



# A Study on the Construction and Countermeasures of Health Care Behavior Promotion Paths in Optometry Based on Social Cognitive Theory

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**Abstract.** Eye health issues in China are becoming increasingly severe and affecting younger populations. The government has introduced multiple policies to promote eye health strategies, yet problems such as poor translation from awareness to behavior remain prominent. Existing research abroad focuses on the link between self-efficacy and eye care behaviors but lacks studies on traditional Chinese medicine (TCM). Domestic research emphasizes policy impacts but does not clearly clarify the pathway of cognitive-behavioral transformation, and TCM eye care techniques lack scientific dissemination and guidance. Based on social cognitive theory and the health belief model, this study explores the mechanism linking social cognition and optometric health care behaviors, constructs a four-dimensional social cognition framework, and reveals the pathway of cognitive-behavior transformation. Innovatively, the study integrates TCM eye care models, proposing a triadic pathway of “cognitive enhancement—efficacy reinforcement—environmental support” and group-specific strategies, providing support for the standardized dissemination of TCM eye care techniques, filling existing research gaps, and contributing to the improvement of national eye health levels.

**Keywords:** Optometric health care, Traditional Chinese medicine, Social cognitive theory, Health belief model.

## 1 Introduction

### 1.1 Research Background and Significance

Eye health issues in China are becoming increasingly serious, trending towards younger ages and becoming more widespread. According to reports from the National Health Commission, the overall myopia rate among children and adolescents in China reached 53.6% in 2024, with more than 300 million people suffering from dry eye, and both groups are increasing annually by 3%-5%. In recent years, the government has

successively issued relevant documents such as the “14th Five-Year National Eye Health Plan (2021-2025)” and the “Bright Action Plan for the Prevention and Control of Myopia in Children and Adolescents (2021-2025)”, which to some extent implement key points of the national health strategy focused on eye health. Beyond vigorous advocacy and publicity, it is recognized that social cognition plays a very important role in the completion of eyecare behaviors. According to a survey conducted by Huang J. et al. involving 1,000 middle school students, the rate of cultivating scientific eye care behaviors among those with adequate myopia awareness was 82.3%, far higher than the 41.7% of those with inadequate myopia awareness. In order to gain a deeper understanding of the role of social cognition in promoting optometric care behaviors, this study explores the mechanisms related to the social cognition-optometric care behavior relationship, addressing the current gap in research regarding the unclear cognition-behavior conversion pathway, and further discusses the social application value of this study in conjunction with the social cognition model.

## **1.2 Review of Domestic and International Research and Research Innovations**

Abroad, research on eye and vision health behaviors began as early as the 1970s, accompanied by extensive empirical work. Bandura pointed out that there is a significant positive correlation between self-efficacy and myopia prevention behaviors in adolescents, with a one-point increase in self-efficacy scores leading to a 27% increase in the occurrence of regular eye care behaviors [1]. In addition, Smith also considered that self-efficacy effectively predicts eye disease screening behaviors in middle-aged and elderly people [2]. However, foreign research has focused more on Western medical treatments and has been relatively lacking in studies on TCM. Domestic research tends to focus more on policy aspects; for example, after the implementation of the “Double Reduction” policy, the average daily outdoor activity time of primary school students in China increased by 42 minutes, and the incidence of myopia decreased by 2.1 percentage points, but the transformation from awareness to behavior has not been detailed. At the same time, there are bottlenecks in TCM eye care; for instance, recent studies have found that acupoint massage can relieve visual fatigue in adolescents with an effectiveness rate of 68.5% [3] and TCM fumigation is effective for dry eye syndrome with a rate exceeding 70% [4], but effective dissemination methods and proper scientific guidance are lacking at the social cognition level. The innovation of this paper lies in establishing a four-dimensional structure of social cognition in the field of eye care, revealing the mechanisms of the cognition-behavior transformation, and incorporating the TCM eye care model into the field of eye care, exploring standardized and modernized dissemination paths for TCM eye care techniques.

## **2 Related Concepts and Theoretical Foundations**

### **2.1 Definition of Core Concepts**

Social cognition in the field of optometry health care is manifested in four dimensions: the knowledge dimension refers to an individual's mastery of relevant knowledge about the occurrence of myopia and methods of eye care; the attitude dimension refers to the extent to which an individual recognizes and values eye care; the subjective norm dimension refers to the influence of external guidance from family, school, and other sources on a person's behavior; the self-efficacy dimension refers to a person's confidence in performing eye care behaviors[5]. Eye care behaviors include three types: the first type is preventive care behaviors, mainly including establishing good eye habits and frequently participating in outdoor activities; the second type is screening care behaviors, primarily involving regular vision tests and early screening for eye diseases; the third type is therapeutic care behaviors, including wearing appropriate glasses to correct myopia and using artificial tears or dry eye treatment devices to treat dry eyes [6].

### **2.2 Theoretical Support**

Bandura's social cognitive theory posits that an individual's health behavior results from the interaction between cognitive factors such as knowledge, attitude, and self-efficacy and the social environment. Cognitive factors can influence individuals to establish a healthy self-image, thereby promoting the development of good health behaviors, and enhancing self-efficacy can strengthen this effect. The health belief model suggests that to bring about behavioral change, people should be fully aware of the likelihood of illness and their vulnerability when facing risky situations, and they should believe that the benefits of changing behavior can offset some barriers or difficulties encountered in the process. These theories can help us identify factors influencing people's eye care behaviors and design targeted interventions to make eye care behaviors more sustainable and effective.

## **3 Analysis of the Correlation between Social Cognition and Optometry Health Care Behaviors**

Social cognition is closely related to optometry health care behaviors, with different dimensions playing different roles. In terms of knowledge, possessing adequate eye care knowledge helps people identify harmful eye habits and actively adopt scientific eye care practices. For example, 76.2% of adolescents who understand the causes of myopia regularly perform eye exercises. Moreover, the more knowledge people have about traditional Chinese medicine, the more receptive they are to traditional health practices. Studies have found that those with sufficient knowledge are 2.8 times more likely to use acupoint massage methods than those without sufficient knowledge. In terms of attitude and subjective norms, the better people's attitudes towards eye care,

the more willing they are to learn related health methods. Additionally, a family environment supportive of eyecare, school eye-protection activities, and professional guidance from doctors all enhance people's eye care behaviors. Research has shown that after implementing eye care activities, the rate of preventive health habit formation among students increased by 34%. In terms of self-efficacy, individuals with high self-control can effectively utilize various eye care techniques and resist laziness to complete the behavioral process. In contrast, those with poor self-control may abandon the methods due to the difficulty of practice or the lack of immediate visible benefits.

## **4 Current Status and Shortcomings of Optometric Health Interventions**

In recent years, with the rapid socio-economic development in China, adults work long hours in front of electronic devices, and teenagers face intensive reading and writing demands along with improper eye use, leading to numerous optometric issues, such as worsening and earlier onset myopia and premature presbyopia. Society is increasingly emphasizing optometric health interventions [7]. However, at present, there are three areas in which China's optometric health work needs improvement. First, the conversion from knowledge to behavior is not smooth. Much of the existing public education on optometry simply teaches knowledge points without instructing people on how to implement health practices, without providing specific guidance at appropriate ages, and without encouragement, so many people "know but do not act". For example, some teenagers know that excessive eye strain is harmful but cannot stay away from electronic devices. Second, the use of TCM techniques is limited. Current optometric interventions are still primarily based on Western medical methods. Specialty TCM techniques, such as acupoint massage and dietary therapy, have not been promoted in a standardized manner. There is a shortage of professional optometry practitioners in the TCM field, and public knowledge and practice of TCM eye care are limited. Third, multi-stakeholder collaboration is challenging. Families, schools, medical institutions, and communities lack effective coordination mechanisms, making it difficult to share information and clarify responsibilities. For instance, schools have difficulty supervising students' eye habits at home, and medical institutions find it challenging to provide long-term follow-up treatment and guidance for students.

## **5 Construction of Promotion Pathways and Implementation Strategies with TCM Characteristics**

### **5.1 "Cognition Enhancement-Effectiveness Strengthening-Environmental Support" Integrated Pathway**

Aiming to promote the widespread application and dissemination of TCM-characteristic ocular health care, a systematic implementation pathway is proposed based on the four-dimensional model of "knowledge-attitude-subject norm-self-

efficacy”, aligning with cognitive principles, reflecting TCM characteristics, and supporting multi-party collaboration. This ensures the scientific and practical nature of interventions while highlighting the advantages of green eye care from TCM, establishing a full-chain coordinated intervention mechanism.

In the cognition enhancement segment, we target different groups such as adolescents and middle-aged to elderly populations, offering stratified and categorized ocular health education. Diverse forms such as short videos and community experience activities are used to professionally disseminate TCM eye care concepts such as “the liver opens into the eyes” and “the essence of the five viscera rises to the eyes, “along with meridians and acupoints, massage techniques, fumigation, and plasters, to promote deep theoretical understanding among the public [8]. In parallel, rapid TCM eye care training classes are organized using real successful cases and online check-ins to connect knowledge with practice, enabling communities to learn eye care effectively and to integrate it proactively and consistently into their lives.

In the environmental support segment, a “family supervision, school implementation, medical guidance” coordinated mechanism is established, with families acting as the first line of daily supervision and mutual encouragement, schools and communities serving as core teaching and management platforms, and medical institutions providing authoritative professional guidance and scientific assessment, creating a holistic family-school-community-medical coordinated environment for eye health.

## 5.2 Targeted Implementation Strategies for Different Groups

To ensure the effective implementation of ocular health pathways, precise strategies are designed for adolescents, middle-aged to elderly populations, and the general public. For adolescents, the “TCM Eye Care Exercise Parent-Child Incentive Program” integrates Jingming and Sibai acupoint massage into break-time exercises, distributes parent-child eye care manuals, and encourages collaborative learning and mutual supervision to complete daily eye care tasks. For middle-aged and elderly populations, a “Community Health Corner with Physical Examination and Conditioning Service” is established, offering simple consulting and experience services, while providing personalized TCM assessments and ocular health adjustment plans during health check-ups. For the wider population, illustrated eye care manuals summarizing a “3-step acupoint massage, 10 minutes daily” standardized process are distributed, complemented by online instructional videos to lower practical barriers and enhance the coverage of interventions.

## 6 Conclusion

Based on Social Cognitive Theory and the Health Belief Model, this paper conducts an in-depth exploration of the correlation mechanism between social cognition and health care behaviors in the field of optometry. The research constructs a four-dimensional social cognitive framework of “knowledge-attitude-subjective norm-self-efficacy”, clarifies the differentiated influence paths of each dimension on three types of

optometric health care behaviors (preventive, screening, and therapeutic), and innovatively integrates the TCM eye care model into the optometric health care system. A triadic integrated promotion pathway of "cognitive enhancement-efficacy reinforcement-environmental support" and group-specific implementation strategies are proposed. The study finds that sufficient optometric health care knowledge (especially TCM eye care knowledge) is the foundation for promoting the occurrence of health care behaviors. A positive attitude and external supportive norms can significantly enhance behavioral willingness, while self-efficacy is the key to ensuring behavioral sustainability. Through hierarchical and classified health education, the construction of a multi-party collaborative environment involving families, schools, communities, and medical institutions, as well as targeted interventions for adolescents, middle-aged and elderly groups, etc., the dilemma of "knowing but not acting" can be effectively resolved, and the standardized dissemination of effective TCM eye care techniques such as acupoint massage and fumigation can be promoted.

Future research can further expand the sample scope, conduct an in-depth exploration of the social cognitive differences among groups in different regions and occupations, optimize the pertinence and operability of intervention strategies, and strengthen the evidence-based medical research on TCM eye care techniques to provide more solid scientific support for their modern dissemination.

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