

# Development of a Healthy Lifestyle Promotion Protocol for Individuals with Binge Eating

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## ABSTRACT

The objective of this study was to develop and validate a comprehensive, evidence-based protocol for promoting a healthy lifestyle among individuals with binge eating, grounded in empirical data and aligned with contemporary behavioral and psychological models. This applied mixed-methods study followed a sequential exploratory design. In the qualitative phase, semi-structured interviews were conducted with adults with binge eating from Tehran using purposive sampling until theoretical saturation was achieved, and data were analyzed through thematic analysis. In the quantitative phase, the extracted components were examined in a larger sample to assess content validity and internal consistency, and the finalized protocol was structured into a session-based intervention model. Thematic analysis yielded six core domains of healthy lifestyle promotion: psychological self-regulation, eating behavior restructuring, physical activity integration, stress and sleep management, social and environmental support, and meaning and motivation. Content validity indices and ratios exceeded acceptable thresholds for all components, and reliability analysis demonstrated strong internal consistency, with high Cronbach's alpha coefficients for individual domains and excellent overall protocol reliability. The findings support the conceptualization of binge eating as a multidimensional lifestyle-related condition and indicate that the developed protocol is theoretically coherent, empirically grounded, and psychometrically sound. The protocol provides a structured yet flexible framework that integrates emotional, behavioral, and lifestyle components, offering a promising approach for promoting sustainable healthy lifestyle change among individuals with binge eating.

**Keywords:** Binge eating; Healthy lifestyle; Protocol development; Lifestyle promotion; Eating behavior regulation

## 1. Introduction

Eating behaviors are increasingly recognized as complex, multidimensional phenomena shaped by the dynamic interaction of biological, psychological, social, and environmental factors. Among maladaptive eating patterns, binge eating represents one of the most prevalent and disruptive forms, characterized by recurrent episodes of consuming large amounts of food accompanied by a subjective sense of loss of control. Beyond its diagnostic classification, binge eating is now widely understood as a lifestyle-related condition that reflects dysregulation across multiple domains, including emotional regulation, stress management, physical activity, sleep patterns, and health-related beliefs. Consequently, contemporary research has shifted away from narrowly focused dietary or weight-centered interventions toward more comprehensive healthy lifestyle approaches that address the broader determinants of eating behavior and long-term well-being (Rahmani et al., 2018; Vakili et al., 2024).

A growing body of evidence suggests that unhealthy lifestyle patterns play a central role in the onset, maintenance, and exacerbation of binge eating behaviors. Chronic stress, irregular sleep, sedentary behavior, emotional avoidance, and maladaptive coping strategies have all been shown to increase vulnerability to binge episodes by weakening self-regulatory capacity and heightening reactivity to internal and external cues (Nishitani et al., 2009; Sentürk, 2025). From this perspective, binge eating cannot be adequately understood or treated as an isolated eating problem; rather, it should be conceptualized as a manifestation of broader lifestyle dysregulation that requires integrative and sustainable intervention strategies. This reconceptualization has important implications for both prevention and treatment, particularly in urban contexts where lifestyle stressors are pervasive.

Healthy lifestyle promotion has emerged as a key paradigm in behavioral health, emphasizing the development of enduring patterns of self-care, adaptive coping, and health-supportive behaviors rather than short-term symptom reduction. Lifestyle-focused interventions typically integrate components such as mindful eating, regular physical activity, stress reduction, sleep hygiene, and value-based motivation. Research across diverse populations has demonstrated that such approaches can improve self-regulation, psychological well-being, and health-related quality of life while simultaneously reducing

maladaptive eating behaviors (Abalorio & Turner, 2025; Rejeski et al., 2011). Importantly, lifestyle promotion frameworks align with contemporary models of behavior change that prioritize autonomy, self-efficacy, and internalized motivation as drivers of sustainable outcomes.

Self-regulation and self-efficacy have been repeatedly identified as central mechanisms linking lifestyle behaviors to eating outcomes. Individuals who perceive themselves as capable of managing emotional distress, regulating impulses, and maintaining consistent health behaviors are less likely to engage in binge eating, even in the presence of stressors. Empirical studies have shown that self-regulatory eating efficacy predicts both weight-related outcomes and reductions in maladaptive eating across age groups (Kibayashi, 2022; Rejeski et al., 2011). These findings underscore the importance of interventions that explicitly target regulatory skills and empower individuals to actively manage their lifestyle choices rather than relying on external control or restrictive rules.

Psychological factors such as stress, emotional distress, body image dissatisfaction, and personality traits further complicate the relationship between lifestyle and binge eating. Elevated perceived stress has been consistently associated with dysregulated eating patterns, particularly in populations exposed to academic, occupational, or social pressures (Atanda-Ogunleye et al., 2025; Sentürk, 2025). During periods of heightened stress, individuals may turn to binge eating as a maladaptive coping strategy to regulate negative affect. At the same time, emerging evidence suggests that certain personality characteristics, such as healthy neuroticism, may interact with lifestyle behaviors to influence eating patterns in more nuanced ways (Arend & Yuen, 2025). These insights highlight the need for flexible, psychologically informed lifestyle protocols that account for individual differences rather than applying uniform behavioral prescriptions.

The role of emotional processes in binge eating has received substantial attention in both clinical and health psychology research. Emotion-focused models posit that binge eating serves as a temporary strategy to escape or modulate overwhelming emotions, particularly when individuals lack adaptive emotional awareness or coping skills. Interventions that enhance emotional recognition, acceptance, and regulation have been shown to reduce binge frequency and improve psychological outcomes in individuals with eating disorders (Mortaz Hajri & Mashhadi, 2016; Rahmani et al., 2018). However, many emotion-focused interventions remain narrowly therapeutic and are

not systematically integrated into broader lifestyle promotion frameworks. This gap points to the value of protocols that embed emotional skills training within everyday lifestyle contexts.

Mindful eating represents one of the most promising lifestyle-oriented strategies for addressing binge eating. By cultivating nonjudgmental awareness of hunger, satiety, and emotional cues, mindful eating interventions aim to disrupt automatic eating patterns and restore a sense of agency. Program evaluations have demonstrated that mindful eating can empower individuals with mental health challenges to develop healthier eating habits and reduce binge-related behaviors (Gidugu & Jacobs, 2019). Moreover, mindfulness-based approaches align well with lifestyle promotion principles by fostering present-moment awareness and self-compassion rather than control or avoidance.

Physical activity constitutes another critical component of a healthy lifestyle in the context of binge eating. Contrary to weight-centric exercise models, recent research emphasizes the importance of body-congruent and enjoyment-based movement that supports psychological well-being and intrinsic motivation. Evidence suggests that healthier movement behavior profiles are associated with more adaptive food choices through self-determined motivations to exercise and regulate eating (Carraça, 2024). This perspective is particularly relevant for individuals with binge eating, for whom punitive or compulsive exercise may exacerbate guilt and dysregulation rather than promote health.

Social and environmental influences further shape eating behaviors and lifestyle patterns. The pervasive influence of social media, food marketing, and digital engagement has been shown to affect dietary choices, body image, and eating attitudes across age groups. While exposure to unhealthy food content and appearance-focused messaging can increase eating pathology, strategically designed social media interventions may also be leveraged to promote healthy eating behaviors and engagement (Ayunin et al., 2024; George & Ravola, 2024; Patil et al., 2024). These findings suggest that effective lifestyle promotion protocols must address not only individual behaviors but also the social and environmental contexts in which those behaviors occur.

Adolescents and young adults have been a particular focus of research on lifestyle beliefs and eating behaviors, with studies demonstrating that healthy lifestyle beliefs predict positive attitudes toward nutrition, exercise, and

weight-related self-efficacy (Akdeniz Kudubes et al., 2022). Although the present study focuses on adults, these findings reinforce the broader principle that beliefs and attitudes about health play a formative role in shaping eating behavior across the lifespan. Interventions that target belief systems and values may therefore yield more durable lifestyle change than those focused solely on behavior modification.

Advances in analytical methods have also contributed to a more sophisticated understanding of lifestyle interventions for eating-related problems. Machine learning approaches have been used to predict and compare the long-term impact of different lifestyle interventions among individuals with eating disorders, highlighting the heterogeneity of response patterns and the importance of personalized approaches (Irandoost et al., 2024). Such findings further support the development of structured yet adaptable protocols that can be tailored to individual needs while maintaining a coherent theoretical foundation.

Despite the growing body of literature on lifestyle interventions, several gaps remain. Many existing programs are fragmented, addressing isolated components such as diet, exercise, or emotion regulation without integrating them into a cohesive protocol. Others lack cultural contextualization, limiting their applicability in non-Western or urban Middle Eastern settings. In Iran, and particularly in metropolitan areas such as Tehran, rapid urbanization, changing dietary patterns, high stress levels, and sedentary lifestyles have created a context in which binge eating and related health problems are increasingly prevalent. Yet, there is a paucity of systematically developed, culturally sensitive lifestyle promotion protocols specifically designed for individuals with binge eating in this context (Irandoost et al., 2024; Vakili et al., 2024).

Taken together, the existing evidence underscores the need for an integrative, evidence-based, and contextually grounded protocol that promotes a healthy lifestyle as a pathway to reducing binge eating and enhancing overall well-being. Such a protocol should synthesize insights from emotion-focused therapy, mindfulness, self-regulation theory, physical activity research, and social-contextual models, while remaining flexible and applicable to real-world settings. Addressing this need, the present study aims to develop a comprehensive healthy lifestyle promotion protocol for individuals with binge eating based on empirical evidence and expert-informed analysis.

## 2. Methods and Materials

### 2.1. Study Design and Participants

This study was designed as an applied, mixed-methods research project aimed at developing a contextually grounded and empirically informed protocol for promoting a healthy lifestyle among individuals with binge eating. The overall methodological logic followed a sequential exploratory design in which qualitative findings were first used to identify core dimensions and mechanisms of lifestyle promotion relevant to binge eating, followed by quantitative procedures to refine, validate, and structure the final protocol. The study population consisted of adults residing in Tehran who met the diagnostic criteria for binge eating disorder or reported clinically significant binge eating behaviors. Participants were recruited from nutrition clinics, psychological counseling centers, and health promotion facilities through purposive and voluntary sampling. Inclusion criteria included being between 18 and 55 years of age, having sufficient literacy to complete questionnaires and participate in interviews, and providing informed consent. Individuals with severe psychiatric disorders such as psychosis, active substance dependence, or medical conditions that could confound eating behavior interventions were excluded. In the qualitative phase, participants were selected using purposive sampling with maximum variation in age, gender, and duration of binge eating experiences to ensure conceptual richness. Sampling continued until theoretical saturation was achieved. In the quantitative phase, a larger sample of participants with similar inclusion criteria was recruited to examine the structure and internal consistency of the extracted components and to support protocol validation.

### 2.2. Measures

Data collection was conducted using multiple complementary tools to ensure methodological rigor and triangulation. In the qualitative phase, semi-structured, in-depth interviews were the primary data source. The interview guide was developed based on a review of the literature on healthy lifestyle behaviors, binge eating, and behavioral change models, and it focused on participants' lived experiences of binge eating, perceived lifestyle challenges, motivational factors, emotional and cognitive triggers, self-regulation strategies, physical activity patterns, nutritional habits, sleep quality, stress management, and perceived facilitators and barriers to lifestyle change.

Interviews were conducted face-to-face in a private setting by a trained researcher, audio-recorded with permission, and transcribed verbatim. Field notes were used to capture non-verbal cues and contextual observations. In addition to interviews, experts in health psychology, nutrition, and behavioral therapy were consulted through focused discussions to enrich the conceptual framework of the protocol. In the quantitative phase, standardized self-report instruments were administered to assess relevant constructs such as binge eating severity, health-related lifestyle behaviors, emotional regulation, and self-care practices. These tools were selected based on their established psychometric properties and cultural appropriateness for the Iranian population. A researcher-developed checklist derived from the qualitative findings was also used to evaluate the relevance and clarity of the proposed protocol components from the perspective of participants and experts.

### 2.3. Data analysis

Data analysis was carried out separately for the qualitative and quantitative phases and then integrated during the protocol development stage. Qualitative data were analyzed using thematic analysis following a systematic and iterative process. Transcripts were read multiple times to achieve immersion, initial codes were generated inductively, and similar codes were clustered into subthemes and overarching themes that represented key dimensions of healthy lifestyle promotion in the context of binge eating. Credibility was enhanced through member checking, peer debriefing, and maintaining an audit trail of analytic decisions. In the quantitative phase, data were analyzed using appropriate statistical software. Descriptive statistics were used to characterize the sample, while inferential analyses were applied to examine the internal consistency and construct coherence of the extracted components. Reliability indices such as Cronbach's alpha were calculated, and exploratory factor analysis was conducted where appropriate to confirm the dimensional structure of the lifestyle promotion components. Finally, findings from both phases were synthesized to design a structured, session-based protocol that clearly articulated goals, core components, behavioral techniques, and implementation guidelines for promoting a healthy lifestyle among individuals with binge eating.

### 3. Findings and Results

The demographic analysis indicated that participants represented a diverse adult population from Tehran with clinically relevant binge eating patterns. In the qualitative phase, participants ranged in age from early adulthood to middle age, with a balanced representation of men and women. Most participants reported a history of recurrent binge eating episodes lasting longer than one year, and a substantial proportion indicated previous unsuccessful

attempts at dietary restriction or weight-control programs. Educational levels varied from high school diplomas to postgraduate degrees, and participants were drawn from different occupational backgrounds, including employed, self-employed, and homemakers. In the quantitative phase, the larger validation sample showed a similar demographic distribution, suggesting adequate representativeness and transferability of the findings to urban adults with binge eating in Tehran.

**Table 1**

*Results of Qualitative Thematic Analysis on Healthy Lifestyle Promotion in Individuals with Binge Eating*

Main Theme	Subthemes	Conceptual Description
Psychological self-regulation	Emotional awareness, impulse control, coping flexibility	Enhancing recognition of emotional triggers, delaying impulsive eating responses, and adopting adaptive coping strategies
Eating behavior restructuring	Mindful eating, hunger-satiety regulation, cognitive reframing of food	Developing conscious eating patterns, distinguishing physical hunger from emotional urges, and modifying dysfunctional food-related beliefs
Physical activity integration	Gradual activity engagement, enjoyment-based movement	Incorporating sustainable and pleasurable physical activities into daily routines
Stress and sleep management	Stress reduction skills, sleep hygiene	Improving lifestyle balance through relaxation techniques and regular sleep patterns
Social and environmental support	Family involvement, environmental modification	Leveraging interpersonal support and modifying food-related environments to reduce relapse risk
Meaning and motivation	Value-based goals, self-compassion	Strengthening intrinsic motivation and fostering a non-judgmental attitude toward behavior change

The qualitative analysis revealed six overarching themes and multiple interrelated subthemes that together defined a multidimensional model of healthy lifestyle promotion for individuals with binge eating. Psychological self-regulation emerged as a core theme, emphasizing emotional awareness and impulse control as foundational mechanisms. Eating behavior restructuring highlighted the importance of mindful eating and cognitive shifts around food. Physical

activity integration was framed not as weight-loss driven exercise but as enjoyable and attainable movement. Stress and sleep management reflected participants' recognition of fatigue and stress as key binge triggers. Social and environmental support underscored the role of family dynamics and food availability. Finally, meaning and motivation emphasized value-based living and self-compassion as sustaining forces for long-term change.

**Table 2**

*Structure and Content of the Healthy Lifestyle Promotion Protocol for Individuals with Binge Eating*

Session	Title	Core Focus	Key Techniques
Session 1	Orientation and motivation	Understanding binge eating and lifestyle health	Psychoeducation, motivational interviewing
Session 2	Emotional awareness	Identifying emotional triggers	Emotion labeling, self-monitoring
Session 3	Self-regulation skills	Managing urges and impulses	Delay techniques, urge surfing
Session 4	Mindful eating	Reconnecting with hunger and satiety	Mindfulness exercises, eating awareness practices
Session 5	Cognitive restructuring	Modifying maladaptive food beliefs	Cognitive reframing, thought records
Session 6	Physical activity integration	Building sustainable movement habits	Activity planning, values-based movement
Session 7	Stress and sleep regulation	Reducing physiological vulnerability	Relaxation training, sleep hygiene education
Session 8	Social support and environment	Strengthening external supports	Family communication skills, environment redesign
Session 9	Self-compassion and values	Enhancing motivation and resilience	Self-compassion exercises, values clarification
Session 10	Relapse prevention	Maintaining lifestyle change	Relapse planning, future-oriented goal setting

The protocol development process resulted in a structured ten-session intervention model. Each session was designed

to build progressively on previous content, moving from awareness and motivation toward skill acquisition,

integration, and maintenance. Sessions combined psychoeducational elements with experiential and behavioral techniques. Emphasis was placed on flexibility, cultural relevance, and applicability to everyday life rather

than rigid behavioral prescriptions. The sequencing of sessions reflects the theoretical integration of emotional regulation, cognitive-behavioral principles, and lifestyle medicine perspectives.

**Table 3**

*Content Validity and Reliability Indices of the Healthy Lifestyle Promotion Protocol*

Component	CVR	CVI	Cronbach's Alpha
Psychological self-regulation	0.78	0.89	0.84
Eating behavior restructuring	0.81	0.91	0.86
Physical activity integration	0.74	0.87	0.82
Stress and sleep management	0.76	0.88	0.83
Social and environmental support	0.72	0.86	0.80
Meaning and motivation	0.79	0.90	0.85
Total protocol	—	—	0.91

The validity assessment demonstrated strong content adequacy of the protocol components. Content Validity Ratio values exceeded acceptable thresholds for all dimensions, indicating expert agreement on the essentiality of the components. Content Validity Index values reflected high relevance, clarity, and simplicity across protocol elements. Reliability analysis showed satisfactory to excellent internal consistency, with Cronbach's alpha coefficients ranging from 0.80 to 0.86 for individual components and reaching 0.91 for the overall protocol. These findings collectively support the methodological robustness, conceptual coherence, and practical readiness of the developed healthy lifestyle promotion protocol for individuals with binge eating.

#### 4. Discussion

The present study aimed to develop a structured protocol for promoting a healthy lifestyle among individuals with binge eating, grounded in empirical qualitative insights and supported by quantitative validation. The findings demonstrated that binge eating is closely intertwined with multidimensional lifestyle dysregulation rather than being limited to maladaptive eating patterns alone. The qualitative analysis revealed six interrelated domains, including psychological self-regulation, eating behavior restructuring, physical activity integration, stress and sleep management, social and environmental support, and meaning and motivation. This multidimensional structure aligns with contemporary conceptualizations that view binge eating as an outcome of impaired self-regulatory processes operating within stressful and obesogenic environments (Nishitani et al., 2009; Sentürk, 2025).

One of the most salient findings of the study was the central role of psychological self-regulation and emotional awareness in binge eating behavior. Participants consistently described binge episodes as responses to emotional overload, stress, or a sense of internal loss of control. This finding is consistent with prior research demonstrating that deficits in emotion regulation and impulse control are core mechanisms underlying binge eating and other eating disorders (Mortaz Hajri & Mashhadi, 2016; Rahmani et al., 2018). The strong validity and reliability indices associated with this component suggest that targeting emotional regulation within a lifestyle framework is both conceptually sound and practically essential. Emotion-focused and unified therapeutic approaches have similarly emphasized the importance of enhancing emotional coherence to improve quality of life and reduce eating pathology (Rahmani et al., 2018; Vakili et al., 2024), supporting the inclusion of this dimension as a foundational element of the protocol.

The restructuring of eating behavior through mindful and conscious engagement with food emerged as another key outcome of the qualitative analysis. Participants highlighted habitual, automatic eating patterns and distorted beliefs about food as primary contributors to binge episodes. The emphasis on mindful eating and hunger-satiety awareness in the developed protocol is strongly supported by previous studies showing that mindful eating interventions can empower individuals to disengage from automatic consumption and regain a sense of agency over eating behavior (Gidugu & Jacobs, 2019). Moreover, mindful approaches align with health behavior change models that prioritize awareness, acceptance, and self-compassion rather than restriction, which has been shown to reduce resistance

and relapse (Abalorio & Turner, 2025). The high content validity indices for this component further indicate expert consensus regarding its relevance and applicability.

Physical activity integration was identified as an important but often misunderstood aspect of lifestyle change among individuals with binge eating. Participants frequently associated exercise with guilt, punishment, or weight loss pressure, which undermined consistency and motivation. The protocol's emphasis on gradual, enjoyment-based, and value-congruent movement reflects recent evidence suggesting that self-determined motivations for physical activity are more strongly associated with adaptive food choices and healthier eating regulation than externally imposed exercise goals (Carraça, 2024). This finding also resonates with research demonstrating that lifestyle interventions focusing on intrinsic motivation yield more sustainable long-term outcomes compared to rigid or performance-oriented programs (Rejeski et al., 2011). By reframing physical activity as a supportive lifestyle behavior rather than a compensatory strategy, the protocol addresses a critical barrier to adherence among this population.

Stress and sleep management emerged as interconnected lifestyle domains that significantly influence binge eating vulnerability. Participants described chronic stress, fatigue, and irregular sleep as precursors to binge episodes, which is consistent with occupational and population-based studies linking stress exposure to dysregulated eating behaviors (Atanda-Ogunleye et al., 2025; Nishitani et al., 2009). The inclusion of relaxation techniques and sleep hygiene education in the protocol is therefore theoretically justified and empirically supported. Research on perceived stress and eating behavior among athletes and students similarly indicates that unmanaged stress exacerbates emotional eating and body image concerns (Bulut et al., 2024; Şentürk, 2025). Addressing physiological vulnerability through stress and sleep regulation may thus enhance the effectiveness of other lifestyle components by restoring baseline self-regulatory capacity.

Social and environmental support constituted another significant theme in the qualitative findings. Participants emphasized the influence of family dynamics, food availability, and social norms on their eating behavior. This aligns with growing evidence that eating behaviors are socially embedded and shaped by environmental cues, including digital and social media influences (George & Ravola, 2024; Patil et al., 2024). While social media has often been implicated in promoting unhealthy eating and body dissatisfaction, emerging research suggests that it can

also be leveraged as a tool for positive engagement and health promotion when content is intentionally designed (Ayunin et al., 2024; Mazzeo et al., 2024). The protocol's focus on modifying the immediate food environment and enhancing supportive communication reflects an ecological approach to lifestyle change that extends beyond individual willpower.

The dimension of meaning and motivation highlighted the importance of value-based living and self-compassion in sustaining lifestyle change. Participants reported that shame, self-criticism, and all-or-nothing thinking often perpetuated binge cycles. The protocol's emphasis on self-compassion and values clarification is supported by research indicating that internalized health beliefs and coherent self-concepts are associated with greater adherence to healthy behaviors (Akdeniz Kudubes et al., 2022; Kibayashi, 2022). Additionally, recent findings on healthy neuroticism suggest that when self-awareness and concern for health are channeled constructively, they may facilitate adaptive eating behaviors rather than pathology (Arend & Yuen, 2025). This underscores the importance of motivational framing that transforms vulnerability into self-care rather than self-punishment.

The quantitative validation results further strengthen the contribution of this study. High content validity ratios and indices across all components indicate strong expert agreement regarding the necessity and relevance of the protocol elements. The excellent overall internal consistency suggests that the protocol represents a coherent and integrated framework rather than a collection of unrelated techniques. These findings are consistent with prior intervention studies demonstrating that multi-component lifestyle programs yield stronger and more durable outcomes for individuals with eating-related problems compared to single-focus interventions (Irandoust et al., 2024; Rejeski et al., 2011). The structured session-based format also enhances feasibility for implementation in clinical and community settings.

From a contextual perspective, the development of this protocol addresses a critical gap in culturally relevant lifestyle interventions for binge eating in urban Iranian populations. Rapid lifestyle transitions, increased exposure to stressors, and changing food environments in metropolitan areas such as Tehran necessitate interventions that are both evidence-based and context-sensitive. Previous comparative studies on therapeutic approaches for binge eating in Iran have highlighted the effectiveness of psychological interventions but also noted the need for

broader lifestyle integration (Vakili et al., 2024). By synthesizing psychological, behavioral, and lifestyle components, the present protocol offers a comprehensive response to this need.

## 5. Conclusion

Overall, the findings support the conceptualization of binge eating as a lifestyle-related condition that requires integrative intervention strategies. The developed protocol reflects contemporary theoretical models of health behavior change, aligns with international empirical evidence, and demonstrates strong preliminary validity and reliability. By targeting multiple, interacting lifestyle domains, the protocol holds promise for reducing binge eating behaviors while simultaneously enhancing overall health and well-being.

Despite its strengths, this study has several limitations that should be considered when interpreting the findings. The sample was drawn exclusively from an urban population in Tehran, which may limit the generalizability of the protocol to rural settings or other cultural contexts. Self-report measures were used in the quantitative phase, which may be subject to response bias. Additionally, while the protocol was validated in terms of content and internal consistency, its effectiveness was not examined through a longitudinal or experimental design.

Future studies should evaluate the efficacy of the developed protocol through randomized controlled trials and longitudinal follow-ups to assess its impact on binge eating frequency, psychological well-being, and lifestyle sustainability. Research comparing this protocol with existing therapeutic approaches could further clarify its relative effectiveness. Additionally, adaptation and testing of the protocol in diverse cultural and demographic groups would enhance its applicability and external validity.

In practical terms, the developed protocol can be used by psychologists, nutritionists, and health promotion practitioners as a structured framework for working with individuals who experience binge eating. Its flexible, lifestyle-oriented design allows for adaptation to individual needs and settings. Incorporating the protocol into community health programs and preventive services may also contribute to reducing the broader burden of lifestyle-related eating problems.

## Authors' Contributions

S.Z. conceived the study idea, led the overall research design, and supervised the development of the healthy

lifestyle promotion protocol. S.J. conducted the qualitative interviews, performed the thematic analysis, and contributed to structuring the session-based intervention model. A.G. was responsible for the quantitative phase, including content validity assessment, reliability analysis, and statistical interpretation of findings. F.A. contributed to integrating psychological and behavioral frameworks, critically reviewed the protocol content, and participated in manuscript drafting and revision. All authors reviewed and approved the final version of the manuscript and take responsibility for the integrity of the work.

## Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

## Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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## Declaration of Interest

The authors report no conflict of interest.

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## Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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