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REVIEW ARTICLE **OPEN ACCESS**

The Integrated Model of Health Behavior Promotion (IMHBP): A Synergistic Approach to Promote Health-Oriented Behaviors

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Abstract:

Background: Changing health-oriented behavior is a critical aspect of health communication, as demonstrated by Pender's Health Promotion Model (HPM) and its application in public health. Influencing individual cognition plays a crucial role in achieving sustainable behavior change.

Objective: This paper aims to propose an Integrated Model of Health Behavior Promotion (IMHBP) by combining cognitive science principles with the strengths of Social Cognitive Theory (SCT) and Pender's HPM to offer a comprehensive framework for health behavior change.

Methods: The IMHBP was developed through a theoretical integration of existing models, emphasizing individual characteristics, environmental influences, and cognitive processes such as self-efficacy, observational learning, and social influence. The framework was validated conceptually through a literature review and case analyses of public health interventions.

Results: The IMHBP highlights the interplay of cognitive factors and environmental dynamics in shaping health-oriented behaviors. It provides insights for designing public health interventions that empower individuals and communities to adopt sustainable health behaviors.

Conclusion: The IMHBP offers a valuable tool for public health professionals to design targeted interventions addressing cognitive and environmental factors, thereby improving public health outcomes. This paper outlines the theoretical foundations, key components, and potential applications of the IMHBP in diverse public health contexts.

Keywords: Cognitive science, Health communication, Pender's theory, Health-oriented behavior, Social Cognitive Theory (SCT), Health Promotion Model (HPM).

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1. INTRODUCTION

Nowadays, influencing behaviors and shaping perceptions is an accepted method in various scientific fields. Changing perceptions about different things and objects is a way to enter the mind and achieve desired results. Throughout history, humankind has utilized this method to change behavior and influence audiences, leading to significant results for future actions. Cognitive science is a field of study used in social, military, political, health, and hygiene contexts, which can be effective in changing behavior.

These approaches help governments and rulers influence people's cognition to achieve intended results. In the 20th century, the meaning of cognitive science evolved from two

perspectives: “either from the point of view of psychology’s internal development or from the point of view of the interaction between the nascent computing science and the different human and social sciences dealing with man as the knower” [1]. In other words, cognitive science has a broad capacity and can play a crucial role in scientific studies like social and public health. Specifically, in the realm of public health, cognitive science offers valuable tools for understanding and modifying health-related behaviors. Due to the efficiency of cognitive science in manipulating public opinion and changing people's ideas about specific topics and the need to develop health communication in society, combining health communication and cognitive science can help governments change the behaviors of the population to achieve healthcare and hygiene targets in society.

In the field of health communication, paying attention to changing people's ideas about health behaviors is crucial for achieving health in society. This was evident during the coronavirus pandemic era, when the World Health Organization (WHO) and national governments utilized media messages and manipulation methods to change people's health behaviors and achieve positive results. The main focus of this process was on changing the opinions and ideas of members of society regarding the understanding of concepts related to Corona, the necessity of these concepts, and the methods of prevention and treatment. For example, when WHO recommended handwashing for COVID-19 protection, it “resulted in increased attention to and frequent use of hands, as well as reduced use of hands, which are important evolutionary organs for humans” [2].

Based on this experience, focusing on cognitive science is a contributing factor in the development of public health and hygiene in society. This is the goal of health communication in society, which is employed by policymakers and governments to support and provide a healthy system. The Pender health promotion theory and Bandura's social cognitive theory support this idea. In fact, cognitive science can change the mindset of members of society, influencing social behaviors and encouraging others to adopt the correct behaviors. Cognitive science can also address “self-care practices” such as “optimism bias, ostrich effect, normalcy bias, apocalyptic beliefs, just-world hypothesis, accepting the victim role, and escaping responsibilities” [3].

In this regard, this paper focuses on methods of influencing the mind through cognitive science to promote health-oriented behavior and answers the question: How can cognitive science change health-oriented behavior? To achieve the goal of this paper, the documentary method is employed.

2. MATERIALS AND METHODS

2.1. Theoretical Framework

The key factor in developing health-oriented behaviors in society is promoting access to up-to-date information and data in the field of health and hygiene. This approach helps policymakers and authorities extend the health factor in society. In this regard, Pender's Health Promotion Model (HPM), developed by Nola J. Pender in 1982, is one of the practical theories to change health behavior in society. Pender's theory offers a theoretical framework for understanding and promoting health behaviors. The model has been widely used in health research and promotion programs to promote a wide range of health behaviors, including healthy eating, physical activity, disease prevention, and chronic disease management [4].

Pender's Health Promotion Model (HPM) focuses on how individual characteristics such as age, biology, habits, and knowledge influence health decisions. It identifies modifiable factors for healthy behaviors such as diet, exercise, and preventive actions. Additionally, psychological factors like confidence in healthy behaviors (self-efficacy) and perceived health benefits are important. Social support and the physical environment are environmental influences that HPM considers. By understanding these factors, healthcare professionals can design interventions that empower individuals to make informed health choices [5].

Moreover, members of society are capable of learning new things and adapting themselves to changes in society. In fact, the Social Cognitive Theory (SCT) developed by Albert Bandura predicts and anticipates this process and theorizes its process. In other words, this theory provides another framework for understanding and promoting health behaviors, which complements Pender's theory. It focuses on social learning and self-efficacy, making SCT a valuable tool for promoting a variety of health behaviors in different contexts [6].

Furthermore, Social Cognitive Theory (SCT) focuses on the interaction between personal factors (beliefs, self-efficacy), behaviors, and environmental factors in shaping behavior [7]. Unlike individual-focused models, SCT highlights how we learn from observing others and the impact of social cues on our health choices. The theory emphasizes self-efficacy, our belief in our ability to perform a behavior, as a key motivator. By focusing on these factors, interventions based on SCT can promote healthy behaviors by building self-confidence, providing social support, and showcasing the positive outcomes of healthy choices [8].

Therefore, HPM and SCT are two prominent frameworks that can be integrated to effectively promote health-oriented behaviors. HPM emphasizes individual characteristics and modifying factors that influence health decisions, while SCT highlights the reciprocal interaction between personal, behavioral, and environmental factors in shaping behavior.

This paper concentrates on the integration of HPM and SCT by recognizing individual characteristics and experiences (HPM) as shaping personal factors (SCT) such as self-efficacy and health beliefs. Modifying factors like social support and environmental factors further influence environmental factors in SCT. Ultimately, these factors interact through reciprocal determinism to promote health-oriented behaviors.

This integrated framework can guide the development and evaluation of interventions that target various levels of influence, from individual cognitions to social and environmental factors. By enhancing self-efficacy,

promoting positive health beliefs, creating supportive social environments, and utilizing observational learning opportunities, interventions can effectively promote and sustain health-oriented behaviors, ultimately contributing to improved public health and well-being [9].

2.2. Method of Constructing the Integrated Model of Health Behavior Promotion (IMHBP)

The IMHBP was developed using a qualitative approach involving content analysis. This method includes a thorough review on literature pertaining to Pender's Health Promotion Model (HPM) and Bandura's Social Cognitive Theory (SCT). A detailed explanation of both the Health Promotion Model and Social Cognitive Theory can be found in the theoretical framework section.

Key elements from both models are then extracted, and comparative and analytical techniques are utilized to identify their similarities and differences. Finally, taking into account the strengths and limitations of each model, an integrated framework for promoting health-oriented behaviors is presented.

3. RESULTS

Cognitive science provides a captivating perspective through which we can comprehend and shape the human mind, promoting positive health behaviors within society. This approach utilizes Social Cognitive Theory (SCT) to create lasting changes, such as shaping perceptions, leveraging social learning, building self-efficacy, and optimizing the environment.

Beyond traditional methods, a combined viewpoint from cognitive science and SCT empowers us to delve into the mind and influence individual choices toward a healthier lifestyle. By understanding how we process information, make decisions, and learn from others, we can design interventions that encourage behavior change and ultimately contribute to a healthier society.

Cognitive science, an interdisciplinary study of the mind, offers a potent tool for understanding and influencing human behavior, particularly when promoting positive health behaviors within society. This approach utilizes Social Cognitive Theory (SCT), developed by Albert Bandura [6]. As mentioned in the theoretical framework, SCT focuses on the interaction between personal factors, behaviors, and environmental factors in shaping behavior.

Here's how cognitive science, through the lens of SCT, can shape minds for a healthier lifestyle:

3.1. Shaping Perceptions: Understanding Mental Biases

Cognitive science helps us comprehend how our brains process information and make decisions, often influenced by cognitive biases. These biases aim to simplify thinking under pressure or with overwhelming information, causing systematic errors in judgment, which can result in unhealthy choices [10]. Cognitive biases can lead to poor decisions regarding challenges, potentially impacting health and well-being. SCT helps us address these issues by providing corrective information and framing health messages.

3.2. Leveraging Social Learning: The Power of Observation

Humans are social beings who learn through observation and imitation. SCT emphasizes the significance of social models in shaping behavior. Cognitive science provides insights into how we learn from others. Interventions can capitalize on this by showcasing positive role models who exhibit healthy behaviors [11]. This approach aligns well with the concept of social support and social networks identified in the McNeill *et al*. [12] Kreuter & Subramanian article. Surrounding ourselves with individuals who engage in physical activity can enhance our motivation and adherence. By observing and interacting with these positive role models, we can learn new behaviors and feel a sense of social accountability that encourages participation.

3.3. Building Self-Efficacy: Cultivating Confidence in Change

Self-efficacy, the belief in one's ability to perform a behavior, is a key motivator for change [13]. Cognitive science helps us understand how past experiences and perceived difficulty can influence self-efficacy. SCT interventions can be effective in building self-efficacy for healthier behaviors [14].

SCT interventions can target this by setting achievable goals, providing opportunities for mastery experiences, and offering positive reinforcement. SCT interventions often emphasize positive reinforcement, such as verbal praise or self-reward systems, to solidify the link between health behaviors and positive feelings [15]. By incorporating these strategies, SCT interventions can effectively leverage cognitive science to build self-efficacy and cultivate motivation for a healthier lifestyle.

While SCT offers a robust framework for influencing behavior change, it's essential to consider individual characteristics and environmental factors that can also play a significant role. This is where integrating HPM becomes valuable.

3.4. The Effect of Health-Oriented Behaviors According to Pender Theory Factors

Imagine the positive impact that ripples outward when a single pebble is dropped into a still pond. Similarly, individual choices towards healthy behaviors can create a ripple effect, influencing not only our own well-being but also extending to those around us. This phenomenon is the cornerstone of Nola J. Pender's Health Promotion Model (HPM). By understanding the key factors influencing these health-oriented behaviors, as outlined in HPM, we can use this ripple effect to promote individual and community well-being.

Here, we define the Ripple Effect: How Pender's model discovers the power of health-oriented behaviors. Understanding the factors influencing health-oriented behaviors is crucial for promoting individual and

community well-being. HPM offers a valuable framework for examining these factors and their impact on health outcomes. This section is about the main elements of HPM and shows how health-oriented behaviors, influenced by these factors, create a ripple effect that extends beyond the individual.

HPM identifies individual characteristics and environmental influences that shape a person's health-related decisions and actions [5]. These core elements can be broadly categorized into Individual Characteristics and Environmental Influences.

a. Individual Characteristics include:

Biological Factors: Age, sex, genetics, and overall health status play a role in shaping health perceptions and influencing behavior choices.

Psychological Factors: Self-efficacy, positive health beliefs, perceived susceptibility to illness, and perceived barriers all influence behavior.

Behavioral Factors: Past health behaviors and current habits shape future behavior choices.

b. Environmental Influences include:

Interpersonal Factors: Social support from family, friends, and healthcare providers can significantly influence health behaviors.

Socioeconomic Factors: Income, education level, and access to healthcare resources can create barriers or facilitators for healthy choices [16].

Physical Environment: Neighborhood safety, access to healthy food options, and recreational facilities all influence health-oriented behaviors [17].

When individuals adopt health-oriented behaviors, these choices create a ripple effect that extends beyond the immediate benefits for their physical and mental well-being. The role of HPM in this cascading effect is important.

Engaging in activities like regular exercise, balanced meals, and preventive screenings not only leads to improved individual health outcomes (*e.g.*, reduced chronic disease risk, better mental well-being, and a higher quality of life), as supported by research [18], but also strengthens self-efficacy. Successfully adopting and maintaining these behaviors creates a positive feedback loop, motivating individuals to make further healthy choices [19]. This virtuous cycle extends beyond the individual. People who exhibit healthy behaviors can inspire their social circles, acting as role models for families, friends, and communities. This social learning, predicted by Social Cognitive Theory (SCT), encourages others to adopt similar behaviors, creating a ripple effect of health promotion. Ultimately, widespread adoption of healthy lifestyles translates to reduced healthcare costs due to fewer chronic illnesses and increased societal productivity through a healthier workforce with improved cognitive function and reduced absenteeism.

HPM provides a foundation for designing effective interventions promoting health behaviors. Pender's HPM offers a comprehensive framework for understanding the complex interplay between individual characteristics, environmental influences, and health-oriented behaviors. By recognizing the ripple effect of healthy choices, we can design interventions that promote individual well-being and create a healthier society for all.

Nola J. Pender's Health Promotion Model (HPM) and Albert Bandura's Social Cognitive Theory (SCT) are two prominent frameworks that offer valuable insights into promoting health-oriented behaviors. While both models address individual factors influencing health choices, they emphasize different aspects. HPM focuses on a comprehensive range of personal characteristics and environmental influences, while SCT delves deeper into the cognitive processes that shape behavior. This paper aims to integrate and introduce a new model for promoting health-oriented behaviors.

3.5. A Synergistic Approach: Integrating SCT and HPM for Health Promotion

Rafiefar *et al*. [20] pointed to examples of global experiences in the field of self-care support, where various programs have brought about improvements. For example, the EPP expert patient program is designed to create confidence and motivation in patients to use their own skills, information, and specialized services to gain control over their lives with chronic disease. Increasing evidence in the U.S. and U.K. indicates that self-care programs provide many benefits.

To achieve a similar goal, we propose a novel model, the Integrated Model of Health Behavior Promotion (IMHBP), which merges core elements of HPM and SCT. It aims to provide a comprehensive framework for designing effective interventions that promote healthy behaviors.

The IMHBP contains the following key elements:

Individual Characteristics (Adapted from HPM): As mentioned in the theoretical framework, individual characteristics are important because they identify modifiable factors for healthy behaviors [5].

• Biological Factors: Age, sex, genetics, and overall health status influence health perceptions and behavior choices.

• Psychological Factors: Self-efficacy, perceived susceptibility to illness, perceived benefits of healthy behaviors, and positive health beliefs all play a crucial role in motivation.

Environmental Influences (Adapted from HPM): Environmental influences play an important role in shaping health behaviors by creating opportunities and barriers to healthy choices. The IMHBP draws from HPM to incorporate these key environmental factors.

• Interpersonal Factors: Social support from family, friends, and healthcare providers significantly impacts health behaviors.

• Socioeconomic Factors: Income, education level, and access to healthcare resources can create barriers or facilitators for healthy choices.

• Physical Environment: Neighborhood safety, access to healthy food options, and recreational facilities influence health behaviors.

Cognitive Processes (Adapted from SCT): Cognitive processes are central to understanding how individuals perceive, interpret, and respond to health-related information. The IMHBP integrates key cognitive processes from SCT [6].

• Observational Learning: Individuals learn new behaviors by observing others, particularly those they perceive as role models.

• Social Influence: The perceived expectations and pressures from social groups can shape behavior choices.

• Outcome Expectations: Beliefs about the positive and negative consequences of a behavior influence motivation.

• Self-Efficacy: Confidence in one's ability to perform a healthy behavior is a key determinant of behavior change.

• Self-Regulation: Self-regulation, encompassing the ability to monitor progress, set goals, and manage challenges, is a central factor in maintaining healthy behaviors.

3.6. Mediating Variables

The Integrated Model of Health Behavior Promotion (IMHBP) proposes two key mediating variables that bridge the gap between individual characteristics, environmental influences, and cognitive processes: motivation and behavioral skills. These variables play an important role in translating knowledge and intention into sustained health-oriented behaviors.

Additionally, these elements can influence each other, ultimately leading to health-oriented behaviors.

3.6.1. Motivation

Focusing on Albert Bandura's Social Cognitive Theory (SCT), the combined effect of perceived benefits, self-efficacy, and social influence can motivate individuals to adopt and maintain healthy behaviors. The IMHBP proposes that motivation is a central driver of behavior change. For instance, someone might be motivated to exercise due to the perceived benefits of improved physical fitness and energy levels, while positive social pressure from family, friends, or role models can enhance motivation for healthy choices.

3.6.2. Behavioral Skills

Knowledge alone is often insufficient for sustained behavior change. The IMHBP emphasizes the importance of behavioral skills, which are the practical abilities required to perform a specific health behavior. Knowledge and practical skills related to specific health behaviors are essential for successful implementation.

The interaction between motivation and behavioral skills plays a critical role in the IMHBP. High motivation without the necessary skills can lead to frustration and ultimately hinder behavior change. Conversely, possessing the skills but lacking motivation can result in inaction. The IMHBP emphasizes the need for interventions that address both motivational factors and skill development to promote health behavior change Fig. (**1**).

While the IMHBP is a novel model, it is rooted in previous research that aims to integrate different theories for health promotion. For example, Baranowski *et al*. [21] examined various health behavioral models and theories and concluded that combinations of variables, guided by hypotheses and empirical evidence, are more valuable.

The IMHBP can be used in various health promotion programs, including chronic disease prevention programs, promoting healthy lifestyles, and increasing physical activity. For instance, in an intervention program to increase physical activity among the elderly, the IMHBP can be used to design interventions that lead to behavior change by aiming to increase self-efficacy, create positive health beliefs, and establish supportive social environments.

Research by Lesińska-Sawicka *et al*. [22] emphasized that while students engaged in various health-promoting activities, they also exhibited behaviors detrimental to their health. Notably, students faced significant challenges in adopting preventive health behaviors, indicating a need for targeted interventions. The results align with the Integrated Model of Health Behavior Promotion (IMHBP), which emphasizes the importance of both individual characteristics and environmental influences in fostering health-oriented behaviors. By identifying specific motivational factors and behavioral skills necessary for self-care, the IMHBP can promote healthy lifestyles.

3.7. Benefits of Integration

The Integrated Model of Health Behavior Promotion (IMHBP) offers several advantages over relying solely on the Health Promotion Model (HPM) or Social Cognitive Theory (SCT):

3.7.1. Comprehensive Understanding

It provides a more complete picture of the factors influencing health behavior by integrating individual characteristics, environmental influences, and cognitive processes.

3.7.2. Enhanced Intervention Design

By acknowledging the role of social learning, self-regulation, and observational learning, the IMHBP can inform interventions that target not only individual beliefs but also social norms and environmental factors that shape behavior.

3.7.3. Improved Intervention Effectiveness

By addressing the cognitive processes that underpin behavior change, interventions based on the IMHBP can potentially be more effective in promoting behavioral changes.

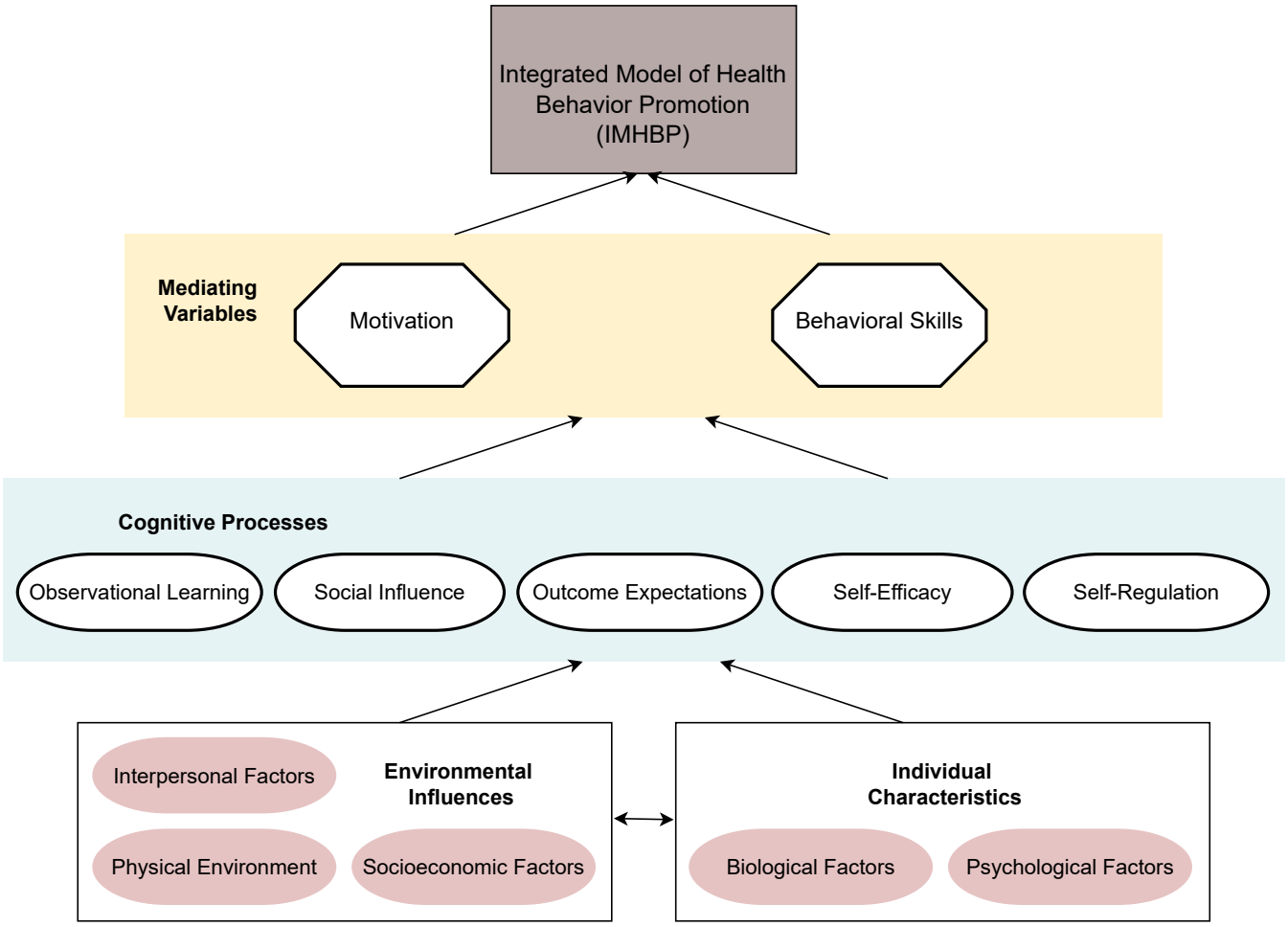

Fig. (1). Integrated model of Health Behavior Promotion (IMHBP).

The IMHBP provides a unique advantage by addressing limitations inherent in SCT and HPM when applied individually. For instance, while SCT emphasizes cognitive processes and social influences, it lacks an explicit focus on modifiable individual characteristics. Conversely, HPM's detailed assessment of individual traits does not comprehensively address the role of observational learning. By merging these models, IMHBP ensures a balanced approach that accounts for both individual and environmental determinants of health behavior.

4. DISCUSSION

By integrating cognitive science with the strengths of SCT and HPM, the proposed Integrated Model of Health Behavior Promotion (IMHBP) offers a comprehensive framework for promoting health-oriented behaviors. More effective programs will not be designed until there is a better understanding of why people engage in certain health behaviors. This model empowers public health professionals and policymakers to design more effective interventions that target individual cognitions, self-efficacy, social influences, and environmental cues.

4.1. Empirical Support and Potential Validation

While the IMHBP is a theoretical framework, it builds upon the validated constructs of SCT and HPM. Previous studies, including a study by Heydari *et al*. (2014) [4], demonstrated the application of HPM in improving self-efficacy among patients through targeted interventions. Similarly, Bandura's SCT has been validated extensively in interventions such as the VERB campaign, which increased physical activity among youth. These examples support the foundational components of the IMHBP. Future research can empirically validate IMHBP through Randomized Controlled Trials (RCTs) focusing on chronic disease prevention programs and community-based initiatives. A detailed methodological proposal for validating the IMHBP will be discussed in subsequent publications.

4.2. Real-World Applications of the IMHBP

The IMHBP holds significant promise for various real-world applications:

4.2.1. Individualized Interventions

The model's focus on individual characteristics and environmental influences allows for tailoring interventions to specific needs and contexts. For instance, this approach is exemplified in the “Healthy Eating and Lifestyle Program” (HELP) designed for obese adolescents [23]. This program utilizes individualized counseling sessions that consider the adolescents' unique needs, preferences, and challenges. By incorporating self-efficacy-building exercises, goal setting, and social support from family members, HELP facilitates sustainable lifestyle changes and promotes healthy eating habits [24].

4.2.2. Social Marketing Campaigns

The IMHBP informs the development of social marketing campaigns that leverage social learning and positive social influence to promote healthy behaviors. Campaigns can feature relatable role models showcasing healthy choices and emphasize the positive social aspects of these behaviors. For instance, the “VERB” campaign, launched in the United States to promote physical activity among tweens (ages 9-13), effectively utilized this approach [25]. The campaign featured relatable role models engaging in various physical activities, emphasizing the fun and social aspects of exercise. By showcasing positive role models and highlighting the social benefits of physical activity, the VERB campaign successfully increased physical activity levels among the target audience.

4.2.3. Workplace Wellness Programs

Workplaces can utilize the IMHBP to create supportive environments that promote healthy behaviors among employees. The “Live Well @ Work” program is a prime example [26]. This comprehensive program incorporates various elements of the IMHBP, such as providing healthy food options in cafeterias, offering on-site fitness facilities, and conducting educational workshops on stress management, nutrition, and physical activity. By addressing knowledge gaps, building self-efficacy, and creating a supportive environment, the program has demonstrated positive outcomes in terms of employee health and well-being.

4.2.4. Community-based Initiatives

The model can guide the development of community-based initiatives that address the social and environmental determinants of health. These initiatives might involve promoting access to healthy food options in underserved areas or creating safe walking and cycling paths to encourage physical activity.

Real-world examples demonstrate the feasibility of integrating components of the IMHBP. The “Healthy Eating and Lifestyle Program (HELP),” which used HPM to design personalized counseling sessions, successfully reduced obesity rates among adolescents [24]. Another example is the “Live Well @ Work” initiative, which incorporated elements of SCT, such as social modeling and self-efficacy-building workshops, resulting in improved employee health metrics [26]. These cases highlight the practical application of IMHBP’s core principles and its potential to design impactful health promotion interventions.

4.3. Implications for Behavioral Health

Integrating cognitive science and Social Cognitive Theory (SCT) can have an effect on health behavior and change behaviors that do not support healthy actions. Cognitive science, when integrated with social science, can support health-oriented behaviors and help build habits that contribute to a healthy society. In this regard, Pender's theory emphasizes health-oriented behavior and utilizes the IMHBP model to address social and environmental influences on health behaviors.

CONCLUSION

By integrating cognitive science and SCT, we can create a comprehensive approach to promoting health-oriented behaviors. Through a combination of addressing cognitive biases, utilizing social learning opportunities, and building self-efficacy, we empower individuals to make informed choices and navigate toward a healthier future.

However, for behavior change, it's crucial to consider individual characteristics and environmental factors as well. This is where integrating Pender's Health Promotion Model (HPM) becomes valuable. HPM's focus on individual knowledge, habits, and modifiable factors like diet and exercise aligns well with SCT's emphasis on personal factors like self-efficacy and health beliefs.

Additionally, the social support and environmental factors in HPM can be linked to SCT's social learning and environmental cues. By combining these frameworks, we create a more comprehensive model that addresses both individual and social/environmental influences on health behaviors. This Integrated Model of Health Behavior Promotion (IMHBP) has the potential to be a powerful tool for promoting changes toward a healthier and more mindful society.

The IMHBP represents a significant contribution to health behavior promotion by integrating established theories with cognitive science. This framework not only advances theoretical understanding but also provides actionable insights for designing tailored interventions. Its application across various settings, such as workplace wellness programs and community health campaigns, underscores its potential to drive meaningful health outcomes. Future empirical studies will further cement its role as a transformative tool in public health.

LIMITATIONS AND FUTURE RESEARCH

The IMHBP is a novel model, and further research is needed to explore its full potential. One limitation is the need for empirical testing to validate its effectiveness in promoting various health behaviors across diverse populations. Additionally, the model focuses primarily on behavior change at the individual level. Future research could explore how the IMHBP can be integrated with broader public health strategies aimed at influencing

social norms and environmental factors that shape health behaviors on a population-wide scale.

While the IMHBP offers a novel integrative approach, it has limitations that warrant further exploration. The model's reliance on theoretical integration necessitates empirical validation. Furthermore, its application has primarily focused on individual-level behavior change, which may limit its scalability to population-wide strategies. Future research should:

1. Conduct RCTs to validate the efficacy of IMHBP in diverse populations.

2. Investigate the model's adaptability to large-scale public health initiatives addressing social norms and policy-level interventions.

In conclusion, the IMHBP offers a promising framework for promoting health-oriented behaviors through a comprehensive and multi-level approach. By understanding the interplay between individual characteristics, environmental influences, and cognitive processes, public health professionals and policymakers can design more effective interventions that empower individuals and communities to make healthy choices and ultimately contribute to a healthier society.

During the preparation of this work, the authors used the Gemini AI tool in order to assist with the accurate translation of the original text into English. After generating the draft language, the author reviewed, edited, and revised the language to their own liking and took ultimate responsibility for the content of this publication.

LIST OF ABBREVIATIONS

IMHBP	=	Integrated Model of Health Behavior Promotion
WHO	=	World Health Organization
HPM	=	Health Promotion Model
SCT	=	Social Cognitive Theory

AUTHORS' CONTRIBUTION

It is hereby acknowledged that all authors have accepted responsibility for the manuscript's content and consented to its submission. They have meticulously reviewed all results and unanimously approved the final version of the manuscript.

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CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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