of social media makes the dissemination of information no longer a one-way process, but a two-way or multi-way interactive process. Users can not only receive information, but also participate in discussions and feedback by commenting, liking and sharing, etc. This interactivity enhances the effect of information dissemination and the user's sense of participation. In addition, interactivity also makes information dissemination more personalized and customized, and the platform algorithm pushes relevant content according to users' interests and behaviours, thus increasing the relevance and acceptance of information [3]. Secondly, the fragmentation feature of social media is manifested in the diverse and rapid forms of information presentation, and the information that users come into contact with on the platform is often short, fragmented pieces. This fragmented communication makes the reception of information more instantaneous, but it may also lead to the depth and coherence of information being affected. Users may have difficulty in obtaining comprehensive contextual information in a fragmented information stream, leading to a shallow understanding of the content. This combination of interactivity and fragmentation makes social media a highly dynamic information environment, challenging traditional theories of information dissemination and prompting researchers to continually explore models of communication effectiveness adapted to the characteristics of new media.

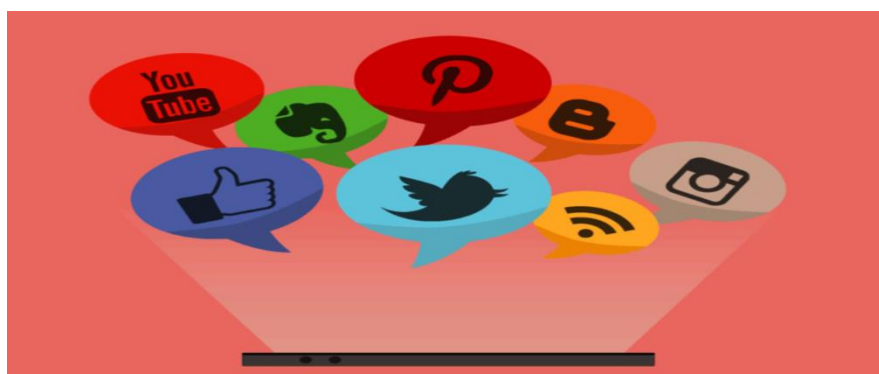


Figure 1. Information flow mode

3.2. The Role and Influence of Fitness Bloggers

The role position and influence of fitness bloggers on social media platforms have a critical impact on their communication effectiveness. As professional content creators, fitness bloggers not only share their personal fitness experience and knowledge, but also take on the responsibility of motivating and educating their audiences. They build a trusting relationship with their audience by posting training videos, dietary advice, and healthy lifestyle content. This trusting relationship is usually based on the blogger's expertise, personal charisma and real-life experiences. The influence of fitness bloggers stems from their extensive social media following and fan base, and they continue to engage their audience and guide them to maintain healthy behaviours through high-frequency content updates and interactions. The blogger's role profile also includes that of a community leader, who further enhances their influence by building and maintaining a community of followers, providing emotional support and social interaction. Fitness bloggers often utilize brand partnerships and advertising promotions to increase their commercial value and communication impact. Through these multi-dimensional roles, fitness bloggers not only enhance their own influence, but also shape their audience's health perceptions and behavioral patterns to a large extent. This comprehensive role makes fitness bloggers play an increasingly important role in health communication [4].

3.3. Match between social media platforms and fitness content

The match between social media platforms and fitness content is an important factor affecting the effectiveness of fitness information dissemination. Different social media platforms have their own characteristics and user groups, and these characteristics directly affect the way fitness content is presented and received. For example, Instagram and TikTok, with their predominantly visual and short-video formats, are suitable for posting high-quality photos or videos of training demonstrations, dietary combinations, and fitness results, a format that can quickly attract users' attention and stimulate their interest in participation. In contrast, YouTube offers a long video format, which is suitable for in-depth explanations of fitness techniques, complete training programmes and detailed nutritional advice, enabling users to access systematic and in-depth information. The interactive features of the platforms also have a profound impact on content fitness; Twitter's immediacy and brevity make it suitable for quick updates and real-time interaction, while Facebook supports long-form posts and community discussions, which are suitable for building long-term user relationships and in-depth communication. These platform characteristics determine how fitness content is presented and disseminated, affecting the reach of the message and user engagement. Therefore, fitness bloggers need to adjust their content strategies according to the characteristics and audience needs of each platform to maximise the advantages of social media platforms and enhance the dissemination of fitness information.

4. Audience health perceptions in fitness bloggers' social media communications

4.1. Definition and dimensions of audience health perception

Audience health perception refers to an individual's understanding and perception of health concepts, health information and health behaviours. This concept involves multiple dimensions, including health knowledge, health attitudes and health behaviours. Health knowledge covers the extent to which individuals are aware of health-related information, such as knowledge of diet and nutrition, benefits of exercise, and disease prevention. Health knowledge not only influences individuals' health decisions, but also determines how they access and evaluate health information. Health attitudes relate to individuals' values and beliefs about health, including the degree of importance attached to health behaviours and perceived health risks, and determine how receptive individuals are to health advice and how willing they are to practice it [5]. Health behaviours, on the other hand, refer to the health-related actions taken by individuals, such as regular exercise, balanced diet and regular medical check-ups. These dimensions of health perception interact with each other and together influence the audience's health decisions and lifestyles. Therefore, these dimensions need to be considered comprehensively when analysing the impact of fitness content on social media on audience health perceptions, to fully understand the potential impact of information dissemination on audience health attitudes and behaviours.

4.2. Mechanisms of influence of fitness bloggers' communication content on audience health perceptions

The communication content of fitness bloggers influences the audience's perception of health through several mechanisms. The content of fitness bloggers is often presented in a visual and concrete way, such as training videos, dietary demonstrations and healthy lifestyle displays. This intuitive form of presentation enhances the comprehensibility and attractiveness of the information, and helps audiences learn about health more intuitively. Fitness bloggers usually combine professional fitness theories with personal experiences, and through personal stories and actual results demonstrations, they bring the distance between them and the audience closer, thus enhancing the authenticity and persuasiveness of the content. As a result, audiences are more likely to trust this source of information from "peers" or "role models", which in turn influences their health attitudes

and behaviours. Bloggers also use interactive and feedback mechanisms, such as comments, questions and answers, and live broadcasts, to further enhance the audience's understanding of an agreement with the health message. This two-way interaction not only increases audience engagement, but also allows them to access fitness advice on a more personalized basis, thus reinforcing health perceptions. The reach of fitness bloggers' content is further expanded through social media platforms through push and recommendation mechanisms, allowing fitness content to continue to influence audience health perceptions and behaviours. Together, these mechanisms drive the profound impact of fitness bloggers on audience health perceptions.

4.3. Credibility and authority in health communication for fitness bloggers

The credibility and authority of fitness bloggers in health communication is an important factor affecting their communication effectiveness. The credibility of fitness bloggers usually stems from their professional backgrounds, personal experiences and interactions with their audiences. Most bloggers have professional qualifications such as fitness instructors and dietitians, which lends authority to their communication content. Those bloggers who attract followers through their own fitness transformation or success stories enhance the credibility of their content by sharing real and close-to-life stories. The authority of bloggers is also influenced by their influence and fan base on social media platforms; bloggers with many followers and high interaction rates are more likely to be perceived as authoritative by their audiences because their content is widely recognized and supported. In addition, the credibility of fitness bloggers is also reflected in their long-term relationships with their audiences; by consistently posting high-quality content and positive interactions, bloggers can build a sense of trust with their audiences. However, a blogger's authority may also be questioned, especially when it comes to business partnerships and advertising promotions, and audiences may doubt the impartiality and scientific validity of the content they disseminate. Therefore, bloggers need to find a balance between maintaining the authenticity of their content and commercialization to maintain their credibility and authority in health communication.

5. Impact of fitness bloggers' social media communications on changes in audience behaviour

5.1. Influence of fitness bloggers on their audience's exercise habits

Fitness bloggers have had a significant impact on their audience's exercise habits through social media. By sharing their fitness routines and exercise videos, bloggers directly provide their audience with specific exercise guidance, helping them overcome initial confusion and barriers to fitness and develop regular exercise habits. Many bloggers translate complex fitness theories into easy-to-understand movement demonstrations and training programmes, making it easy for beginners to follow and lowering the barriers to exercise. The ongoing motivational role of bloggers is also an important factor in influencing their audience to stick with exercise. By posting personal fitness progress and success stories, bloggers not only demonstrate the effectiveness of exercise, but also stimulate the audience's motivation and interest in fitness, encouraging them to adhere to long-term exercise. The interaction between bloggers and their audience enhances the audience's sense of participation and responsibility. Through the comment section, Q&A, or live broadcast, the audience can exchange training experience and feedback on exercise results with the blogger, and this interactivity helps to maintain the audience's motivation and enthusiasm for exercise. Through frequent content updates and emotional support, fitness bloggers gradually influence and shape their audience's exercise habits, helping them integrate exercise into their daily lives and maintain a healthy lifestyle.

5.2. Cognitive Behavioural Transformation Pathways for Audience Health Behaviour

The cognitive-behavioral transformation pathway of audience's health behaviours refers to the process from receiving health information to putting it into action, which is influenced by several factors. Audiences acquire health knowledge through the content of fitness bloggers and develop an initial understanding of health behaviours at the cognitive level. Fitness bloggers simplify complex fitness theories through intuitive videos, graphics, and other forms, and enhance the audience's cognitive level of healthy lifestyles. At this stage, audiences are often in a wait-and-see state, beginning to realise the importance of fitness but not yet putting it into practical action. However, as the bloggers continued to share their personal fitness results and audience success stories, the audience's attitude towards health gradually changed, and they began to believe that positive health outcomes could be brought about through sensible exercise and diet. This change in attitude prompted the audience to shift from wait-and-see to behaviour, and they were willing to try the training plans and lifestyle adjustments recommended by the bloggers. Eventually, in the behavioral transformation stage, audiences gradually establish their own fitness behaviours by imitating bloggers' fitness habits, and form long-term habits through repeated practice. The blogger's continuous motivation and community interaction play a reinforcing role in this process, helping the audience to overcome their inertia, and ultimately transform their health perceptions into actual behavioral changes to achieve their health goals.

5.3. Persistent impact of fitness bloggers on long-term behavioural change of their audience

The ongoing impact of fitness bloggers on long-term behavioural change of their audience is mainly reflected in the long-term interactions, incentives and role model effects that bloggers build. By consistently sharing their personal fitness journeys and regularly updating their training plans and dietary advice, bloggers keep their audiences engaged and motivated, helping them stay motivated in their fitness journeys. Not only do audiences receive continuous fitness guidance from bloggers, they also feel a sense of responsibility and companionship, an emotional bond that motivates them to be more willing to stick with long-term exercise. In particular, the success stories and real-life transformations of the bloggers have a demonstrative effect on the audience, making them believe that they can achieve similar results through perseverance, and this psychological cue plays a key role in motivating the audience when they encounter bottlenecks or lack of motivation. At the same time, fitness bloggers also provide a continuous environment of motivation and feedback through community features such as creating fan groups and organizing online fitness challenges. In this way, the audience not only receives support and encouragement from others, but also enhances self-discipline and adherence through group interaction. Ultimately, the fitness blogger's content subconsciously helps audiences internalize short-term fitness behaviours into long-term habits, thus having a sustained and far-reaching impact on their healthy lifestyles.



Figure 2. Blogger sports photos

6. Analysis of the application of communication effectiveness theory to the communication of fitness bloggers

6.1. Measures of effectiveness of information dissemination

Measures of message dissemination effectiveness are important for assessing the influence of fitness bloggers on social media and are usually measured at three levels: audience perception, attitude and behaviour. The cognitive level measures the audience's acceptance and understanding of the fitness blogger's communication content, which can be assessed through the audience's knowledge of fitness, familiarity with health concepts, and perceived changes in specific health behaviours. The attitudinal dimension examines the audience's attitudinal changes after receiving the information, such as their attitudinal change towards fitness behaviours, their identification with healthy lifestyles, and their trust in the individual blogger and his/her content. Positive changes in attitudes are often a key step in moving audiences from perception to behaviour. The behavioral dimension, which is the ultimate manifestation of the effectiveness of message dissemination, assesses whether the audience has changed their health behaviours in response to the blogger's content, such as increasing the frequency of exercise, improving their dietary habits, or adopting a new fitness plan. Measures of this dimension include the persistence of long-term behavioral change, frequency and intensity of fitness behaviours, and so on. Interactivity was also an important measurement dimension throughout, examining whether the audience actively interacted with the blogger, provided feedback on fitness results, or participated in relevant activities. Through these dimensions, the effectiveness of fitness bloggers' message dissemination can be fully assessed.

6.2. Specific Application of Communication Effectiveness Theory to Fitness Blogger Communication

The application of communication effectiveness theory in fitness bloggers' communication is reflected in several aspects, mainly through content design, audience interaction and communication strategies to achieve an effective impact on audience perceptions, attitudes and behaviours. Fitness bloggers use the layered communication model of CET to customise fitness content according to the different needs and interests of their audience, to maximise the appeal and comprehensibility of their messages. By simplifying complex fitness theories and providing practical training programmes and lifestyle advice, bloggers can enhance audience comprehension and cognitive acceptance. Fitness bloggers also take the initiative to communicate with their audiences in depth through the interactive features of social media, forming the feedback mechanism in communication effectiveness theory. Through real-time comments, live interactions, and question-and-answer sessions, bloggers can quickly obtain feedback from their audience and adjust their content based on that feedback, thus increasing the effectiveness and accuracy of their communication. Fitness bloggers also help their audiences consolidate their fitness perceptions and behaviours over a long period of time by repeating and reinforcing their messages through communication strategies. This constant repetition and deepening of the message not only help to change the audience's attitude towards health, but also motivates them to take practical action. Through communication effects theory, fitness bloggers can influence their audience's health behaviours in a more targeted manner and lead to stable behavioral change over time.

6.3. Interactive Models of Communication Effectiveness and Changes in Audience Behaviour

The interactive model between communication effects and audience behaviour change reveals the dynamic relationship between information dissemination and behaviour change. According to the communication effect theory, audience behaviour change is a gradual process that is influenced by the interaction of three stages: cognition, attitude and behaviour. Communication effects produce cognitive changes in the audience through the transmission of information, and the blogger's fitness content makes the audience gradually understand and accept relevant health knowledge through repetition, reinforcement, and precise communication. This cognitive stage lays the foundation for

behavioral change. Next, the emotional and personal nature of the communication message can further influence the audience's attitude change and enhance their sense of identity and motivation towards a healthy lifestyle. At this stage, the audience's health attitude begins to change from passive acceptance to active identification. With the continuous output and interaction of the bloggers' content, the audience gradually internalized the healthy attitude into behaviour and started to implement actual fitness actions. The interaction between communication effect and behavioral change lies in the durability and interactivity of information transmission. Through continuous content updating and communication with the audience, the fitness blogger not only strengthens the communication effect, but also constantly modifies the audience's behavioral path through real-time feedback, thus forming dynamic feedback closed loop. This interactive model explains how the communication effect gradually promotes healthy behavioral change among the audience and leads to the formation of long-term behavioral habits.

7. Conclusions and outlook of the study

7.1. Conclusions of the study

This thesis draws the following conclusions from the study of the application of communication effects theory to fitness bloggers' social media communication. Communication Effectiveness Theory can effectively explain how fitness bloggers influence their audience's health cognition, attitude and behavioral changes through information dissemination. Taking advantage of the interactive and fragmented features of new media platforms, fitness bloggers have successfully promoted cognitive changes among their audiences and gradually influenced their health attitudes through personalized content design and constantly repeated communication strategies. Social media also provides a highly interactive communication environment for fitness bloggers, enabling them to adjust their content through real-time feedback, thus enhancing the precision and effectiveness of communication effects. In the process of receiving information, the audience gradually develops from a preliminary understanding of health knowledge to a change in attitude, and ultimately transforms this knowledge into concrete behavioral actions. The long-term impact of fitness bloggers is reflected in their ability to continue to guide the audience's health behaviour, so that it does not only stop at short-term changes, but is internalized into a long-term lifestyle. Therefore, the communication effect of fitness bloggers not only achieves the dissemination of health cognition, but also strengthens the durability and stability of health behaviours through interactive models, forming an effective closed loop of communication.

7.2. Limitations and future directions of the study

Although this study explored the theory of communication effects in fitness bloggers' social media communication, there are still some limitations. For example, the sample of the study mainly focuses on certain popular fitness bloggers and specific social media platforms, and fails to fully consider the communication effects on different types of bloggers or diverse platforms, so the generalizability of the findings is limited. Furthermore, changes in audience behaviour are affected by a variety of factors, such as personal background and living environment, etc. This paper mainly starts from the perspective of communication effect theory and fails to explore in depth the specific role of these external variables on audience health behaviour. The study is mainly based on qualitative analysis and lacks the support of large-scale quantitative data. In the future, the relationship between communication effects and changes in audience behaviours can be further verified by adding questionnaires or experimental studies. Future studies can expand the sample scope to cover more different types of fitness bloggers and diverse social media platforms to improve the breadth and applicability of the findings. At the same time, more interdisciplinary theories should be introduced, combining psychological and sociological perspectives to deeply analyse the complex factors affecting the effectiveness of fitness communication, to provide more comprehensive theoretical support for the optimization of fitness bloggers' communication strategies.

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