

Body dissatisfaction, self-esteem, depressive symptoms, and nutritional status in adolescents

Insatisfacción corporal, autoestima, sintomatología depresiva y estado nutricional en adolescentes

Camila Morán^{a,c,h}, Montserrat Victoriano^{b,d,h}, Jaime Parra^{b,e,i}, Ximena Ibacache^{b,f,j},
Ruth Pérez^{b,e,i}, Julieta Sánchez^{b,d,h}, Katia Sáez^{b,g,k}, Constanza Mosso^{b,d,h}

^aUniversidad Santo Tomás. Concepción, Chile.

^bUniversidad de Concepción. Concepción, Chile.

^cCarrera de Nutrición y Dietética, Facultad de Salud, Universidad Santo Tomás

^dDepartamento de Nutrición y Dietética. Programa de Magister en Nutrición Humana, Facultad de Farmacia, Universidad de Concepción. Concepción, Chile.

^eDepartamento de Obstetricia y Puericultura, Facultad de Medicina, Universidad de Concepción.

^fDepartamento de Salud Pública, Facultad de Medicina, Universidad de Concepción.

^gDepartamento de Estadística, Facultad de Ciencias Físicas y Matemáticas, Universidad de Concepción.

^hNutricionista.

ⁱMatrón/a.

^jPsicóloga.

^kIngeniera en Matemática.

Received: April 11, 2023; Approved: December 14, 2023

What do we know about the subject matter of this study??

The sociocultural context has a great relevance on body image and may contribute to body dissatisfaction and, in adolescence, it is a strong predictor of eating disorders and obesity.

What does this study contribute to what is already known??

This study confirms the relationship between body dissatisfaction with self-esteem, depression, and BMI. Body dissatisfaction is positively and significantly associated with nutritional status, especially in females, who even with normal nutritional status have greater body dissatisfaction.

Abstract

In adolescence and especially in females, greater body dissatisfaction has been evidenced, which is defined as a negative evaluation of one's own body, being a strong predictor of eating disorders and obesity. **Objective:** To relate body dissatisfaction with self-esteem, depression, and body mass index in adolescents. **Subjects and Method:** Quantitative, correlational, and cross-sectional study in a sample of 397 school adolescents (180 males and 217 females) from Concepción, Chile, aged 10 to 19

Keywords:

Body Image;
Body Dissatisfaction;
Adolescents;
Self-Esteem;
Depression

years, to whom the following instruments were applied: Body Shape Questionnaire (BSQ) to assess body dissatisfaction, Rosenberg Self-Esteem Scale, Beck's Depression Inventory-II for those older than 14 years, and Birleson Depression Self-Rating Scale for those younger than 14 years. Body mass index z-score was determined. Spearman's correlation coefficient was estimated for all variables. **Results:** Body dissatisfaction was reported in 54.9 % of females and 18.3 % of males. Body dissatisfaction was positively correlated with age, z-BMI, and depression ($p < 0.01$) and negatively correlated with self-esteem ($p < 0.01$). When body dissatisfaction was differentiated by sex, the same significant correlations remained, except for age. **Conclusions:** The results confirm the relationship between body dissatisfaction with self-esteem, depression, and BMI. The importance of promoting healthy self-esteem and body image from an early age to prevent eating disorders and obesity is emphasized.

Introduction

According to the World Health Organization (WHO), adolescence is defined as “*the period of human growth and development that occurs after childhood and before adulthood, between 10 and 19 years of age*”¹, a stage marked by deep physical and psychological changes, where the identity of each person begins to take shape. One of the issues that become relevant in this period is body image, defined as the way individuals perceive, imagine, or see themselves, including how they feel about their body, height, weight, and shape, addressing concerns such as thinness, weight loss, and muscularity^{2,3}.

The sociocultural context has great relevance to body image. Beliefs and attitudes towards one's own body are influenced by beauty trends and ideals, represented by slim bodies and well-defined musculature for both sexes. These ideals of body perfection are especially valued in families, friends, and the media, as well as social networks, and are internalized to a greater extent by female adolescents, particularly those who are overweight or obese⁴⁻⁷. In Western society, physical appearance is fundamental to the value and role assigned to women; the slim female body is equated with beauty and virtue, thus representing the path to success and satisfaction with life⁸.

Body dissatisfaction, defined as the negative perception of body image, is increasingly frequent in our society, with a 30-40% prevalence reported in adolescents, which may vary according to sex and the population studied⁹. Body dissatisfaction becomes important in adolescence, due to its relationship with low self-esteem, depression, and eating disorders (ED)^{8,10}. Likewise, adolescents with obesity have higher levels of body dissatisfaction, which is independently associated with low self-esteem, predisposing them to negative mental health consequences, such as depression and anxiety^{10,11}.

In our region, there are no data that allow us to determine the influence of nutritional status on body

dissatisfaction, self-esteem, and depression, nor the influence according to sex. The objective of this research is to evaluate the association between body dissatisfaction with self-esteem, depression, and body mass index in adolescents of both sexes from municipal, private subsidized, and private schools in the Province of Concepción, in 2018.

Subjects and Method

Design and participants

Cross-sectional study. First, six schools in the province of Concepción were selected by convenience sampling, in which students were invited to participate voluntarily. Finally, the sample consisted of 397 adolescents of both sexes, with an age range from 10 to 19 years. Adolescents with intellectual disability that prevented them from answering the instruments and/or attending inclusion programs in their respective schools were excluded. Parents and guardians of participants under 18 years of age and participants over 19 years of age were informed of the objective of the study and signed an informed consent form authorizing their participation in the study. This research was approved by the Scientific Ethics Committee of the Faculty of Medicine of the *Universidad de Concepción*.

Procedures

a) Body dissatisfaction

To determine body dissatisfaction, the *Body Shape Questionnaire* (BSQ) was used, a questionnaire validated in the adolescent population, designed by Cooper, Taylor, and Fairburn in 1987¹² and adapted to the Spanish population by Raich, R., Mora, M., et al. in 1996¹³. This instrument has been used to measure body dissatisfaction in adolescents in Chile¹⁴⁻¹⁵. The purpose of the BSQ is to measure concern about weight and body image. It is a self-administered instrument consisting of 34 closed questions on a 6-point Likert scale (1: never, 6: always)¹².

b) Self-esteem

To determine the level of self-esteem, the *Rosenberg Self-Esteem Scale* was used. The scale designed by Rosenberg, M. 1965¹⁶ has been translated into Spanish and validated in Chile¹⁷⁻¹⁹. The questionnaire evaluates self-esteem understood as feelings of personal worth and self-respect. This Likert-type scale consists of 10 items, divided into five items stated positively and five negatively, to control for the effect of acquiescence bias¹⁷.

c) Depression

Two questionnaires were used for depression screening according to age group:

Birleson Depression Self-rating Scale for Children. It is a questionnaire designed by Birleson, P. 1981²⁰ translated into Spanish and validated in Chile^{21,22}, and used as a screening instrument in the Chilean Clinical Guide of the Chilean Ministry of Health (MINSAL) for the treatment of adolescents aged 10 to 14 years with depression²³. It is a self-administered Likert-type scale consisting of 18 items ranging from 0 to 2 points, with a maximum score of 36 points²¹.

Beck Depression Inventory-II. It was used in adolescents over 14 years of age. It's a self-report instrument that measures the presence and severity of depression in adults and adolescents aged 13 years or older. It's a questionnaire designed by Beck, A. et al. 1996²⁴ translated into Spanish and validated in Chile^{25,26}, and used as a screening instrument in the Chilean Clinical Guide of depression in people aged 15 years and older of the MINSAL²⁷. It is composed of 21 items indicative of symptoms such as sadness, crying, loss of pleasure, feelings of failure and guilt, thoughts or desires of suicide, and pessimism, among others²⁶.

d) Nutritional status assessment

Data were collected by fourth-year students of the Nutrition and Dietetics program, where they determined weight with a SECA Sensa 804 scale with 0.1 kg of accuracy. To determine height, a SECA 213 portable stadiometer with 0.1 cm of precision was used. The anthropometric measurements were made during the morning at a similar time for all adolescents, with minimal clothing and barefoot. Body mass index (BMI) and BMI z-score according to age were determined. The cut-off points determined by the MINSAL for BMI were used as follows: undernutrition BMI/Age $\leq -2SD$; undernutrition risk BMI/Age $\leq -1SD$ and $> -2SD$; normal BMI/Age $< -1SD$ and $> +1SD$; overweight BMI/Age $> +1SD$ and $> +2SD$; obesity BMI/Age $> +2SD$ and $< +3SD$, and severe obesity BMI/Age $\geq +3SD$ ²⁸.

Statistical Analysis

The SPSS version 24 software was used. The Chi-

square test (χ^2) was used for categorical variables and the Spearman correlation coefficient for the numerical ones. In all cases, a significance level of 0.05 was used.

Results

397 adolescents participated, ages 10 to 19 years, 180 males and 217 females, of whom 122 were under 14 years of age (77 males and 65 females). It was observed that 47.6% of the sample presented malnutrition by excess, with 29% classified as overweight, 17.1% as obese, and 1.5% as severely obese. The BSQ questionnaire reported body dissatisfaction in 54.9% of females and 18.3% of males.

When analyzing depressive symptoms, in adolescents aged over 14 years, females presented a significantly higher tendency to have depressive symptoms than males. Regarding self-esteem, it was observed that the presence of low self-esteem was more concentrated in females than in males ($p < 0.001$) (Table 1).

Table 2 shows a greater tendency of body dissatisfaction in females with nutritional states of overweight and obesity.

Table 3 shows the correlations between body dissatisfaction, depressive symptoms, self-esteem, and BMI z-score according to sex. Significant differences were observed in the correlations between the variables of body dissatisfaction with BMI z-score, depressive symptoms, and self-esteem (presented in bold).

Discussion

The objective of this research was to analyze the association between body dissatisfaction with depressive symptoms, self-esteem, and nutritional status in adolescents in the province of Concepción. 28.9% of adolescents were identified as overweight and 18.6% as obese, figures that are consistent with the prevalence of malnutrition by excess in Chile according to the latest National Health Survey (ENS) 2017, where more than 47% of this group presents malnutrition by excess²⁹.

Regarding body dissatisfaction, 55.2% of the females presented some degree of dissatisfaction, as opposed to 19.5% in the case of males. As in this study, the study by Trejo et al. in Mexico, with 231 adolescents participating, found that females had higher mean body dissatisfaction scores than their male counterparts ($p < 0.001$)³⁰.

This study demonstrated that the levels of body dissatisfaction in females show a higher tendency with higher BMI. Similar results were observed in another Mexican study, which concluded that adolescents with malnutrition by excess have more body dissatisfaction

Table 1. Body dissatisfaction, depressive symptoms, self-esteem by gender

Variable	Man	Woman	P Value
BSQ			< 0.0001
Satisfied	81.70%	45.20%	
Unsatisfied	18.30%	54.80%	
Birleson			0.3280
Normal	93.00%	87.70%	
Depressive	7.00%	12.30%	
Beck II			< 0.0001
Low depression	69.90%	44.70%	
Depression	30.10%	55.30%	
Self-Esteem			0.0011
High	21.30%	36.40%	
Medium-High	78.70%	63.60%	

BSQ: BodyShapeQuestionnaire; Beck II: Depression Inventory Beck II; Birleson: Birleson Depression Self-Rating Scale for Children. Statistical differences were estimated with Chi square test (χ^2)

Table 2. Body dissatisfaction by Nutritional status and gender

Body Dissatisfaction	Nutritional status	Man	Woman	P Value
Satisfied	Normal	86.6	63.0	0.0003
Unsatisfied		13.4	37.0	
Satisfied	Sobrepeso	74.1	21.1	< 0.0001
Unsatisfied		25.9	78.9	
Satisfied	Obesidad	75.9	31.1	0.0002
Unsatisfied		24.1	68.9	

Statistical differences were estimated with Chi square test (χ^2).

than their peers with normal weight³¹. The same conclusion was reached in Santana's study on 1494 Brazilian adolescents, where it was observed that 26.6% of females and 10% of males had body dissatisfaction. In addition, the prevalence of body dissatisfaction was higher in those overweight or with obese nutritional status, regardless of sex³².

In relation to self-esteem, this study showed significant differences between males and females, with female adolescents presenting lower self-esteem compared with males. Similar results using the Rosenberg Scale were obtained in a study on 594 Italian adolescents of both sexes, with a mean age of 12 years, showing a significant difference in self-esteem according to sex ($p < 0.001$)³³. Another study carried out on 98 Brazilian adolescents also showed this difference, with 51% of females presenting low self-esteem compared with 38% of males³⁴.

When comparing the level of self-esteem and nutritional status, lower self-esteem with a higher BMI was reported, although without significant results. Similarly, in the study by Contreras-Valdés et al. on 231 Mexican adolescents, where they evaluated the relationship between self-esteem, using the Perception of Child Self-concept Scale (PCS), and nutritional status, a negative relationship between nutritional status and self-esteem was found in females, without statistically significant results³¹.

In previous studies, a significant negative correlation was observed between self-esteem and body dissatisfaction, especially in females, related to idealistic standards of the female body that are almost impossible to achieve, affecting these variables¹⁰. It was observed in this research that self-esteem presents an inverse and significant relationship with respect to body dissatisfaction. Similar results have been reported, as in the study on Mexican adolescents by Contreras-Valdés

Table 3. Correlations between variables by gender

Gender		zScore	Birleson	Beck II	Self-esteem	BSQ
Man	zScore	1				
	Birleson	-0.002	1			
	Beck II	0.016	^a	1		
	Self-esteem	-0.040	-0.686**	-0.688**	1	
	BSQ	0.288** ¹	0.407**	0.360** ¹	-0.384** ²	1
Woman	zScore	1				
	Birleson	-0.159	1			
	Beck II	-0.094	^a	1		
	Self-esteem	0.003	-0.752**	-0.783**	1	
	BSQ	0.352** ¹	0.369**	0.551** ¹	-0.526** ²	1

BSQ: Body Shape Questionnaire; Beck II: Depression Inventory Beck II; Birleson: Birleson Depression Self-Rating Scale for Children. **Significant correlations at the 0.01 level (two-tailed) ¹ $p < 0,05$, ² $p < 0,01$. ^aCannot be computed because at least one variable is constant.

et al., determining a negative trend between both variables³¹. Another study conducted on 555 female students from northern India, whose objective was to evaluate the association between body dissatisfaction, self-esteem, BMI, and personality traits, determined that body dissatisfaction was directly and significantly associated with BMI ($r_s = 0.12$, $P = 0.003$) and inversely with self-esteem ($r_s = -0.22$, $P < 0.001$)³⁵. In the review by Amaya et al., it was observed that in most of the research, the main axis of study is adolescent females and in most of the studies it is evident that the lower the self-esteem, the higher the BMI and the higher the body dissatisfaction, associated according to the authors to the influence of the media on the female sex, the beauty standards, and finally to the increase in the prevalence of malnutrition by excess worldwide³⁶.

An important role of self-esteem in emotional health and well-being in adolescents has been described, which is inversely associated with depression³⁷. In this research, when analyzing the association between self-esteem and depression, a significant positive relationship is observed between both variables, as in a recently cited Italian study, which evaluated depression using the Children's Depression Inventory (CDI) and self-esteem, whose results highlight slightly higher levels of depressive symptoms in females than in males, although not statistically significant. In relation to self-esteem, the authors state that it would be a predictive variable for depressive symptoms and would be strongly correlated ($r_s = -0.55$ $p < 0.001$), as are the results obtained in this research, in a significant way ($r_s = -0.736$ $p < 0.001$)³³.

When relating depression to body dissatisfaction, this study found a positive and significant relationship between both variables, especially when relating them by sex, being higher in females. Similar results were reported in a study on 875 Peruvian adolescents aged 13 to 17 years, using the BSQ and the Patient Health Questionnaire (PHQ-9) to assess depressive symptoms, which found that adolescents with greater body dissatisfaction were 3.7 times more likely to present depressive symptoms³⁸.

Conclusion

This study analyzed the association between psychological aspects and nutritional status in adolescents in the province of Concepción. In relation to the data obtained, it can be concluded that body dissatisfaction is positively and significantly associated with nutritional status, even when males and females are overweight, with the latter being more affected regarding their body image. Even if they present a normal nutritional status, females have a higher tendency to body

dissatisfaction compared with their peers. It can also be concluded that body dissatisfaction would be inversely and significantly related to self-esteem. When analyzing the association between self-esteem and depression, there is also an inverse and significant relationship. Depression is positively and significantly related to body dissatisfaction, and all these associations show a higher tendency when we observe the female sex.

The relationship between body dissatisfaction and self-esteem identified in this study raises the possibility of designing preventive strategies to positively develop adolescents' self-acceptance and comprehensive well-being, promoting healthy lifestyles and strengthening their self-esteem and self-image. This is the first study carried out in the province of Concepción, and it concludes a strong statistical relationship between body dissatisfaction and the parameters analyzed. However, the design of the study does not allow extrapolating conclusions to the rest of the population.

Ethical Responsibilities

Human Beings and animals protection: Disclosure the authors state that the procedures were followed according to the Declaration of Helsinki and the World Medical Association regarding human experimentation developed for the medical community.

Data confidentiality: The authors state that they have followed the protocols of their Center and Local regulations on the publication of patient data.

Rights to privacy and informed consent: The authors have obtained the informed consent of the patients and/or subjects referred to in the article. This document is in the possession of the correspondence author.

Conflicts of Interest

Authors declare no conflict of interest regarding the present study.

Financial Disclosure

Vice-Presidency for Research and Development of the *Universidad de Concepción*, which funded this research through Project No. 2018. A840.18-1.0

Acknowledgments

We thank all the students from the schools that par-

ticipated in this research, the students of the Nutrition and Dietetics program and Obstetrics and Childcare program of the *Universidad de Concepción*, and the nutritionist Constanza Charles for her commitment

to the fieldwork of our study. We also thank the Vice-Presidency for Research and Development of the *Universidad de Concepción* who funded this research through Project No. 2018. A840.18-1.0.

References

- Who.int [Internet]. [citado el 4 de agosto de 2023]. Salud del adolescente. Disponible en: <https://www.who.int/es/health-topics/adolescent-health>
- McClain Z, Peebles R. Body Image and Eating Disorders Among Lesbian, Gay, Bisexual, and Transgender Youth. *Pediatr Clin North Am* [Internet]. Diciembre de 2016 [consultado el 4 de agosto de 2023];63(6):1079-90. Disponible en: <https://doi.org/10.1016/j.pcl.2016.07.008>.
- De Vignemont F. Review of Shaun Gallagher's *How the body shapes the mind*. *Psyche* [Internet]. 2006;12(3):1-7. Disponible en: https://hal.science/ijn_00169845.
- Cortez D, Gallegos M, Jiménez T, et al. Influence of sociocultural factors on body image from the perspective of adolescent girls. *Rev Mex Trastor Aliment* [Internet]. Julio de 2016 [consultado el 4 de agosto de 2023];7(2):116-24. Disponible en: <https://doi.org/10.1016/j.rmta.2016.05.001>.
- Saucedo-Molina Teresita de Jesús, Unikel Santoncini Claudia. Conductas alimentarias de riesgo, interiorización del ideal estético de delgadez e índice de masa corporal en estudiantes hidalguenses de preparatoria y licenciatura de una institución privada. *Salud Ment* [revista en la Internet]. 2010 Feb [citado 2023 Ago 04];33(1):11-9. Disponible en: http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0185-33252010000100002&lng=es.
- Silva WR, Barra JV, Neves AN, et al. Sociocultural pressure: a model of body dissatisfaction for young women. *Cad Saude Publica* [Internet]. 2020 [consultado el 4 de agosto de 2023];36(11). Disponible en: <https://doi.org/10.1590/0102-311x00059220>.
- Carvalho GX, Nunes AP, Moraes CL, et al. Insatisfação com a imagem corporal e fatores associados em adolescentes. *Cienc Amp Saude Coletiva* [Internet]. Julio de 2020 [consultado el 4 de agosto de 2023];25(7):2769-82. Disponible en: <https://doi.org/10.1590/1413-81232020257.27452018>.
- Moreno-Domínguez S, Rutzstein G, Geist TA, et al. Body mass index and nationality (argentine vs. spanish) moderate the relationship between internalization of the thin ideal and body dissatisfaction: a conditional mediation model. *Front Psychol* [Internet]. 21 de marzo de 2019 [consultado el 4 de agosto de 2023];10. Disponible en: <https://doi.org/10.3389/fpsyg.2019.00582>.
- Macêdo Uchôa FN, Uchôa NM, Daniele TM, et al. Influence of Body Dissatisfaction on the Self-Esteem of Brazilian Adolescents: A Cross-Sectional Study. *Int J Environ Res Public Health* [Internet]. 18 de mayo de 2020 [consultado el 4 de agosto de 2023];17(10):3536. Disponible en: <https://doi.org/10.3390/ijerph17103536>.
- Moradi B. Addressing gender and cultural diversity in body image: objectification theory as a framework for integrating theories and grounding research. *Sex Roles* [Internet]. Julio de 2010 [consultado el 4 de agosto de 2023];63(1-2):138-48. Disponible en: <https://doi.org/10.1007/s11199-010-9824-0>.
- Frayon S, Swami V, Watterlez G, et al. Associations between weight status, body satisfaction, ethnic identity and self-esteem in Oceanian adolescents. *Pediatr Obes* [Internet]. 29 de junio de 2021 [consultado el 4 de agosto de 2023]. Disponible en: <https://doi.org/10.1111/ijpo.12824>.
- Cooper PJ, Taylor MJ, Cooper Z, et al. The development and validation of the body shape questionnaire. *Int J Eat Disord* [Internet]. Julio de 1987 [consultado el 4 de agosto de 2023];6(4):485-94. Disponible en: [https://doi.org/10.1002/1098-108x\(198707\)6:4%3C485::aid-eat2260060405%3E3.0.co;2-o](https://doi.org/10.1002/1098-108x(198707)6:4%3C485::aid-eat2260060405%3E3.0.co;2-o).
- Raich Escursell RM, Mora M, Soler A, et al. Adaptación de un instrumento de evaluación de la insatisfacción corporal. *Clin Salud* [Internet]. 1996 [consultado el 4 de agosto de 2023];7(1):51-66. Disponible en: <https://journals.copmadrid.org/clysa/art/f2217062e9a397a1dca429e7d70bc6ca>.
- Behar AR, Vargas FC, Cabrera VE. Insatisfacción corporal en los trastornos de la conducta alimentaria: un estudio comparativo. *Rev Chil Neuro Psiquiatr* [Internet]. Marzo de 2011 [consultado el 4 de agosto de 2023];49(1):26-36. Disponible en: <https://doi.org/10.4067/s0717-92272011000100004>.
- Delgado-Floody P, Caamaño F, Osorio A, et al. Imagen corporal y autoestima en niños según su estado nutricional y frecuencia de actividad física. *Rev Chil Nutr* [Internet]. Marzo de 2017 [consultado el 4 de agosto de 2023];44(1):2. Disponible en: <https://doi.org/10.4067/s0717-75182017000100002>.
- Rosenberg M. *Society and the adolescent self-image*. Princeton, N.J: Princeton University Press 1965; 326.
- Rojas-Barahona CA, Zegers PB, Förster MCE. La escala de autoestima de Rosenberg: Validación para Chile en una muestra de jóvenes adultos, adultos y adultos mayores. *Rev. Med. Chile* [Internet]. Junio de 2009 [consultado el 4 de agosto de 2023];137(6). Disponible en: <https://doi.org/10.4067/s0034-98872009000600009>.
- Pérez-Villalobos C, Bonnefoy-Dibarrat C, Cabrera-Flores A, et al. Problemas de salud mental en alumnos universitarios de primer año de Concepción, Chile. *An Psicol* [Internet]. 1 de octubre de 2012 [consultado el 4 de agosto de 2023];28(3). Disponible en: <https://doi.org/10.6018/analesps.28.3.156071>.
- Silva D, Vicente B, Arévalo E, et al. Intento de suicidio y factores de riesgo en una muestra de adolescentes escolarizados de Chile. *Rev Psicopatol Psicol Clin* [Internet]. 13 de abril de 2017 [consultado el 4 de agosto de 2023];22(1):33. Disponible en: <https://doi.org/10.5944/rppc.vol.22.num.1.2017.16170>.
- Birleson P. The validity of depressive disorder in childhood and the development of a self-rating scale: a research report. *J Child Psychol Psychiatry* [Internet]. Enero de 1981 [consultado el 4 de agosto de 2023];22(1):73-88. Disponible en: <https://doi.org/10.1111/j.1469-7610.1981.tb00533.x>.
- de la Peña F, Lara MD, Cortez J, et al. Traducción al español y validez de la escala de birleson (DSRS) para el trastorno depresivo mayor en la adolescencia. *Salud Ment* [Internet]. 1996 [consultado el 4 de agosto de 2023];19(3):17-23. Disponible en: <https://psycnet.apa.org/record/1997-07515-005>.
- Álvarez ME, Guajardo SH, Messen HR. Estudio exploratorio sobre una escala de auto evaluación para la depresión en

- niños y adolescentes. *Rev Chil Pediatr* [Internet]. Febrero de 1986 [consultado el 4 de agosto de 2023];57(1). Disponible en: <https://doi.org/10.4067/s0370-41061986000100003>.
23. Ministerio de Salud. Repositorio Digital MINSAL [Internet]. Guía clínica para el tratamiento de adolescentes de 10 a 14 años con Depresión; 2013. [consultado el 4 de agosto de 2023]. Disponible en: <http://www.repositoriodigital.minsal.cl/handle/2015/764>
 24. Beck AT. BDI-II, Beck depression inventory: manual [Internet]. 2a ed. San Antonio, Tex: Psychological Corp.; 1996 [consultado el 4 de agosto de 2023]. 38 p. Disponible en: <https://doi.org/10.1037/t00742-000>
 25. Sanz J, Perdigon AL, Vasquez C. Adaptación española del Inventario para la Depresión de Beck-II (BDI-II): 2. Propiedades psicométricas en población general. *Clin Salud* [Internet]. 2003 [consultado el 4 de agosto de 2023];14(3):249-80. Disponible en: <https://journals.copmadrid.org/clysa/art/db8e1af0cb3aca1ae2d0018624204529>
 26. Melipillán Araneda R, Cova Solar F, Rincón González P, et al. Propiedades psicométricas del inventario de depresión de beck-ii en adolescentes chilenos. *Ter Psicol* [Internet]. Julio de 2008 [consultado el 4 de agosto de 2023];26(1). Disponible en: <https://doi.org/10.4067/s0718-48082008000100005>
 27. Ministerio de Salud. Repositorio Digital MINSAL [Internet]. Guía clínica AUGE: depresión en personas de 15 años y más; 2013 [consultado el 4 de agosto de 2023]. Disponible en: <http://www.repositoriodigital.minsal.cl/handle/2015/515?show=full#:~:text=Guía%20clínica%20AUGE:%20depresión%20en%20personas%20de%2015,y%20Patrimonial%20del%20Ministerio%20de%20Salud%20de%20Chile>
 28. Ministerio de Salud. Biblioteca MINSAL [Internet]. Patrones de Crecimiento. Para la evaluación nutricional de niños, niñas y adolescentes, desde el nacimiento hasta los 19 años de edad; 2018 [consultado el 4 de agosto de 2023]. Disponible en: <http://www.bibliotecaminsal.cl/patrones-de-crecimiento-para-la-evaluacion-nutricional-de-ninos-ninas-y-adolescentes-desde-el-nacimiento-hasta-los-19-anos-de-edad/>.
 29. Ministerio de Salud. Red Salud [Internet]. Encuesta nacional de salud 2016-2017: Primeros resultado; noviembre de 2017 [consultado el 4 de agosto de 2023]. Disponible en: <https://redsalud.ssmso.cl/wp-content/uploads/2018/02/ENS-2016-17-PRIMEROS-RESULTADOS-ilovepdf-compressed.pdf>
 30. Trejo Ortiz MP, Castro Veloz D, Facio Solis A, et al. Insatisfacción con la imagen corporal asociada al Índice de Masa Corporal en adolescentes. *Rev Cuba Enfermería* [Internet]. Diciembre de 2010 [consultado el 4 de agosto de 2023];26(3):150-60. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-03192010000300006&lng=es.
 31. Contreras-Valdez JA, Hernández-Guzmán L, Freyre MÁ. Body dissatisfaction, self-esteem, and depression in girls with obesity. *Rev Mex Trastor Aliment* [Internet]. Enero de 2016 [consultado el 4 de agosto de 2023];7(1):24-31. Disponible en: <https://doi.org/10.1016/j.rmta.2016.04.001>.
 32. Santana Mônica LP, Cássia R Silva Rita de, Assis Ana MO, et al. Factors associated with body image dissatisfaction among adolescents in public schools students in Salvador, Brazil. *Nutr. Hosp.* [Internet]. 2013 June [cited 2023 Aug 04];28(3):747-55. Disponible en: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S0212-16112013000300029&lng=en. <https://dx.doi.org/10.3305/nh.2013.28.3.6281>.
 33. Babore A, Trumello C, Candelori C, et al. Depressive symptoms, self-esteem and perceived parent-child relationship in early adolescence. *Front Psychol* [Internet]. 28 de junio de 2016 [consultado el 4 de agosto de 2023];7. Disponible en: <https://doi.org/10.3389/fpsyg.2016.00982>
 34. Smouter L, Coutinho SD, Mascarenhas LP. Associação entre nível de atividade física e autoconceito de autoestima de adolescentes. *Cienc Amp Saude Coletiva* [Internet]. Febrero de 2019 [consultado el 4 de agosto de 2023];24(2):455-64. Disponible en: <https://doi.org/10.1590/1413-81232018242.34962016>.
 35. Sampath H, Soohinda G, Mishra D, et al. Body dissatisfaction and its relation to Big Five personality factors and self-esteem in young adult college women in India. *Indian J Psychiatry* [Internet]. 2019 [consultado el 4 de agosto de 2023];61(4):400. Disponible en: https://doi.org/10.4103/psychiatry.indianjpsychiatry_367_18.
 36. Amaya Hernández A, Alvarez Rayón GL, Mancilla Díaz JM. Body dissatisfaction in interaction with self-esteem, peer influence and dietary restraint: A systematic review / Insatisfacción corporal en interacción con autoestima, influencia de pares y dieta restrictiva: una revisión. *Rev Mex Trastor Aliment Mex J Eat Disord* [Internet]. 7 de junio de 2010 [consultado el 4 de agosto de 2023];1(1):76-89. Disponible en: <https://doi.org/10.22201/fesi.20071523e.2010.1.8>.
 37. Moksnes UK, Espnes GA. Self-esteem and life satisfaction in adolescents-gender and age as potential moderators. *Qual Life Res* [Internet]. 10 de mayo de 2013 [consultado el 4 de agosto de 2023];22(10):2921-8. Disponible en: <https://doi.org/10.1007/s11136-013-0427-4>.
 38. Flores-Cornejo F, Kamego-Tome M, Zapata-Pachas MA, et al. Association between body image dissatisfaction and depressive symptoms in adolescents. *Rev Bras Psiquiatr* [Internet]. 23 de marzo de 2017 [consultado el 4 de agosto de 2023];39(4):316-22. Disponible en: <https://doi.org/10.1590/1516-4446-2016-1947>.

