




Development of a Healthy Body Image Package for Adolescents Aged 12 to 15 with Body Image Dissatisfaction: A Qualitative Thematic Analysis Approach

Shiva. Akhtarian¹, Mansoureh. Bahramipour Isfahani^{2*}, Gholamreza. Manshaee³

¹ PhD Student, Department of Clinical Psychology, Faculty of Education and Psychology, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

² Assistant Professor, Department of Clinical Psychology, Faculty of Education and Psychology, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

³ Associate Professor, Department of Clinical Psychology, Faculty of Education and Psychology, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

* Corresponding author email address: bahramipourisfahani@yahoo.com

Article Info

Article type:

Original Research

How to cite this article:

Akhtarian, S., Bahramipour Isfahani, M., & Manshaee, G. (2024). Development of a Healthy Body Image Package for Adolescents Aged 12 to 15 with Body Image Dissatisfaction: A Qualitative Thematic Analysis Approach. *Journal of Adolescent and Youth Psychological Studies*, 5(5), 21-29.

<http://doi.org/10.61838/kman.jayps.5.5.4>



© 2024 the authors. Published by KMAN Publication Inc. (KMANPUB), Ontario, Canada. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

ABSTRACT

Objective: This study aimed to develop a healthy body image package for adolescents aged 12 to 15 years with body image dissatisfaction.

Methods and Materials: The research method was a theory-driven deductive thematic analysis. In the qualitative content determination phase, the content, structure, and final form of the healthy body image package were developed using a five-step method based on theory-driven thematic analysis in line with Attride-Stirling's (2001) thematic network analysis. The statistical population included scientific texts related to a healthy body image and experts in the field of adolescent psychotherapy. Purposeful sampling was employed based on the content relevance of 30 scientific texts to strategies for promoting a healthy body image in adolescents until theoretical saturation was reached. Additionally, 6 expert psychotherapists with more than 10 years of experience in adolescent psychotherapy participated. Data were analyzed using theory-driven thematic analysis.

Findings: The findings indicated that the content of the healthy body image package included four main concepts: perceptual strategies training, emotional strategies training, cognitive strategies training, and behavioral strategies training. The content validity of the educational package was equal to 1.

Conclusion: According to the results of the present study, it is suggested that this educational package be taught to managers, teachers, and counselors to reduce body image dissatisfaction in adolescents.

Keywords: *Healthy body image, adolescents, body image dissatisfaction*

1. Introduction

Over the past few decades, interest and attention toward the rapid and significant physical, psychological, emotional, and social changes in adolescents have been increasing daily. During the developmental period of adolescence, individuals possess the highest and fastest growth potential and, if given the necessary and sufficient conditions for growth, will achieve their highest excellence (Harrist & Criss, 2021). As mentioned, during this period, individuals experience multiple comprehensive changes due to the maturation process, which can potentially impact the adolescent's life. For instance, the most notable of these changes is that adolescents naturally become particularly sensitive to their appearance (Sabzevari et al., 2019). Attention to appearance is a common feature of every human being; however, excessive attention to appearance sometimes creates numerous problems for the individual (Sadock, Sadock, & Ruiz, 2021). In other words, excessive attention to certain aspects of the body, causing suffering and dissatisfaction, can be problematic (Hicks et al., 2022; Layam et al., 2019). Body image is defined as the internalized representations of the physical aspects of the body. More precisely, body image is an individual's internal view of how they look and feel about themselves (Hajiyousef et al., 2022). Dissatisfaction with one's appearance (body image dissatisfaction) has become a global phenomenon, associated with extreme behaviors aimed at correcting perceived body flaws (Hicks et al., 2022). Body image dissatisfaction includes concerns and preoccupations with a perceived defect in appearance or excessive mental emphasis on a minor flaw. Researchers state that during a period of adolescence, individuals engage in obsessive behaviors (e.g., mirror checking, excessive makeup) or mental activities (e.g., comparing their appearance to others), and such preoccupation can lead to significant clinical emotional distress or notable impairment in important areas of functioning (Veale & Neziroglu, 2010). However, adolescents usually do not seek help or treatment in the early stages of adolescence, mainly due to feelings of shame, and this issue is rarely reported as the main complaint (Sabzevari et al., 2019). The consequences of body image dissatisfaction vary greatly and include moderate to severe physical, psychological, and biological problems throughout an individual's life (Milano et al., 2018). For example, individuals with body image dissatisfaction suffer from gastrointestinal issues, hormonal disorders, high blood pressure, diabetes, irritable bowel syndrome, fluid and

electrolyte imbalances, and are vulnerable to chronic physical diseases and other psychological disorders. Additionally, due to a negative body image and dissatisfaction with their appearance, they often experience emotional dysregulation and social phobia and have low ability to regulate their emotions, with a greater tendency towards opioid and alcohol consumption (Veale & Neziroglu, 2010). Therefore, body image dissatisfaction generally disrupts daily functioning, including sleep problems, and leads to decreased quality of life and increasing economic and social burden on these individuals and society (Behdarvandan et al., 2021).

Given that the lack of a healthy body image can be a difficult, abnormal, and stressful situation for adolescents, and considering the role of supportive educational interventions in body image dissatisfaction, the present study aims to answer the following questions:

What is the structure and content of the healthy body image package?

What is the final form of the healthy body image package?

What is the content and expert validity of the healthy body image package?

2. Methods and Materials

2.1. Study Design and Participants

This study is exploratory in nature and qualitative. In the first stage, to develop the novel healthy body image educational package, a five-step method using theory-driven thematic analysis in line with Attride-Stirling's (2001) thematic network analysis was used. The statistical population included scientific texts related to a healthy body image and experts in the field of adolescent psychotherapy. Purposeful sampling was employed based on the content relevance of 30 scientific texts related to strategies for promoting a healthy body image in adolescents until theoretical saturation was reached, and content validity was confirmed by five faculty members in psychology and counseling with more than 10 years of experience in adolescent psychotherapy. In summary, the process of developing this type of intervention involved initially reviewing the relevant scientific texts, then aligning the components and elements of healthy body image education with educational techniques, and drafting the initial educational package. Finally, based on a designed survey form to assess the final agreement of the six target experts, the final group opinions were obtained, and the agreement

coefficient (internal agreement) for the structure, process, components, time, skills, and exercises of the educational package was calculated.

2.2. *Measures*

2.2.1. *Form for Recording Results of Theory-Driven and Literature-Based Thematic Analysis*

This form, based on comprehensive themes, intermediary comprehensive themes, organizing themes, basic themes, and meaningful units, was used for thematic analysis of the components and structure of the healthy body image package based on Attride-Stirling's (2001) thematic network analysis approach. This form was used in the first stage of the qualitative part of the present study, and its content validity was fully aligned with Attride-Stirling's (2001) thematic network analysis.

2.2.2. *Form for Expert Content Evaluation of the Healthy Body Image Package*

This form was used in the content and expert evaluation phase of the developed healthy body image package after drafting and before the main study in the quantitative section. It included four questions on the suitability of sessions with the structure and necessary steps in the healthy body image process, the adequacy of time allocated for each step and skill of the healthy body image process, the adequacy of the healthy body image package for implementation, and overall evaluation of the healthy body

image package, along with a section for recording evaluators' suggestions and expert opinions. The response scale in this form ranged from 1 (poor) to 5 (excellent), and experts answered each of the four questions based on the package content. The scores provided for the process, content, time adequacy, implementation adequacy, and overall package adequacy were used to calculate the agreement coefficient between the evaluators.

2.3. *Data analysis*

In the first stage of the qualitative part, to achieve the thematic network of the components and structure of the healthy body image package, the structure and content of this type of education were extracted from scientific texts (including books, articles, theses, and dissertations). Then, in the second stage, after achieving the thematic network of healthy body image education, the initial healthy body image package for adolescents aged 12 to 15 with body image dissatisfaction was developed based on the frequency and extent of each intermediary comprehensive theme and organizing theme, and the suitability of the required educational techniques with each intermediary comprehensive theme and organizing theme.

3. Findings and Results

The content validity of the content evaluation form was reviewed by expert evaluators. The agreement among evaluators is detailed in [Table 1](#).

Table 1

Result of Evaluators' Agreement on the Healthy Body Image Package for Adolescents Aged 12 to 15 with Body Image Dissatisfaction

Row	Agreement Topic	First	Second	Third	Fourth	Fifth	Sixth	Mean Agreement	Overall Agreement
1	Content consistency of scheduled sessions with the healthy body image process for adolescents	5	5	4	5	4	5	0.93	0.912
2	Suitability of sessions with the structure and necessary steps in healthy body image education for adolescents	4	5	5	4	5	4	0.90	
3	Adequacy of time allocated for each step and skill in healthy body image education for adolescents	5	4	5	5	5	4	0.93	
4	Adequacy of the healthy body image educational package for adolescents aged 12 to 15 for implementation	5	5	5	4	4	4	0.90	
5	Overall evaluation of the healthy body image educational package for adolescents	5	5	4	4	4	5	0.90	

As mentioned, a thematic analysis was performed on the scientific texts. A sample of the results of the theory-driven

deductive thematic analysis of the scientific texts related to healthy body image strategies is presented in [Table 2](#).

Table 2

Sample Results of Theory-Driven Deductive Thematic Analysis of Scientific Texts Related to Healthy Body Image

Comprehensive Theme	Intermediary Organizing Theme	Organizing Theme	Basic Theme
Healthy Body Image	Perceptual Dimension	Definition	Body perception (Grogan, 2021); Body and organ representation (Barlett et al., 2008; Wilhelm & ebrary, 2006); Body image (Becker et al., 2016); Reality congruence, reality incongruence (Taylor & Wardy, 2014)
		Components	Awareness of body needs (Becker et al., 2016; Cash, 1997); Understanding body needs (Veale & Neziroglu, 2010); Self-care for body needs; Avoiding self-objectification (Stice et al., 2007); Introspective awareness (Nichols et al., 2018)
		Enhancement Strategies	Self-care education for body needs (Alva et al., 2015 & 2018); Coping with self-objectification education (Guest et al., 2019); Perceptual and introspective awareness training (Alleva et al., 2018; Alleva et al., 2015); Mindfulness training (Gumz et al., 2017); Understanding and absorbing support resources (Gurung et al., 2019)
	Emotional Dimension	Definition	Feelings towards one's body (Wilhelm & ebrary, 2006)
		Components	Physical relaxation (Cohen et al., 2020; Hamamoto et al., 2022); Body pride (Grabe et al., 2008; Holland & Tiggemann, 2016); Avoidance of body shame (Griffiths et al., 2016; Le et al., 2017; van de Grift et al., 2016); Sense of belonging to common humanity (Alleva et al., 2018; Alleva et al., 2015)
		Enhancement Strategies	Self-compassion strategies (Guest et al., 2019); Physical self-soothing strategies (Veale & Neziroglu, 2010); Coping with body shame strategies (Lucidi et al., 2017); Emotion regulation strategies (Hughes & Gullone, 2011); Emotional and expressive writing about the body (Alleva et al., 2018; Alleva et al., 2015); Self-esteem enhancement training (Meland et al., 2021); Interpersonal emotional skills training (Veale & Neziroglu, 2010)
	Cognitive Dimension	Definition	Positive opinions about the body (Grogan, 2021); Unconditional body acceptance (Taylor & Wardy, 2014)
		Components	Body acceptance (Burychka et al., 2021; Levine & Smolak, 2016); Body gratitude (Taylor & Wardy, 2014); Body respect (Grogan, 2021); Avoiding mental comparison with others (Nichols et al., 2018); Avoiding negative body judgment and evaluation (Nichols et al., 2018)
		Enhancement Strategies	Protective cognitive styles training (Alleva et al., 2018; Alleva et al., 2015; Cash, 1997); Health-oriented expressive language training (Alleva et al., 2018; Alleva et al., 2015); Positive appreciation training (Stice et al., 2007); Healthy body image mindfulness training (Stice et al., 2007); Positive self-talk training (Cash, 1997); Cognitive and evaluative conditioning training (Alleva et al., 2018; Alleva et al., 2015)
	Behavioral Dimension	Definition	Body-focused behaviors (Grogan, 2021)
		Components	Sense of agency (Taylor & Wardy, 2014); Healthy physical functioning (Rodgers et al., 2021); Positive physical functioning (Taylor & Wardy, 2014); Priority for a healthy body (Grogan, 2021); Behavior based on a vigorous and energetic body (Barlett et al., 2008)
		Enhancement Strategies	Comprehensive health behavior self-monitoring (Cash, 1997); Behavioral and functional exposure training (Guest et al., 2019); Attractive and healthy body behavioral programs (Le et al., 2017); Stress management and coping strategies training (Alleva et al., 2018; Alleva et al., 2015); Practical action planning training (Lucidi et al., 2017); Prevention of return to body dissatisfaction and negative body image training (Alleva et al., 2018; Alleva et al., 2015)

In the next stage, the frequency of the basic themes was used as the most common criterion for determining the amount of time to be allocated to each of the intermediary themes. To decide on the design and focus level appropriate to the organizing and basic themes in the healthy body image

educational package, the frequency and percentage frequency of the basic themes for each of the four organizing themes were calculated and ranked. The results of this stage are presented in Table 3.

Table 3

Frequency and Percentage Frequency of Comprehensive Themes from Theory-Driven Deductive Thematic Analysis

Row	Dimension Title	Frequency	Percentage Frequency	Rank
1	Perceptual Dimension of Healthy Body Image	11	22.9%	3.5
2	Emotional Dimension of Healthy Body Image	13	27.1%	1.5
3	Cognitive Dimension of Healthy Body Image	11	22.9%	3.5
4	Behavioral Dimension of Healthy Body Image	13	27.1%	1.5
5	Total	48	100%	-

As shown in Table 3, the prioritization based on basic themes for healthy body image education is as follows:

The first rank is jointly held by the Emotional Dimension of Healthy Body Image and the Behavioral Dimension of Healthy Body Image (each 27.1%).

The second rank is jointly held by the Perceptual Dimension of Healthy Body Image and the Cognitive Dimension of Healthy Body Image (each 22.9%).

Given the frequency of each of the four dimensions required in healthy body image education, a chi-square test was performed to determine the significant difference between the frequency of the four dimensions. The calculated chi-square was 0.32. The table chi-square for 3 degrees of freedom (4 themes minus 1) at the 0.05 level is

7.81, which is larger than the calculated chi-square. This indicates that the differences between the frequencies of the four dimensions are not significant. Therefore, equal sessions and equal length of time can be considered for each dimension in the development of the healthy body image educational package. Consequently, considering 8 sessions of 90 minutes for the entire healthy body image educational course, two 90-minute sessions were allocated for each of the perceptual, emotional, cognitive, and behavioral dimensions of healthy body image (total of 8 sessions).

Based on previous research on the focus of healthy body image education, the sequence of educational sessions focusing on the mentioned dimensions is presented in Table 4.

Table 4

Session Allocation Matrix for Healthy Body Image Education for Each of the Four Dimensions

Educational Sessions	Healthy Body Image Education Focus	1	2	3	4	5	6	7	8
First	Perceptual Dimension Enhancement Strategies	1							
Second	Perceptual Dimension Enhancement Strategies		2						
Third	Emotional Dimension Enhancement Strategies			3					
Fourth	Emotional Dimension Enhancement Strategies				4				
Fifth	Cognitive Dimension Enhancement Strategies					5			
Sixth	Behavioral Dimension Enhancement Strategies						6		
Seventh	Cognitive Dimension Enhancement Strategies							7	
Eighth	Behavioral Dimension Enhancement Strategies								8

It should be noted that the first and eighth sessions, considering the implementation of the pre-test in the first session and the post-test in the eighth session, along with the summary of the educational course, are considered to be 110 minutes each, while the remaining sessions are all 90 minutes long.

After determining the order of the sessions and the time allocated to each of the four educational dimensions in the healthy body image educational package, the final techniques and methods suitable for the educational package

were identified through conventional content analysis again (after the thematic analysis, another round of conventional content analysis of the related texts on healthy body image education was conducted to ensure the educational techniques needed and appropriate for the healthy body image enhancement educational package, which were extracted during the thematic analysis, were considered based on key refinements. The results are summarized in Table 5.

Table 5

Educational Techniques for Healthy Body Image Enhancement Education Corresponding to the Four Dimensions of Healthy Body Image

Row	Four Dimensions	Extracted Educational Techniques and Methods from Related Sources
1	Perceptual Dimension	1. Self-care exercises for responding to perceived body needs in a healthy way (Alleva et al., 2018; Alleva et al., 2015); 2. Strategies for coping with self-objectification (Guest et al., 2019); 3. Techniques for introspective awareness of body organs and functions (Alleva et al., 2018; Alleva et al., 2015); 4. Mindfulness for aligning perception with reality about the body and its functions (Gumz et al., 2017); 5. Understanding and absorbing supportive resources (Grogan, 2021); 6. Expanding perception beyond appearance exercises (Alleva et al., 2018; Alleva et al., 2015); 7. Group discussion about positive and negative body image, behavioral manifestations, healthy and harmful nutrition, and positive and harmful exercises (Alleva et al., 2018; Alleva et al., 2015)
2	Emotional Dimension	1. Self-compassion strategies related to the body and its functions (Guest et al., 2019; Meland et al., 2021); 2. Physical self-soothing strategies related to the body and its parts (Veale & Neziroglu, 2010); 3. Coping with body shame strategies (Lucidi et al., 2017); 4. Emotion regulation strategies about the body (Hughes & Gullone, 2011); 5. Emotional and expressive writing about

		the body and its parts (Alleva et al., 2018; Alleva et al., 2015); 6. Self-esteem enhancement training (Meland et al., 2021); 7. Interpersonal emotional and emotional skills training (Veale & Neziroglu, 2010)
3	Cognitive Dimension	1. Protective cognitive styles enhancement strategies for positive and healthy body image (Alleva et al., 2018; Alleva et al., 2015; Cash, 1997); 2. Expressive language training about the body and its parts (Alleva et al., 2018; Alleva et al., 2015); 3. Positive appreciation and body image health enhancement strategies (Stice et al., 2007); 4. Mindfulness strategies for positive body image enhancement (Stice et al., 2007); 5. Positive self-talk about the body and appearance (Cash, 1997); 6. Cognitive and evaluative conditioning training (Alleva et al., 2018; Alleva et al., 2015)
4	Behavioral Dimension	1. Comprehensive behavioral self-monitoring (Cash, 1997); 2. Behavioral exposure exercises (Guest et al., 2019); 3. Attractive and healthy body behavior programs (Lee et al., 2017); 4. Stress management and coping strategies training (Alleva et al., 2018; Alleva et al., 2015); 5. Exercises for estimating body part sizes (Stice et al., 2007); 6. Action planning training (Lucidi et al., 2017); 7. Prevention of return to body dissatisfaction strategies (Alleva et al., 2018; Alleva et al., 2015)

After extracting the healthy body image educational strategies, the allocation of sessions to each dimension was

prepared. Table 6 presents a summary of the healthy body image educational sessions.

Table 6

Summary of Healthy Body Image Educational Sessions

Sessions	Summary of Sessions
First	Introduction, familiarization, setting practical and operational goals for the educational course, and implementing the pre-test. Basic acquaintance with the concept, roles, and dimensions of a healthy body image. Group discussion about positive and negative body image, outcomes of positive and negative body image, behavioral manifestations of negative and positive body image, and discussion on healthy and harmful nutrition based on the lived experiences of each member. Introduction to the perceptual dimension of healthy body image and the possibility of its enhancement. Training in techniques for introspective awareness of body organs and their functions. Summarizing the first session and providing homework.
Second	Training and practicing self-care for responding to perceived body needs in a healthy way. Mindfulness self-care technique to strengthen the alignment of perception with reality about the body and its functions. Training in understanding and absorbing supportive resources and expanding perception beyond appearance. Summarizing the second session and providing homework.
Third	Introduction and familiarization with the emotional dimension of a healthy body image and its enhancement methods. Training in self-compassion strategies related to the body and its functions. Training in coping strategies for body shame and enhancing self-esteem. Summarizing the third session and providing homework.
Fourth	Training in emotional and expressive writing about the body and its parts. Training in emotion regulation strategies (both negative and positive) related to the body. Summarizing the fourth session and providing homework.
Fifth	Introduction and familiarization with the cognitive dimension of a healthy body image and its enhancement methods. Mindfulness techniques training for positive and healthy body image enhancement (coping with cognitive distortions and maladaptive beliefs). Positive self-talk training about the body and appearance (replacing cognitive distortions and maladaptive beliefs). Summarizing the fifth session and providing homework.
Sixth	Introduction and familiarization with the behavioral dimension of a healthy body image and its enhancement methods. Training in behavioral planning for action. Comprehensive behavioral self-monitoring training. Behavioral exposure exercises training. Summarizing the sixth session and providing homework.
Seventh	Training in acceptance and appreciation of the body and appearance to enhance a healthy and positive body image. Training in cognitive and evaluative conditioning techniques (continuation of replacing cognitive distortions and maladaptive beliefs). Summarizing the seventh session and providing homework.
Eighth	Training in stress management and coping strategies for a negative body image. Behavioral prevention training for returning to body dissatisfaction. Summarizing the educational sessions, providing homework, and implementing the post-test.

In the final stage, to assess the content validity of the package, six psychologists were asked to evaluate the content on a five-point scale based on content evaluation questions. Content validity was assessed using the CVR coefficient, resulting in CVR=1, indicating the content validity of the package.

4. Discussion and Conclusion

This study aimed to answer three research questions. The first research question regarding the structure and content of the healthy body image educational package was answered as follows: The components and structure of the healthy body image enhancement educational package consist of

educational techniques focused on the perceptual dimension of a healthy body image (25% of the educational course and the first two sessions), the emotional dimension of a healthy body image (25% of the educational course and the third and fourth sessions), the cognitive dimension of a healthy body image (25% of the educational course and the fifth and seventh sessions), and the behavioral dimension of a healthy body image (25% of the educational course and the sixth and eighth sessions).

The second research question regarding the structure and content of the healthy body image educational package for adolescents aged 12 to 15 with body image dissatisfaction was answered as follows: The healthy body image educational package includes eight educational sessions.

The first session includes introductions, stating group goals and rules, establishing connections, and starting the enhancement of the perceptual dimension of a healthy body image. The second session involves reviewing the homework from the previous session, addressing ambiguities and issues of the members, and continuing the enhancement of the perceptual dimension of a healthy body image. The third session includes reviewing the homework from the previous session, addressing ambiguities and issues of the members, and starting the enhancement of the emotional dimension of a healthy body image. The fourth session includes reviewing the homework from the previous session, addressing ambiguities and issues of the members, and continuing the enhancement of the emotional dimension of a healthy body image. The fifth session involves reviewing the homework from the previous session, addressing ambiguities and issues of the members, and starting the enhancement of the cognitive dimension of a healthy body image. The sixth session includes reviewing the homework from the previous session, addressing ambiguities and issues of the members, and starting the enhancement of the behavioral dimension of a healthy body image. The seventh session involves reviewing the homework from the previous session, addressing ambiguities and issues of the members, and continuing the enhancement of the cognitive dimension of a healthy body image. The eighth session includes reviewing the homework from the previous session, answering questions, providing guidance for improving homework practices at home, and continuing the enhancement of the behavioral dimension of a healthy body image.

In response to the third research question in the qualitative section, regarding the content and expert validity (based on the agreement of expert reviewers) of the final healthy body image educational package for adolescents aged 12 to 15 with body image dissatisfaction, it can be said that according to the expert reviewers, the final healthy body image educational package for adolescents aged 12 to 15 with body image dissatisfaction had a satisfactory agreement (0.912) among the evaluators in terms of content alignment, suitability of educational sessions, adequacy of allocated time, adequacy of the educational package, and overall evaluation. Moreover, the corrective and expert suggestions of the reviewers were incorporated into the final package evaluations, resulting in an overall satisfactory content and expert agreement for the healthy body image package.

5. Limitations & Suggestions

The present study has limitations, including that although the components of the current educational treatment package were determined using the qualitative method of thematic analysis, they are derived from the perspectives of the researcher and the professors, and their interpretations of the subject, and other researchers might approach the issue differently. Additionally, the information and data collected in the study pertain to the time of the research and may not precisely match future needs. Therefore, it is suggested that further studies be conducted based on the mentioned limitations to examine the therapeutic effects of interventions based on a healthy body image. It is also recommended that this method be studied in other cities and for different age groups.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

Declaration

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

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics Considerations

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

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

All authors contributed equally.

References

- Alleva, J. M., Diedrichs, P. C., Halliwell, E., Martijn, C., Stuijzand, B. G., Treneman-Evans, G., & Rumsey, N. (2018). A randomised-controlled trial investigating potential underlying mechanisms of a functionality-based approach to improving women's body image. *Body Image*, 25, 85-96. <https://doi.org/10.1016/j.bodyim.2018.02.009>
- Alleva, J. M., Sheeran, P., Webb, T. L., Martijn, C., & Miles, E. (2015). A Meta-Analytic Review of Stand-Alone Interventions to Improve Body Image. *PLoS One*, 10(9), e0139177. <https://doi.org/10.1371/journal.pone.0139177>
- Barlett, C. P., Vowels, C. L., & Saucier, D. A. (2008). Meta-Analyses of the Effects of Media Images on Men's Body-image Concerns. *Journal of Social and Clinical Psychology*, 27(3), 279-310. <https://doi.org/10.1521/jscp.2008.27.3.279>
- Becker, I., Nieder, T. O., Cerwenka, S., Briken, P., Kreukels, B. P. C., Cohen-Kettenis, P. T., Cuyper, G., Haraldsen, I. R. H., & Richter-Appelt, H. (2016). Body Image in Young Gender Dysphoric Adults: A European Multi-Center Study. *Archives of Sexual Behavior*, 45(3), 559-574. <https://doi.org/10.1007/s10508-015-0527-z>
- Behdarvandan, A., Maktabi, a., Ghasemzadeh, r., & Dastoorpor, m. (2021). The Relationship Between the Amount of Time for Brace Wear and Its Psychological Effects and the Level of Social Participation of Adolescents With Spinal Deformity. *Jundishapur Scientific Medical Journal*, 20(2), 112-119. <https://doi.org/10.32598/JSMJ.20.2.2>
- Burychka, D., Miragall, M., & Baños, R. M. (2021). Towards a Comprehensive Understanding of Body Image: Integrating Positive Body Image, Embodiment and Self-Compassion. *Psychol Belg*, 61(1), 248-261. <https://doi.org/10.5334/pb.1057>
- Cash, T. F. (1997). *The body image workbook : an 8-step program for learning to like your looks*. New Harbinger. <https://search.worldcat.org/title/37006661>
- Cohen, R., Newton-John, T., & Slater, A. (2020). The case for body positivity on social media: Perspectives on current advances and future directions. *Journal of Health Psychology*, 26(13), 2365-2373. <https://doi.org/10.1177/1359105320912450>
- Grabe, S., Ward, L. M., & Hyde, J. S. (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological bulletin*, 134(3), 460-476. <https://doi.org/10.1037/0033-2909.134.3.460>
- Griffiths, S., Hay, P., Mitchison, D., Mond, J. M., McLean, S. A., Rodgers, B., Massey, R., & Paxton, S. J. (2016). Sex differences in the relationships between body dissatisfaction, quality of life and psychological distress. *Australian and New Zealand Journal of Public Health*, 40(6), 518-522. <https://doi.org/x>
- Grogan, S. (2021). *Body Image Understanding Body Dissatisfaction in Men, Women and Children* (4th ed.). Taylor & Francis Group. <http://public.eblib.com/choice/PublicFullRecord.aspx?p=6784087>
- Guest, E., Costa, B., Williamson, H., Meyrick, J., Halliwell, E., & Harcourt, D. (2019). The effectiveness of interventions aiming to promote positive body image in adults: A systematic review. *Body Image*, 30, 10-25. <https://doi.org/10.1016/j.bodyim.2019.04.002>
- Gumz, A., Weigel, A., Daubmann, A., Wegscheider, K., Romer, G., & Löwe, B. (2017). Efficacy of a prevention program for eating disorders in schools: a cluster-randomized controlled trial. *BMC psychiatry*, 17(1), 293. <https://doi.org/10.1186/s12888-017-1454-4>
- Gurung, U. N., Sampath, H., Soohinda, G., & Dutta, S. (2019). Self-esteem as a protective factor against adolescent psychopathology in the face of stressful life events. *Journal of Indian Association for Child and Adolescent Mental Health*, 15(2), 34-54. <https://doi.org/10.1177/0973134220190203>
- Hajiyousef, H., dehestani, m., & darvish molla, m. (2022). The Mediating Role of Emotion Regulation Difficulties in the Relationship between Abuse Experiences and Body Image Dissatisfaction among Adolescent Girls. *Journal of Applied Psychological Research*, 13(1), 327-344. <https://doi.org/10.22059/japr.2022.321110.643801>
- Hamamoto, Y., Suzuki, S., & Sugiura, M. (2022). Two components of body-image disturbance are differentially associated with distinct eating disorder characteristics in healthy young women. *PLoS One*, 17(1), e0262513. <https://doi.org/10.1371/journal.pone.0262513>
- Harrist, A. W., & Criss, M. M. (2021). Parents and Peers in Child and Adolescent Development: Preface to the Special Issue on Additive, Multiplicative, and Transactional Mechanisms. *Children*, 8(10).
- Hicks, R. E., Kenny, B., Stevenson, S., & Vanstone, D. M. (2022). Risk factors in body image dissatisfaction: gender, maladaptive perfectionism, and psychological wellbeing. *Heliyon*, 8(6). <https://doi.org/10.1016/j.heliyon.2022.e09745>
- Holland, G., & Tiggemann, M. (2016). A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. *Body Image*, 17, 100-110. <https://doi.org/10.1016/j.bodyim.2016.02.008>
- Hughes, E. K., & Gullone, E. (2011). Emotion regulation moderates relationships between body image concerns and psychological symptomatology. *Body Image*, 8(3), 224-231. <https://doi.org/10.1016/j.bodyim.2011.04.001>
- Layam, A., Asma Abdulaziz, A., Hessah Ibrahim, A., Hessa Faleh, A., Rehab Abdullallah, A., & Shima Abdulaziz, A. (2019). Bulimia Nervosa and Body Dissatisfaction in Terms of Self-Perception of Body Image. In H. Hubertus & L. Ignacio Jáuregui (Eds.), *Anorexia and Bulimia Nervosa* (pp. Ch. 2). IntechOpen. <https://doi.org/10.5772/intechopen.84948>
- Le, L. K.-D., Barendregt, J. J., Hay, P., & Mihalopoulos, C. (2017). Prevention of eating disorders: A systematic review and meta-analysis. *Clinical psychology review*, 53, 46-58. <https://doi.org/10.1016/j.cpr.2017.02.001>
- Levine, M. P., & Smolak, L. (2016). The role of protective factors in the prevention of negative body image and disordered eating. *Eating Disorders*, 24(1), 39-46. <https://doi.org/10.1080/10640266.2015.1113826>
- Lucidi, F., Mallia, L., Alivernini, F., Chirico, A., Manganelli, S., Galli, F., Biasi, V., & Zelli, A. (2017). The Effectiveness of a New School-Based Media Literacy Intervention on Adolescents' Doping Attitudes and Supplements Use [Original Research]. *Frontiers in psychology*, 8. <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2017.00749>
- Meland, E., Bredablik, H. J., Thuen, F., & Samdal, G. B. (2021). How body concerns, body mass, self-rated health and self-esteem are mutually impacted in early adolescence: a longitudinal cohort study. *BMC public health*, 21(1), 496. <https://doi.org/10.1186/s12889-021-10553-x>
- Milano, W., Milano, L., & Capasso, A. (2018). Health consequences of bulimia nervosa. *Biomedical Research and Clinical Practice*, 3(1), 1-5. <https://doi.org/10.15761/BRCP.1000158>
- Nichols, T. E., Damiano, S. R., Gregg, K., Wertheim, E. H., & Paxton, S. J. (2018). Psychological predictors of body image attitudes and concerns in young children. *Body Image*, 27, 10-20. <https://doi.org/10.1016/j.bodyim.2018.08.005>

- Rodgers, R. F., Simone, M., Franko, D. L., Eisenberg, M. E., Loth, K., & Neumark-Sztainer, D. (2021). The longitudinal relationship between family and peer teasing in young adulthood and later unhealthy weight control behaviors: The mediating role of body image. *International Journal of Eating Disorders*, 54(5), 831-840. <https://doi.org/10.1002/eat.23492>
- Sabzevari, H., Ghadiri, F., & Sharififar, A. (2019). The examination the relationship between health-related physical fitness and Physical self-concept in adolescent. *Journal of sport science and Educational Applied Researches without borders*, 3(11), 19. <https://www.magiran.com/paper/1947359>
- Stice, E., Shaw, H., & Marti, C. N. (2007). A Meta-Analytic Review of Eating Disorder Prevention Programs: Encouraging Findings. *Annual Review of Clinical Psychology*, 3(Volume 3, 2007), 207-231. <https://doi.org/10.1146/annurev.clinpsy.3.022806.091447>
- Taylor, J. V., & Wardy, M. A. (2014). *Body image workbook for teens : activities to help girls develop a healthy body image in an image-obsessed world*. Instant Help. <https://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=920047>
- van de Grift, T. C., Cohen-Kettenis, P. T., Steensma, T. D., De Cuypere, G., Richter-Appelt, H., Haraldsen, I. R. H., Dikmans, R. E. G., Cerwenka, S. C., & Kreukels, B. P. C. (2016). Body Satisfaction and Physical Appearance in Gender Dysphoria. *Archives of Sexual Behavior*, 45(3), 575-585. <https://doi.org/10.1007/s10508-015-0614-1>
- Veale, D., & Neziroglu, F. (2010). *Body dysmorphic disorder: A treatment manual* [doi:10.1002/9780470684610]. Wiley-Blackwell. <https://doi.org/10.1002/9780470684610>
- Wilhelm, S., & ebrary, I. (2006). *Feeling good about the way you look a program for overcoming body image problems*. Guilford Press.