

Actual, social and ideal body image in Mexican adolescents and their relation with body dissatisfaction: gender differences

Imagen corporal actual, social e ideal y su relación con el descontento corporal en adolescentes mexicanos: diferencias por género

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Abstract. The purpose of the present study was to compare the perception of current (CBI), ideal (IBI), social body images (SBI), and body dissatisfaction (BD) by gender in Mexican primary and secondary school students. A total sample of 1,146 participants (550 girls and 596 boys) aged 11-16 participated in the study. All participants completed the Mexican computerized adaptation of the Contour Drawing Rating Scale. Results of one-way multivariate analysis of variance, followed by one-way univariate analyses of variance, showed that girls (ABI = 4.26; IBI = 3.53; SBI = 4.28; BD = 0.89) expressed a greater discrepancy between ideal and actual body shape, as well as lower scores of ideal body shape than boys (ABI = 4.28; IBI = 3.93; SBI = 4.31; BD = 0.61). However, no statistical differences were found between boys and girls in actual and social body shape. Although current and social body images are perceived in a similar way by adolescents in our sample regardless of gender, yet girls seem to be more responsive to social and environmental pressures related with body stereotype, this being reflected by a higher dissatisfaction and a thinner idealization of the body. Our findings suggest that we need to focus our attention on girls, especially in a phase of changes such as puberty, if we aim to design any intervention that could positively impact youth's health through a proper body image.

Keywords: body image, gender, body dissatisfaction, adolescents, society.

Resumen. El propósito de este estudio fue de comparar por género la percepción de la imagen corporal actual (CBI), ideal (IBI) y social (SBI), así como el descontento con el propio cuerpo (BD), en una muestra de estudiantes mexicanos de escuelas primarias y secundarias. Se seleccionó una muestra de 1.146 participantes (550 niñas y 596 niños) de entre 11 y 16 años de edad, que completaron la adaptación mexicana de la Contour Drawing Rating Scale. Los resultados de los análisis multivariados y univariados demuestran que las niñas (ABI = 4.26; IBI = 3.53; SBI = 4.28; BD = 0.89) sufren un mayor descontento corporal que los niños (ABI = 4.28; IBI = 3.93; SBI = 4.31; BD = 0.61), así como consideran que el cuerpo ideal sea mucho más delgado. No se encontraron diferencias significativas entre niños y niñas en la imagen corporal real y social. Aunque los adolescentes perciban de una manera similar su cuerpo independientemente del género, las niñas son más receptivas en lo que refiere a las presiones sociales del estereotipo corporal, reflejándose esto en un mayor descontento y en un ideal excesivamente magro de su cuerpo. Nuestros resultados sugieren la necesidad de enfocar la atención en las niñas, especialmente durante la pubertad, de cara a implementar intervenciones apropiadas que tengan un impacto real sobre la salud de los jóvenes a través de una apropiada imagen corporal.

Palabras clave: imagen corporal, género, descontento corporal, adolescentes, sociedad.

Introduction

Body image (BI) represents a picture of how individuals perceive, consider, and feel about their own body (Grogan, 2008). This psychological construct is considered a key factor of behavioral changes related with active lifestyle (Gillison, Standage, & Skevington, 2011). According to Thompson and Van den Berg (2002), there currently exist two main areas of BI, classified as sensorial and non-sensorial. Sensorial BI can be considered as individuals' own perceptions of their body through their sensorial organs. When a body image is distorted, i.e. it does not correspond with the real body shape, this can imply defects and gaps in the sensorial channels, which lead to incorrect reading of their corporeality. However, these authors suggest that a distortion in the perception of the body is more likely to be originated by non-sensorial factors. Thompson and Gardner (2002) comment that these components can depend on individuals' attitude and self-reflection, their affective disposition, their cognitive skills, and their life conducts. Thus, BI perception is not directly associated with a proper functionality of sensorial mechanisms, but with social, emotional and environmental features that can influence a person's insight of the reality. The need of constructing a proper BI has been underlined by previous research. For instance, Sinclair and Myers (2004) found out a positive association between BI and healthy habits such as keeping a healthy diet and being physically active. A poor body image can determine anxiety, depression, and lack of self-esteem (Mond, Van den Berg, Boutelle, Hannan, & Neumark-Sztainer, 2011). Mériaux, Berg, and Hellström (2010) point out that poor BI and reduced self-esteem can influence negatively people's lifestyle choices, thus determining a higher risk of obesity and overweight, as well as more difficulties in changing their behaviors. Moreover, individuals with higher BMI have greater risk of experiencing

poor BI, consequently applying treatments and intervention programs oriented to enhance their health becomes more difficult (Unick et al., 2011).

As literature highlights, evaluating the acquisition of a positive (proper) or negative (poor) BI is essential if we aim to enhance people's lifestyle, especially in youth. A positive BI refers to individuals' acceptance and appreciation of their own body (Andrew, Tiggeman, & Clark, 2016). Furthermore, positive BI implies that individuals' image of their body matches its real, objectively measurable characteristics (Bailey, Cline, & Gammage, 2016). On the other hand, a poor, negative BI is defined as improper self-evaluation of one's body, indicating a discrepancy between real, objectively measured body shape and the feeling that a person has about it (Pinkasavage, Arigo, & Schumacher, 2015). Owing to that, many authors focused their attention on a specific variable that is considered as a strong indicator of the acquisition of a positive (or negative) BI, such as body dissatisfaction (BD). BD can be defined as the difference between the current self-perception of the body (i.e., BI) and the ideal body shape that an individual strives for (Kakeshita & Sousa Almeida, 2008). As Heider, Spruyt, and De Houwer (2015) suggest, ideal body image (IBI) represents the internalized ideal about one's physical appearance, a model of the body that each individual wishes to achieve. When current BI and IBI coincide, BD scores are equal to zero, which signifies that an individual is satisfied with his/her own body. BD scores are higher than zero when persons perceive their own body (current BI) as bigger than the ideal they pursue. On the other hand, values of BD below zero indicate that individuals consider themselves as thinner than their IBI. In either case, research has demonstrated that the presence of BD is related with higher risk for health. For instance, Watkins, Christie, and Chally (2008) found out that young adults belonging to all categories of BMI but the normal-weight one had significantly higher BD. They concluded that image disorders could be associated with poorer physical conditions and consequently higher risk of suffering from health issues. Similar outcomes were found by Chang, Yu, and Kahle (2014), who suggested that BD

could be a leading cause of eating disorders. The importance of BD as a factor of health and quality of life is confirmed in other studies (Ramírez, Pérez, & Taylor, 2012). In addition, Rohde, Stice, and Marti (2015) underline that when BD appears in early adolescence, it can lead to chronic psychological and behavioral disorders. Furthermore, early appearance of this issue may be linked with mental disorders and low self-esteem in adulthood, which have a negative impact on the choice of a healthy lifestyle (Mond et al., 2011). Mériaux et al. (2010) confirmed this relation in a study on youth suffering from obesity and overweight. Although the participants demonstrated to be aware of the importance of being engaged in active habits such as daily exercising, they did not try to change their sedentary habits due to low self-esteem and high BD.

In recent years, sociocultural models have become predominant in the understanding and explanation of the processes that determine BI acquisition and the differences between current and ideal BI (Swami, 2015). According to these theories, IBI strongly depends on the image of ideal body shape that a society promotes and spreads through mass media, known as social body image (SBI, Perloff, 2014). Authors suggest that the standards of beauty imposed by society have a strong impact on BD (Francisco et al., 2015). Individuals' surrounding culture can also influence body perception and dissatisfaction depending on how weight fluctuations are regarded in a specific community (Shloim, Hetherington, Rudolf, & Feltbower, 2015). In fact, individuals from different cultures tend to interpret their body and its changes in a different manner, consequently their idea of dissatisfaction, of ideal, and of social body shape can be contrasting (Mellor et al., 2014). Other studies support the concept that cultural and social characteristics can strongly modify the perception of one's own body and the difference with its ideal shape (Musaiger, 2015). Within the sociocultural approach, gender has also been stressed out as an important antecedent of the development of BI and its disorders. In fact, authors state that the prototype of body imposed by each society is commonly stricter for women than for men. This leads women to extreme behaviors and life conducts in order to achieve the SBI, even though it may determine a deterioration of their health (Mercado, 2008; Koskina & Giovazolias, 2010). As a consequence, women appear to be more vulnerable to specific disorders related with BD, such as eating disorders (Murnen & Smolak, 2015).

For this reason, the aim of this study was compare current, social, ideal BI, and BD by gender, in a group of Mexican primary and secondary school students.

Materials and Methods

Design

Quantitative approach with a descriptive and transversal survey design was applied (Hernández, Fernández, & Baptista, 2010). The independent variable was gender (boys and girls) and the dependent variables were the scores on body shape (current, ideal and social) and body size dissatisfaction (ideal minus real body shape).

Participants

A sample of 1,146 Mexican primary and secondary school students (550 girls and 596 boys) aged 11-to-16 (average age = 12.31 ± 1.45) participated in the present study. The sample was selected from the population of students of Chihuahua (Mexico), using a non-probabilistic sampling technique based on convenience. Detailed information on the sample is shown in table 1.

Table 1.
Descriptive information of the sample

Educational level	Gender	Age range	Age	
			\bar{X}	SD
Primary Education	Boys (n = 390)	11-12	11.42	.495
	Girls (n = 367)		11.34	.475
Secondary Education	Boys (n = 206)	13-16	14.27	.948
	Girls (n = 183)		13.93	.796

Instrument

The *Contour Drawing Rating Scale* (CDRS; Thompson & Gray,

1995) was used for the estimations of body image. This scale was adapted to the Mexican environment, and computerized, by Gastélum and Blanco (2006). The instrument was used in several studies focusing on body image in Mexican populations (Blanco, Rivera, González, & Rodríguez-Villalobos, 2015; Muñoz Beltrán, Zueck Enríquez, Blanco Ornelas, Chávez Guerrero, & Jasso Reyes, 2014; Rutzstein, Murawski, Elizathe, & Scappatura, 2010). The CDRS consists of nine gender-specific drawings representing different body shapes. Each drawing increases in size from extremely thin (1) to very obese (9). Participants are asked to rate their real, ideal and social body shape. The discrepancy between the ideal and current size scores represents an index of body size dissatisfaction. The validity of this instrument was examined in previous research, showing satisfactory test-retest scores (ICC = 0.65-0.87) for each category of BI (Wertheim, Paxton, & Tilgner, 2004).

Procedure

Firstly, principals from Primary and Secondary schools of the area of Chihuahua, Mexico, were contacted in order to explain the features and objectives of the current project. Schools were included in the study after obtaining permission from the respective Directive Boards. Successively, we organized meetings with parents of the students from the selected schools, with the aim to inform them about the characteristics and impact of this study on their kids, and to obtain their consent. Students whose parents provided with written permission to participate in the research were selected and involved in the second phase. Participants then filled the Mexican CDRS by means of the Computerized Module Administrator of the *Scales Editor Version 2.0* (Blanco et al., 2013), an online platform created by a research team of the Autonomous University of Chihuahua. The questionnaires were answered in computer rooms at participants' schools. At the beginning of the data collection session, researchers gave a general introduction on the current study and provided students with guidance on how to access the questionnaire through the software. Once participants signed in in the software, specific step-by-step instructions appeared on screen to guide them through the questionnaire. Additionally, participants were advised to ask for help in case they needed further explanation on the usage of the software. Completion of the entire questionnaire took approximately 10 minutes. The data obtained were gathered by means of the Results Generator Module of the *Scales Editor Version 2.0* (Blanco et al., 2013).

Data analysis

Descriptive statistics (means and standard deviations) for all the variables were calculated. Subsequently, after verifying that the data met the assumptions of parametric statistical analyses, a one-way multivariate analysis of variance (MANOVA), followed by one-way univariate analysis of variance (ANOVA), were used to examine differences between boys and girls in perceived body shape (real, ideal and social), as well as in body size dissatisfaction scores. Moreover, the effect size was estimated using the eta-squared (η^2). All statistical analyses were performed using SPSS version 20.0 for Windows (IBM® SPSS® Statistics 20). The statistical significance level was set at $p < .05$.

Results

Firstly, a comparative analysis was carried out based on educational level, in order to ensure that we could consider each of the two groups (boys and girls, respectively) as a whole regardless of participants' enrollment in primary or secondary schools. No significant differences were found in the boys' and in the girls' samples by education, thus results were calculated splitting the sample exclusively by gender. Table 2 shows mean values and standard deviations of the different variables of body shape considered, as well as the results from the MANOVA and from the follow-up univariate ANOVAs. MANOVA results indicated overall statistical significant differences between boys and girls in the different BI scores ($F = 36.944$; Wilks' Lambda = .885; $p < .001$; $\eta^2 = .115$). Subsequently, ANOVAs showed that compared with

boys, girls expressed a greater discrepancy between ideal and current BI ($F_1 = 50.622$; $p < .001$) and lower scores of IBI ($F_1 = 104.854$; $p < .001$). However, no statistically significant differences were found regarding current and social BI ($p > .05$).

Table 2.
Results of MANOVA for gender differences in the four variables of body shape

	Girls (n = 550)	Boys (n = 596)	F	p	η^2
current body shape	4.26 (0.98)	4.28 (0.96)	0.22	.640	.00
ideal body shape	3.53 (0.69)	3.93 (0.65)	104.85	<.001	.08
social body shape	4.28 (1.16)	4.31 (1.16)	0.17	.682	.00
body size dissatisfaction	0.89 (0.71)	0.61 (0.63)	50.62	<.001	.04

Note. Descriptive values are reported as mean (standard deviation).

Discussion

The aims of this work were to analyze differences between boys and girls with regard to different constructs of BI, such as CBI, IBI, SBI, and BD.

Recent reports have highlighted that Mexico holds world's first place in obesity both in adults and youth. A study carried out in collaboration with the Mexican Secretary of Health demonstrated that obesity rates are increasing among Mexican adolescents, 35% of youth currently suffering from this problem (Rivera, Cuevas, Shamah, & Ávila, 2012; Rtveladze et al., 2014). According to literature, this could be an important factor promoting the spread of BD among people, regardless of gender (Watkins et al., 2008). Even though we do not have objective information on participants' Body Mass Index or other obesity-related measurements, our outcomes may confirm the hypothesis of Watkins et al. (2008) on obesogenic environments like Mexico, as both boys and girls showed discontent with their CBI when compared with the ideal they reported. In addition, two main results can be stressed. Firstly, boys and girls from our sample perceive their CBI in a similar way, as well as they do not recognize a different social message on body prototype (SBI) based on gender. De Vries, Peter, De Graaf, and Nikken (2016) found similar results in a recent study about the impact of social networks on BI of girls and boys. These authors found no gender differences in the BI message promoted through social networks. Nonetheless, these networks appear to affect negatively adolescents' BD, regardless of gender. Other authors suggest that gender differences in the reception of social prototype messages do not lay in the message itself, but in the way males and females absorb it (Magallares, 2016). In fact, they found out that women tend to internalize the concept of slimness provided by society, whereas men externalize it and consequently have a more positive attitude towards antifat behaviors. An interesting study carried out by van Vliet, Gustafsson, Duchon, and Nelson (2015) suggested that adolescence represents the turning point for BI, as boys and girls do not show differences in early ages, but during puberty they develop a different psychological and social approach to their body. This could partially justify the fact that in our sample we could not find a different perception of social and current BI between boys and girls, but we did regarding BD. In fact, as van Vliet et al. (2015) imply, participants in our study could be in the early phase of the gender differentiation.

Secondly, in spite of a similar perception of current and social BI, girls feel more unsatisfied about their body compared to boys, since the ideal they would like to achieve is considerably thinner than their male peers' one. These results are confirmed by previous literature. For instance, Trujano, Nava, de García, Limón, Alatríste, and Merino (2010) studied a sample of Mexican adolescents, pointing out that girls in a normal shape perceived themselves as bigger, which determined lower self-esteem and BD. Acosta, Llopis, Gómez-Peresmitré, and Pineda (2005) found out that women commonly desire to be thinner or to lose weight, regardless of if it is really necessary or required. Their results were supported by other authors, who underlined that this behavior is typical in women, but not frequently recognizable in men of same age and educational level (Peláez, Labrador, & Raich, 2005). In fact, research has found that less than 50% of physically active men from Mexico are slightly worried about their BI, while a very low percentage have

extremely poor consideration of their body (Baile Ayensa, Monroy Martínez, & Garay Rancel, 2005). On the other hand, it has been demonstrated that girls are more responsive to sociocultural pressure promoting unrealistic prototypes of beauty, which are usually backed by families and peers (Englera, Crowtherb, Daltonb, & Sanftner, 2006; Jáuregui & Bolaños, 2010; Rodríguez, Oudhof, Gonzalez-Arratia, & Unikel-Santoncini, 2010). Similar results were found by Knowles, Ling, Thomas, Adab, and McManus (2015), who added that overestimation of body size may be a factor of increased desire to be unnecessarily thinner in adolescents, consequently it could lead to psychological and behavioral disorders. The authors stress the importance of preventing BI issues in early ages in order to avoid health problems.

Conclusions

The differences found between boys and girls suggest that we must consider a separate approach to the implementations of interventions oriented to enhance BI in youth, if we aim to have a real impact on this psychological construct and consequently on adolescents' lifestyle and health. In addition, we need to focus our attention on girls rather than boys, as the former appear to be more influenced than the latter by social constraints and consequently may be exposed to health issues related to BI, such as mental and eating disorders, as well as unhealthy life behaviors. However, it is highly recommended to further investigate this variable together with other parameters that can help better understand the process of BI formation. For instance, Body Mass Index has been identified as a key factor impacting on self-esteem and self-perception, thus playing an important role in individuals' satisfaction with their own body (Annesi & Porter, 2015).

Acknowledgements

This study is part of a project funded by the *Secretaría de Educación Pública, Subsecretaría de Educación Superior, Dirección General de Educación Superior Universitaria de México* [Mexican Ministry of Education, Department of Higher Education, General Direction of Higher Education] (OF-13-6894). Additionally, the first author is supported by a grant from the National Council of Science and Technology of Mexico (CONACyT).

References

- Acosta, M. V., Llopis, J. M., Gómez-Peresmitré, G., & Pineda, G. (2005). Evaluación de la conducta alimentaria de riesgo. Estudio transcultural entre adolescentes de España y México. *International Journal of Psychology and Psychological Therapy*, 5(3), 223-232. Available at <http://www.redalyc.org/articulo.oa?id=56050302>
- Andrew, R., Tiggemann, M., & Clark, L. (2016). Positive body image and young women's health: implications for sun protection, cancer screening, weight loss and alcohol consumption behaviours. *Journal of Health Psychology*, 21(1), 28-39. doi: 10.1177/1359105314520814
- Annesi, J., & Porter, K. (2015). Reciprocal effects of exercise and nutrition treatment-induced weight loss with improved body image and physical self-concept. *Behavioral Medicine*, 41, 18-24. doi: 10.1080/08964289.2013.856284
- Baile Ayensa, J. I., Monroy Martínez, K. E., & Garay Rancel, F. (2005). Alteración de la imagen corporal en un grupo de usuarios de gimnasios. *Enseñanza e Investigación en Psicología*, 10(1), 161-169. Available at <http://www.redalyc.org/pdf/292/29210111.pdf>
- Bailey, K., Cline, L., & Gammage, K. (2016). Exploring the complexities of body image experiences in middle age and older adult women within an exercise context: the simultaneous existence of negative and positive body images. *Body Image*, 17, 88-99. doi: 10.1016/j.bodyim.2016.02.007
- Blanco J.R., Rivera N.E., González J.B., & Rodríguez-Villalobos J.M. (2015). A Gender Study on Mexican College Students' Body-Image Perception. *American Journal of Applied Psychology*, 4(6), 166-169. doi: 10.11648/j.ajap.2015406.17
- Blanco, H., Ornelas, M., Tristán, J. L., Cocca, A., Mayorga-Vega, D., López-Walle, J., & Viciana, J. (2013). Editor for creating and applying computerized surveys. *Procedia Social and Behavioral Sciences*, 106, 935-940. doi: <http://dx.doi.org/10.1016/j.sbspro.2013.12.105>
- Chang, E. C., Yu, E. A., & Kahle, E. R. (2014). BMI, body discrepancy, and self-construal as predictors of eating disturbances in European and Asian American

- females. *Eating Behavior*, 15(2), 328-330. doi: 10.1016/j.eatbeh.2013.12.001
- De Vries, D. A., Peter, J., de Graaf, H., & Nikken, P. (2016). Adolescents' Social Network Site Use, Peer Appearance-Related Feedback, and Body Dissatisfaction: Testing a Mediation Model. *Journal of Youth and Adolescence*, 45(1), 211-224. doi: 10.1007/s10964-015-0266-4
- Englera, P. A., Crowther, J. H., Dalton, G., & Sanftner, J. L. (2006). Predicting Eating Disorder Group Membership: An Examination and Extension of the Sociocultural Model. *Behavior Therapy*, 37(1), 69-79. doi: 10.1016/j.beth.2005.04.003
- Francisco, R., Espinoza, P., González, M. L., Panelo, E., Mora, M., Rosés, R., & Raich, R. M. (2015). Body dissatisfaction and disordered eating among Portuguese and Spanish adolescents: the role of individual characteristics and internalization of sociocultural ideas. *Journal of Adolescence*, 41, 7-16. doi: 10.1016/j.adolescence.2015.02.004
- Gastélum, G., & Blanco, H. (2006). Versión informatizada de la Escala Estimación del Contorno de la Figura. In Facultad de Educación Física y Ciencias del Deporte (Ed.), *X Congreso Internacional, Facultad de Educación Física y Ciencias del Deporte* (pp. 285-286). México: UACH.
- Gillison, F. B., Standage, M., & Skevington, M. (2011). Motivation and body related factors as discriminants of change in adolescents' exercise behavior profiles. *Journal of Adolescent Health*, 14, 1-9. doi: 10.1016/j.jadohealth.2010.05.006
- Grogan, S. (2008). *Body image: understanding body dissatisfaction in men, women, and children*. New York, NY: Routledge.
- Heider, N., Spruyt, A., & De Houwer, J. (2015). Implicit beliefs about ideal body image predict body image dissatisfaction. *Frontiers in Psychology*, 6, 1402. doi: 10.3389/fpsyg.2015.01402
- Hernández, R., Fernández, C., & Baptista, P. (2010). *Metodología de la investigación*. México: McGraw-Hill.
- Jáuregui, I., & Bolaños, P. (2010). Body image and quality of life in a Spanish population. *International Journal of General Medicine*, 4, 63-72. doi: 10.2147/IJGM.S16201
- Kakeshita, I. S., & Sousa Almeida, S. (2008). The relationship between body mass index and body image in Brazilian adults. *Psychology & Neuroscience*, 1(2), 103-107. doi: 10.3922/j.pns.2008.2.003
- Knowles, G., Ling, F., Thomas, G., Adab, P., & McManus, A. M. (2015). Body size dissatisfaction among young Chinese children in Hong Kong: a cross-sectional study. *Public Health Nutrition*, 18(6), 1067-1074. doi: 10.1017/S1368980014000810
- Koskina, K., & Giovazolias, T. (2010). The effect of attachment insecurity in the development of eating disturbances across gender: the role of body dissatisfaction. *The Journal of Psychology*, 144(5), 449-471. doi: 10.1080/00223980.2010.496651
- Magallares, A. (2016). Eating concerns, body dissatisfaction, thinness internalization and antifat attitudes and their relationship with gender ideology in a sample of men. *Anales de Psicología*, 32(1), 167-173. doi: 10.6018/analesps.32.1.182651
- Mellor, D., Hucker, A., Waterhouse, M., Mamat, N. H. B., Xu, X., Cochrane, J., McCabe, M., & Ricciardelli, L. (2014). A cross-cultural study investigating body features associated with male adolescents' body dissatisfaction in Australia, China, and Malaysia. *American Journal of Mental Health*, 1-11. doi: 10.1177/1557988314528370
- Mercado, C. (2008). Aplicación del análisis de género a los trastornos de la conducta alimentaria. *Revista de Salud*, 4(14), 1-14. Available at <http://www.revistaesalud.com/index.php/revistaesalud/article/view/231/540>
- Mériaux, B., Berg, M., & Hellström, A. L. (2010). Everyday experiences of life, body and well-being in children with overweight. *Scandinavian Journal of Caring Science*, 24(1), 14-23. doi: 10.1111/j.1471.6712.2008.00678.x
- Mond, J., Van den Berg, P., Boutelle, K., Hannan, P., & Neumark-Sztainer, D. (2011). Obesity, body dissatisfaction, and emotional well-being in early and late adolescence: finding from the project EAT study. *Journal of Adolescent Health*, 48(4), 373-378. doi: 10.1016/j.jadohealth.2010.07.022
- Muñoz Beltrán F., Zueck Enríquez M., Blanco Ornelas J.R., Chávez Guerrero A., & Jasso Reyes J. (2014). Body image perception of Mexican youth: A gender comparison. *Educational Journal*, 3(5), 261-265. doi: 10.11648/j.edu.20140305.11
- Murnen, S. K., and Smolak, L. (2015). Gender and eating disorders. In L. Smolak and M.P. Levine (Eds.), *The Wiley Book of Eating Disorders*. Chichester, UK: Wiley and Sons. doi: 10.1002/9781118574089.ch27
- Musaiger, A. (2015). Body weight concern among female university students in five Arab countries - a preliminary cross-cultural study. *Annals of Agricultural and Environmental Medicine*, 22(2), 354-357. doi: 10.5604/12321966.1152093
- Peláez, M. Á., Labrador, F. J., & Raich, R. M. (2005). Prevalencia de los trastornos de la conducta alimentaria: Consideraciones metodológicas. *International Journal of Psychology and Psychological Therapy*, 5(2), 135-148. Available at <http://www.ijpsy.com/volumen5/num2/116/prevalencia-de-los-trastornos-de-la-conducta-ES.pdf>
- Perloff, R. (2014). Social media effects on young women's body image concerns: theoretical perspectives and an agenda for research. *Sex Roles*, 71, 363-377. doi: 10.1007/s11199-014-0384-6
- Pinkasavage, E., Arigo, D., & Schumacher, L. (2015). Social comparison, negative body image, and disordered eating behavior: the moderating role of coping style. *Eating Behaviors*, 16, 72-77. doi: 10.1016/j.eatbeh.2014.10.014
- Ramírez, A. L., Pérez, M., & Taylor, A. (2012). Preliminary examination of a couple-based eating disorder prevention program. *Body Image*, 9(3), 324-333. doi: 10.1016/j.bodyim.2012.04.006
- Rivera, J., Cuevas, L., Shamah, T., & Ávila, M. (2012). Obesidad y sobrepeso en niños y adolescentes. In F. Reveles, J. García Letechipia, & S. Voghel Gutiérrez (Eds.), *Encuesta Nacional de Salud y Nutrición* (pp. 168-171). Cuernavaca, MX: Instituto Nacional de Salud Pública.
- Rodríguez, B., Oudhof, H., Gonzalez-Arratia, N. I., & Unikel-Santoncini, C. (2010). Desarrollo y validación de una escala para medir imagen corporal en mujeres jóvenes. *Salud Mental*, 33(4), 325-332. Available at http://www.scielo.org.mx/scielo.php?pid=S0185-33252010000400004&script=sci_arttext
- Rohde, P., Stice, E., & Marti, C. N. (2015). Development and predictive effects of eating disorders risk factors during adolescence: implications for prevention efforts. *International Journal of Eating Disorders*, 48(2), 187-198. doi: 10.1002/eat.22270
- Rtveladze, K., Marsh, T., Barquera, S., Sánchez Romero, L. M., Levy, D., Meléndez, G., Webber, L., Klipi, F., McPherson, K., & Brown, M. (2014). Obesity prevalence in Mexico: impact on health and economic burden. *Public Health Nutrition*, 17(1), 233-239. doi: 10.1017/S1368980013000086
- Rutzstein G., Murawski B., Elizathe L., & Scappatura M.L. (2010). Eating disorders: Detection in female and male adolescents in Buenos Aires. A two-stage study. *Mexican Journal of Eating Disorders*, 1, 48-61. Available at <http://www.scielo.org.mx/pdf/rmta/v1n1/v1n1a6.pdf>
- Shloim, N., Hetherington, M. M., Rudolf, M., & Feltbower, G. (2015). Relationship between body mass index and women's body image, self-esteem and eating behaviours in pregnancy: a cross-cultural study. *Journal of Health Psychology*, 20(4), 413-426. doi: 10.1177/135910532568
- Sinclair, S. L., & Myers, J. E. (2004). The relation between objectified body consciousness and wellness in a group of college women. *Journal of College Counseling*, 7(2), 150-161. doi: 10.1002/j.2161-1882.2004.tb00246.x
- Swami, V. (2015). Cultural influences on body size ideals. *European Psychology*, 20(1), 44-51. doi: 10.1027/1016-9040/a000150
- Thompson, J. K., & Gardner, R. M. (2002). Measuring perceptual body image among adolescents and adults. In T. F. Cash & T. Pruzinsky (Eds.), *Body Image, a handbook of theory, research, and clinical practice* (pp. 135-141). New York: The Guilford press.
- Thompson, J. K., & Van De Berg, P. (2002). Measuring Body Image Attitudes among Adolescents and Adults. In T. F. Cash & T. Pruzinsky (Eds.), *Body Image, a handbook of theory, research, and clinical practice* (pp. 142-153). New York: The Guilford press.
- Thompson, M.A., & Gray, J.J. (1995). Development and validation of a new body-image assessment scale. *Journal of Personality Assessment*, 64(2), 258-269. Available at <http://web.b.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=2&sid=9347b596-2310-4caa-8764-4c2c97d96a40%40sessionmgr102&hid=124>
- Trujano, P., Nava, C., de Gracia, M., Limón, G., Alatrister, A. L., & Merino, M. T. (2010). Trastorno de la imagen corporal. Un estudio con preadolescentes y reflexiones desde la perspectiva de género. *Anales de Psicología*, 26(2), 279-287. Available at http://www.um.es/analesps/v26/v26_2/12-26_2.pdf
- Unick, J., Beavers, D., Jakicic, J., Kitabchi, A., Knowler, W., Wadden, T., and Wing, R. (2011). Effectiveness of lifestyle interventions for individuals with severe obesity and type 2 diabetes: results from the Look Ahead trial. *Diabetes Care*, 34(10), 2152-2157. doi: 10.2337/dc11-0874
- Van Vliet, J. S., Gustafsson, P. A., Duchon, K., & Nelson, N. (2015). Social inequality and age-specific gender differences in overweight and perception of overweight among Swedish children and adolescents: a cross-sectional study. *BMC Public Health*, 15, 628. doi: 10.1186/s12889-015-1985-x
- Watkins, J.A., Christie, C., Chally, P. (2008). Relationship between body image and body mass index in college men. *Journal of the American College Health*, 57(1), 95-100. doi: 10.3200/JACH.57.1.95-100
- Wertheim, E., Paxton, S., & Tilgner, L. (2004). Test-retest reliability and construct validity of Contour Drawing Rating Scale scores in a sample of early adolescent girls. *Body Image*, 1(2), 199-205. doi: 10.1016/S1740-1445(03)00024-X

