

An interdisciplinary educational intervention about self-perception of body image

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Summary

In the context of school practice an interdisciplinary educational intervention of two different subjects, ancient Greek and Home Economics was conducted. The aim of the study was to examine the students' self-perception of body image and to evaluate the results of the educational intervention. This short-term intervention of six teaching hours included the Aesop's myth "The beauty is not everything" and pedagogical methods were applied. The students' body satisfaction was assessed by a questionnaire and the sample was fifty-five 12-year-old students. The mean score of satisfaction varied from "enough" to "very much", higher than previous research. Even though there was no statistically significant improvement of students' body image satisfaction, students enjoyed the learning process, the educational benefits of narration and realized the importance of positive body image. Clearly, further investigation is needed to assert the effectiveness of educational interventions on students' body image and how these could contribute to students' health literacy.

Keywords: body image, interdisciplinary educational intervention, body satisfaction, narration.

Introduction

Adolescence is the period of development that begins at the age of 10 until the young adulthood (24 years of age) and is the second more rapid growth after infancy. At that age obtained skills are substantial for adult relationships and roles as well as social and economic independence. During this stage of physical and psychological development and sexual maturation, the capacity for abstract reasoning is developed, as well as pursuit of identity (Das et al., 2017). Rapid body changes, physical and psychological, affect the body image and self esteem. The psychological changes may be culture specific and body image is affected by many factors, parental modeling, personal and cultural beliefs and mass media. At this age body image is very important and matters in decision making, in social relationships, selecting friends and establishing interpersonal relationships (Virendra Pratap Yadav, 2017).

Adolescence is a critical period for a person's self-esteem when body dissatisfaction could occur. Body dissatisfaction follows a continuum from normal unhappiness to excessive over occupation about appearance. This attitude could lead to behavioral disorders, like eating disorders and even depression and anxiety (Senín-Calderón et al., 2017).

Body image is a multifaceted dynamic concept and could be understood in terms of body appearance, body dissatisfaction, body recognition and is an important aspect of body-esteem, self-concept and self-esteem (Tylka & Wood-Barcalow, 2015).

Attitudinal body image consists of at least two dimensions, firstly the evaluation or affect, that refers to the body-image appraisals and satisfaction, and discrete emotional experiences towards one's body and secondly investment. Most researchers refer to body image as the body satisfaction or dissatisfaction (Cash et al. 2002; Kling et al, 2019). Body image experiences vary temporally and in situational contexts, even though most researchers focus on body

image as a stable trait (Cash et al. 2002).

Different elements construct the body image. There are two categories of body image, negative and positive. Negative body image is defined as distorted perception of shape, size and appearance, as well as feelings of shame and anxiety about the body. Conversely, positive body image is defined as the acceptance of realistic perception of the body and positive feelings about it, exactly the way it is (Tylka & Wood-Barcalow, 2015).

Torres (2021) studied several studies about the effectiveness on body image of school-based interventions and concluded that classroom-based interventions delivered by teachers have been insufficiently studied, despite representing low-cost interventions with high potential for dissemination. Yager et al. (2013) in a systematic review about classroom-based interventions suggest that at total of 15 programs, 7 were effective in improving body image immediately post-intervention, but less than 20% of all programs had sustained effects on body image at follow-up.

In Greek schools there is a lack of courses or interventions on students' body image. The aim of our study was to examine if a school-based intervention could improve the perception of the students about their body image. In this paper we investigate body image regarding students' satisfaction or dissatisfaction of specific parts of their body and other traits, like height and weight.

Hypotheses

- H0: Students have higher mean body satisfaction after the educational intervention
H1: Students have not higher mean body satisfaction after the educational intervention
- H0: Girls have a higher mean satisfaction about body weight than boys before the intervention
H1: Girls have not a higher mean satisfaction about body weight than boys before the intervention
- H0: Girls have a higher mean satisfaction about body weight than boys after the intervention
H1: Girls have not a higher mean satisfaction about body weight than boys after the intervention
- H0: Boys have a higher mean satisfaction about height than girls before the intervention
H1: Boys have not a higher satisfaction about height than girls before the intervention
- H0: Boys have a higher mean satisfaction about height than girls after the intervention
H1: Boys have not a higher satisfaction about height than girls after the intervention

Methodology

Body satisfaction was assessed through Likert scale of 5 points (not at all to very much) for height, weight, body shape, waist, hips, stomach, face, arms, and shoulders (Vagias & Wade, 2006). Students' questionnaire before and after the intervention was based on Philippi & Leme (2018) research on body satisfaction. The educational intervention included 3 hours on Greek language lesson and 3 hours on Home Economics (nutrition and body image) lesson, applying educational material from EYZIN, a Greek national nutrition action. After the completion of the intervention students answered the same questionnaire. The research included a short-term educational intervention and a myth narrative about body image and body satisfaction.

Statistical analysis

The sample of the research were 55 12-year-old students attending at 1st grade of junior high school in Rhodes town, an island of Dodecanese in Aegean Sea in Greece. The distribution of sex was random and was consisted of 34 boys (61,8%) and 21 girls (38,2%) of total.

Continuous variables are demonstrated as mean with standard deviation (SD). Spearman correlation co-efficient (r_s) was used to investigate the correlation between the different variables of students' satisfaction (e.g., weight, height, etc.) both before and after the educational intervention. Furthermore, paired samples t-test was used to compare the means of different parameters of body satisfaction before and after the intervention. Independent samples t-test was conducted in order to compare the means of continuous variables of weight and height before and after the educational intervention in the different categories of gender variable. Moreover, exploratory factor analysis (EFA) using the Verimax rotation was conducted to examine the structure of the different variables and the internal reliability. The analysis of Cronbach's Alpha-Coefficient was performed to assess the reliability of the questionnaire. Test of normality was conducted using Shapiro-Wilk test as well as histograms, P-P and Q-Q plots. Levene's test was used to assess the homogeneity of variances in case of independent samples t-test was performed. Relationships with a p-value (p) <0.05 or <0.01 were considered as statistically significant. All reported p-values are two-sided. The data were analyzed with IBM SPSS software, version 23.

Materials and methods

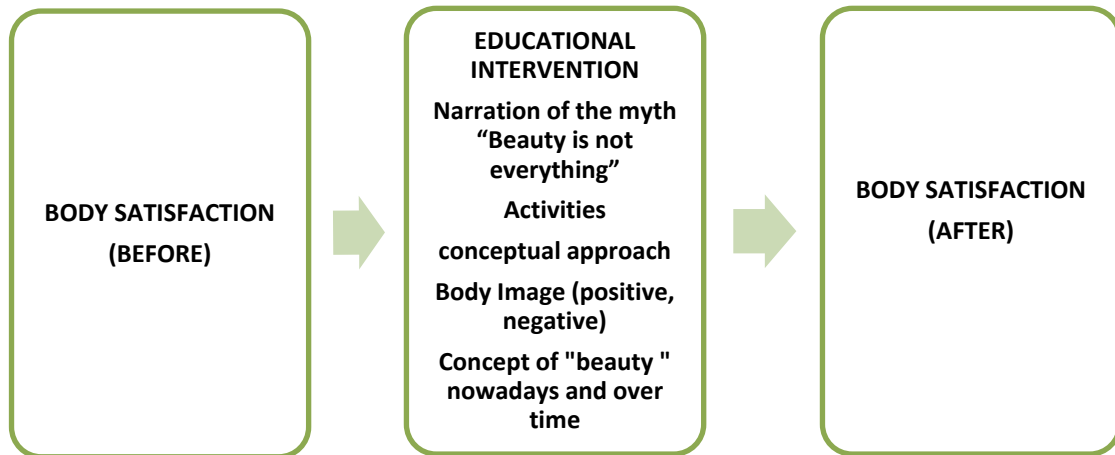
The questionnaire included nine closed-format-type questions made with google docs and each student answered at his/her own computer at the computer laboratory. Apart from age that was the same for all students the questionnaire included sex and nine more questions "are you satisfied with your body weight?", "are you satisfied with your height?", "are you satisfied with your body shape?", "are you satisfied with your hips?", "are you satisfied with your stomach?", "are you satisfied with your face appearance?", "are you satisfied with you arms?", "are you satisfied with your shoulders?", all answered through Likert scale of 5 points (not at all to very much). During the educational process materials like notebooks, whiteboard and computers were used for the activities.

Ethics

Since the students were underage, parents gave their written consent for their kids' contribution to the educational research. The research was made in the context of the interdisciplinary teaching process of ancient Greek and Home Economics by the students' educators.

Educational intervention

The educational process we applied is based on cognitive-behavioural therapy (CBT), a treatment grounded in the idea that our perception influences how we think and behave, and that psychological problems are acquired and altered through learning processes (Tomas-Aragones & Marron, 2017). The idea is that students are given the option to identify, challenge and modify the problematic thoughts and behaviour patterns that distort their self-perception of body image. The students worked in groups of 3 in some tasks and alone in other, so that they can self-reflect. The research included three stages, the initial assessment of students' body satisfaction, the educational intervention, which included different approach of the subject, narration, activities and conceptual approach of body image and the final assessment.



Scheme 1: Scheme of educational intervention process and body satisfaction

Teaching ancient Greek language lessons include the conceptual deconstruction and meanings of myths. What could this myth teach us? What kind of interpretations could be made? In which way could this story be a pedagogical tool for self- reflection? Is it possible an educational intervention and a narration-analysis of a myth to improve the body image of adolescents? The messages of myths are the same overtime and students are challenged to involve with and deconstruct a myth from the original text. Aesop’s myth is one of the oldest narratives recorded in mankind. The myth is called **“Beauty is not everything”** and was chosen, because it includes messages of inner and outer beauty and body image. The narration of the myth and the analysis of body image are associated with the physical, emotional and psychological changes that adolescents are dealing with. Important aspects of nutrition and puberty are highlighted at the subject of body image and nutrition in home economics and nutrition. Lack of self-confidence, overestimation of outer beauty, strenuous efforts to obtain the "perfect body" with possible health implications and even the frenzied preoccupation with fashion and appearance is typical at this age. On the other hand, non-recognition of spiritual gifts is common in contemporary society. Family, school, peers and social impacts are largely responsible of adolescents’ lack of self-compassion (Pullmer et al., 2018). Body image is often distorted by the images that often mass media, social media, peers and fashion define as “attractive”, “beautiful”, “sexy” and “on fashion” (Puhl et al., 2013; Virendra Pratap, 2017). Furthermore, Fardouly et al. (2015) relate time spent on internet and social networking with negative mood and body dissatisfaction.

Narration is used as a tool of reflection that invites the learner to enhance thinking and doing, through interrogating, rediscovering and redefining the meaning of beauty (Chambers, 2003; Ercolino & Wampole, 2015). Before reading and evaluating the Aesops’ myth the teacher presented in the classroom, as a motivation, paintings with a common theme of “beauty” during different eras of human history (Ancient times, Middle Ages, Renaissance, Baroque, recent years) or even project contemporary pictures from social media. Afterwards, there is a discussion and then students are divided into teams, and each team focuses on briefly presenting a painting to the classroom. As a matter of fact, there is a strong relevance between visual comprehension of works of art and vocal expression (Prokopenya, 2017). Throughout this procedure all principals of contemporary teaching methods, as task-based and team group are being reclaimed, so that students perceive that the notion of “beauty” is being revised and defined in different ways, according to the context.

After reading and evaluating the myth each group of two or three students, were asked to plot a narration story of “beauty”. Indeed, they could use one of the available paintings, especially one with “too much information”, and form their own story based on one of the paintings’ subjects.

Other educational activities that were applied were: “find ten characteristics of self that are not related with the outer beauty and discuss this with your classmates”. “Is the image of our self the same with the one that the others see?”. Similarly, students divided in groups of two were working on the subject how would you describe your classmate, and how would you describe yourself. The purpose was to see the difference in self-perception and the way the others see us.

Results

In order to reduce the standard error, exploratory factor analysis was conducted, as well as a reliability test using Verimax rotation and Cronbach's alpha factor. This factor was 0.84 and shows a very strong correlation for 6 factors “satisfaction for weight”, “body shape”, “waist”, “hips”, “face”, “arms”. Likewise, Cronbach's Alpha factor was 0.774 and showed a very strong correlation of 2 factors “satisfaction for arms” and “satisfaction for shoulders”. Explaining 66% of the variances, the Cronbach’s alpha of 0.886 shows a strong reliability and correlation for 6 factors, after the educational intervention. The above components are correlated strong enough to be reliable and analyzed for correlation and these are “weight”, “body shape”, “waist circumference”, “hips”, “face”, “arms” and “shoulders” (after the intervention). In a few cases there were missing values in the questionnaire (**Table 1**).

Table 1: Cronbach's alpha factors and rotated component matrix

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
0.840	0.839
0.774	0.775
0.886	0.886

The mean scores of the sample about body satisfaction is >3 at the Likert scale, which means that all students before and after the intervention are “quite enough”, “much” and “very much” satisfied with every part of their body (**Table 4**).

Table 4: Body satisfaction correlations before and after the educational intervention, (paired t-test)

Parameters	n	Before Intervention		After Intervention		Mean difference 95% CI	p-value
		M	SD	M	SD		
Stomach	52	3.40	1.30	3.50	1.39	-0.10 (-0.61, 0.42)	0.708
Height	55	3.53	1.10	3.42	1.24	0.11 (-0.35, 0.57)	0.637
Weight	55	3.25	1.35	3.33	1.23	-0.08 (-0.55, 0.41)	0.762
Body shape	55	3.58	1.12	3.51	1.33	0.07 (-0.37, 0.51)	0.740
Waist circumference	55	3.47	1.02	3.45	1.26	0.02 (-0.41, 0.44)	0.932
Hips	55	3.18	1.43	3.25	1.32	-0.07 (-0.60, 0.45)	0.781

Face	54	3.89	1.09	3.69	1.16	0.20 (-0.22, 0.62)	0.334
Arms	53	3.36	1.02	3.43	1.23	-0.07 (-0.51, 0.36)	0.727
Shoulders	55	3.69	1.10	3.84	1.21	-0.15 (-0.61, 0.31)	0.524

Abbreviations: M=Mean; SD=Standard Deviation; CI=Confidence Interval

To examine the correlations about students' satisfaction of different variables we used the Spearman correlation coefficient for non-parametric values before and after the intervention (**Table 2 and 3**). Height satisfaction is correlated to face, arms, and shoulders, body shape and hips at statistical significant level (at $p < 0.05$ and $p < 0.01$). The weight satisfaction is correlated to other variables stomach, body shape, waist circumference, hips, face, arms and shoulders, except for height satisfaction (**Table 2**). Face satisfaction is correlated to satisfaction to every other part of the body, included height, at a statistical significant level (at $p < 0.05$ and $p < 0.01$). Satisfaction for arms and shoulders was correlated to satisfaction to every other part of the body (at $p < 0.05$ and $p < 0.01$). After the educational intervention the correlations changed in two cases, weight - height and height - waist circumference and the correlation co-efficient was statistically significant at 0.05 and 0.01 (**Table 3**).

Table 2: Spearman correlation co-efficient before the educational intervention.

		stomach	height	weight	body shape	waist circumference	hips	face	arms	shoulders
Spearman's rho (r_s)	stomach	r_s	1							
		P-value	.							
	height	r_s	0.334*	1						
		P-value	0.015	.						
	weight	r_s	0.676**	0.221	1					
		P-value	<0.001	0.105	.					
	body shape	r_s	0.652**	0.346**	0.663**	1				
		P-value	<0.001	0.010	<0.001	.				
	waist circumference	r_s	0.476**	0.225	0.587**	0.547**	1			
		P-value	<0.001	0.099	<0.001	<0.001	.			
hips	r_s	0.562**	0.276*	0.708**	0.605**	0.587**	1			
	P-value	<0.001	0.041	<0.001	<0.001	<0.001	.			
face	r_s	0.476**	0.321*	0.469**	0.442**	0.440**	0.437**	1		
	P-value	<0.001	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	.	

	P-value	<0.001	0.018	<0.001	0.001	0.001	0.001	.	
arms	r _s	0.385**	0.321*	0.365**	0.329*	0.417**	0.398**	0.448**	1
	P-value	0.005	0.018	0.007	0.015	0.002	0.003	0.001	.
shoulders	r _s	0.394**	0.364**	0.464**	0.384**	0.444**	0.487**	0.301*	0.599**
	P-value	0.003	0.006	<0.001	0.004	0.001	<0.001	0.027	<0.001

*Correlation is significant at the 0.05 level; **Correlation is significant at the 0.01 level; r_s=Spearman Correlation Coefficient

Students’ body satisfaction before and after the educational intervention

To examine the relationship of students’ satisfaction before and after the intervention we conducted paired t-test analysis. Analysis of the means of the students’ satisfaction before and after the intervention showed that for specific parts of the body the results were variant. The means of the variables of height (3.53 to 3.42 and p=0.637), body shape (from 3.58 to 3.51 and p=0.740), waist circumference (from 3.47 to 3.45 and p=0.932) and face (from 3.89 to 3.69 and p=0.334) decreased. The means of the variables of students’ satisfaction for stomach (from 3.40 to 3.50 and significance 2-tailed 0.708), weight (from 3.25 to 3.33 and p=0.762), hips (from 3.18 to 3.25 and p=0.781), arms (from 3.36 to 3.43 and p=0.727) and shoulders (from 3.69 to 3.84 and p=0.521) increased. None of these differences were statistically significant and therefore we can claim there was not a statistically significant difference on students’ satisfaction before and after the educational intervention (Table 2 & 3).

Table 3: Spearman correlation co-efficient after the educational intervention.

		height	weight	body shape	waist circumference	hips	stomach	face	arms	shoulders
Spearman's rho (r _s)	height	r _s	1							
		P-value	.							
	weight	r _s	0.285*	1						
		P-value	0.035	.						
	body shape	r _s	0.366**	0.616**	1					
		P-value	0.006	<0.001	.					
	waist circumference	r _s	0.290*	0.564**	0.591**	1				
		P-value	0.032	<0.001	<0.001	.				
	hips	r _s	0.476**	0.592**	0.599**	0.517**	1			
		P-value	<0.001	<0.001	<0.001	<0.001	.			
stomach	r _s	0.493**	0.692**	0.727**	0.659**	0.630**	1			
	P-value									

	P-value	<0.001	<0.001	<0.001	<0.001	<0.001	.		
face	r _s	0.458**	0.507**	0.708**	0.440**	0.549**	0.629**	1	
	P-value	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	.	
arms	r _s	0.472**	0.365**	0.405**	0.439**	0.515**	0.374**	0.460**	1
	P-value	<0.001	0.007	0.002	0.001	<0.001	0.005	<0.001	.
hip	r _s	0.484**	0.310*	0.608**	0.505**	0.466**	0.479**	0.561**	0.442*
	P-value	<0.001	0.021	<0.001	<0.001	<0.001	<0.001	<0.001	0.001

*Correlation is significant at the 0.05 level;

**Correlation is significant at the 0.01 level; r_s=Spearman Correlation Co-efficient

Students’ weight and height satisfaction before and after the educational intervention

There is not a significant difference between the means of the two groups, boys and girls, as far as it concerns the level of their weight satisfaction (p=0.634, at p<0.05) before the educational intervention. There was not a significant difference between the means of the two groups, boys and girls, as far as it concerns the level of their weight satisfaction (p=0.677, at p<0.05) after the educational intervention (**Table 5**).

Before the intervention the mean of satisfaction for the body image of boys is 3.26 and for girls is 3.95. The independent t-test showed that since significance is >0.05 (0.077). Therefore, we can claim that boys and girls have a different height satisfaction at a significant level (p<0.05) before the educational intervention. (**Table 5**).

After the intervention the mean boys’ satisfaction about height was 3.32 and girls’ was 3.57. The independent t-test showed that since significance is above 0.05 (0,26), therefore we can claim that boys and girls have not a different height satisfaction at a significant level (p<0.05) after the educational intervention (**Table 5**).

Table 5: Comparison for weight and height before and after the intervention between sexes, (independent samples t-test)

Parameters	Sex				Mean difference 95% CI	-value
	Boys (n=34)		Girls (n=21)			
	M	SD	M	SD		
Weight	3.32	1.32	3.14	1.42	0.18 (-0.58, 0.94)	0.634
After Weight	3.38	1.18	3.24	1.34	0.14 (-0.55, 0.84)	0.677
Height	3.26	1.08	3.95	1.02	-0.69 (-1.28, -0.10)	0.023
After Height	3.32	1.32	3.57	1.12	-0.25 (-0.94, 0.45)	0.477

Abbreviations: M=Mean; SD=Standard Deviation; CI=Confidence Interval

Discussion

Before and after the educational intervention the mean score of satisfaction varied from “enough” to “very much” for all students. The mean percentages of body satisfaction of this research were higher than previous research (Philippi & Leme, 2018). There was no correlation of sex and body satisfaction for height and weight before and after the educational intervention. Previous research claimed that girls are less satisfied of their body weight than boys at adolescence, probably because of the pressure exerted by different environments, including family, parents, partners, television commercials, fashion, cinema, and other social factors (Jiménez Flores et al., 2017; Dion et al., 2015). Body weight is mentioned as a critical

domain of self - worth because it is associated with low and unstable self-esteem, as well as negative body image-related consequences, including greater subjective weight, body shape anxiety and disordered eating (Virendra Pratap, 2017). Research review on body satisfaction for boys claim that a larger body image, which indicates strength and muscle is desirable for some and a slimmer image is desirable for others (Jiménez Flores et al., 2017). The parts of the body that are related to the weight, like stomach, hips and arms were reported to give the lowest score of body satisfaction (<3,5). On the contrary, face, shoulders and body shape had the highest mean of body satisfaction (>3,5). At this research no significant correlation was found for sex and body satisfaction for specific parts of the body before or after the educational intervention.

The short term interdisciplinary educational intervention of two subjects, Ancient Greek lesson and nutrition - home economics analyzed the issue of beauty and body image satisfaction and investigated its effect on students' body satisfaction. Adolescence is a crucial stage of psychological and physical maturation and important in establishing self-esteem. A healthy body image affects social and interpersonal relationships (Virendra Pratap Yadav, 2017). Body dissatisfaction and concerns about body image could lead to body image behavioral impairment in adolescence and depressive symptomatology (Senín-Calderón et al., 2017).

We aimed to investigate the possible positive effects of a myth narration and a short-term educational intervention on students' body image satisfaction. The effectiveness of the educational intervention didn't show a statistically significant increase on students' body satisfaction. However, students enjoyed this innovative type of learning through narration, learned about the myth and its extension, realized the body - image concept and its aspects in everyday life. Learning doesn't mean changing, as sociocultural context may influence a health behavior (Sheeran et al., 2016). This intervention, as a new interdisciplinary activity may contribute to the overall health education of students. Several promising school-based interventions have demonstrated improvements in body image and associated factors among adolescents in the school setting (Yager et al., 2013). School curriculum should encompass different teaching approaches about body image, as part of students' health literacy and well-being.

Conclusion - Future directions

This research showed that a short-term intervention of six hours' educational activities doesn't change the adolescents' body satisfaction at a statistically significant level. However, the idea of the interdisciplinary approach of intervention was engaging and enjoyable for students. Two different subjects, ancient Greek and home economics were blended into one and students participated in this actively. Narration was used as a tool of reflection that invites the learner to enhance thinking and acting, through interrogating, rediscovering, and redefining the meaning of beauty. Clearly, the narration of an ancient myth and its extension is didactic. This research could initiate educators to apply interdisciplinary approach at school practice.

Thus, school curriculum in Greece should include more subjects and interventions about body image to promote adolescents' self-esteem and health literacy. Teachers involved in school -based programs could widely disseminate effective body image programs, to the contrary to the involvement of researchers and specialized interventionists, as in this case it would be expensive, labor intensive, and ultimately, not sustainable. We propose that strategies and training programs should be applied to motivate schoolteachers in Greece to receive education about body image interventions.

Sociocultural context is a major influence on adolescents' behavior and self-perception. Further investigation should be conducted to evaluate the effectiveness of educational interventions, both short and long-term, involving educators and peers, because they consist

major possible factors that affect students' body image. Finally, more research about school-based programs in Greek population should be conducted.

Limitations

As for limitations it could be claimed that the sample was selected from only one class in junior high school in the Rhodes town of Greece, not by other classes around, in the context of the educational practice.

Competing interests

The authors declare that they have no competing interests.

References

- Cash, T. F., Fleming, E.C., Alindogan, J., Steadman, L. & Whitehead, A. (2002) Beyond Body Image as a Trait: The Development and Validation of the Body Image States Scale, *Eating Disorders*, 10:2, 103-113, doi: 10.1080/10640260290081678
- Chambers, P. (2003). Narrative and reflective practice: recording and understanding experience, *Educational Action Research*, 11(3), 403-414, doi:10.1080/09650790300200229.
- Das, J.K., Salam, R.A., Thornburg, K.L., Prentice, A.M., Campisi, S., Lassi, Z.S., Koletzko, B. & Bhutta, Z.A. (2017). Nutrition in adolescents: physiology, metabolism, and nutritional needs. *Annals of the New York Academy of Sciences*, 1393, 21-33. doi:10.1111/nyas.13330.
- Dion, J., Blackburn, M.-E., Auclair, J., Laberge, L., Veillette, S., Gaudreault, M., Vachon, P., Perron, M., & Touchette, É. (2015). Development and aetiology of body dissatisfaction in adolescent boys and girls. *International Journal of Youth*, 20, 151–166. doi:10.1080/02673843.2014.985320.
- Ercolino, S., & Wampole, C. (2015). Narration and Reflection. Compar(a)ison: *An International Journal of Comparative Literature*, 33(1-2).
- Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: the impact of Facebook on young women's body image concerns and mood. *Body image*, 13, 38–45. doi:10.1016/j.bodyim.2014.12.002.
- Jiménez Flores, P., Jiménez Cruz, A., & Bacardi Gascón, M. (2017). Insatisfacción con la imagen corporal en niños y adolescentes: revisión sistemática [Body-image dissatisfaction in children and adolescents: a systematic review]. *Nutricion hospitalaria*, 34(2), 479–489. doi:10.20960/nh.455
- Kling, J., Kwakkenbos, L., Diedrichs, P. C., Rumsey, N., Frisén, A., Brandão, M. P., Silva, A. G., Dooley, B., Rodgers, R. F., & Fitzgerald, A. (2019). Systematic review of body image measures. *Body image*, 30, 170–211. Doi:10.1016/j.bodyim.2019.06.006
- Philippi, S. T., & Leme, A. (2018). Weight-teasing: does body dissatisfaction mediate weight-control behaviors of Brazilian adolescent girls from low-income communities? *Cadernos de saude publica*, 34(6), e00029817. doi:10.1590/0102-311X00029817.
- Prokopenya, V. (2017). Perception and Description of Paintings. In *4th International Multidisciplinary Scientific Conference of Social Arts*. SGEM Vienna organization.
- Puhl, R. M., Peterson, J. L., & Luedicke, J. (2013). Strategies to address weight-based victimization: youths' preferred support interventions from classmates, teachers, and parents. *Journal of youth and adolescence*, 42(3), 315–327. doi:10.1007/s10964-012-9849-5.
- Senín-Calderón, C., Rodríguez-Testal, J. F., Perona-Garcelán, S., & Perpiñá, C. (2017). Body image and adolescence: A behavioral impairment model, *Psychiatry Research*, 248, 121-126. doi:10.1016/j.psychres.2016.12.003.
- Sheeran, P., Maki, A., Montanaro, E., Avishai-Yitshak, A., Bryan, A., Klein, W. M. P., Miles, E., & Rothman, A. J. (2016). The impact of changing attitudes, norms, and self-efficacy on health-related intentions and behavior: A meta-analysis. *Health Psychology*, 35(11), 1178–1188. doi:10.1037/hea0000387.

Tomas-Aragones, L., & Marron, S.E. (2016). Body Image and Body Dysmorphic Concerns. *Acta dermato-venereologica*, 96(217), 47–50. doi:10.2340/00015555-2368

Torres S. (2021). School-Based Body Image Intervention: Overcoming Challenges to Dissemination. *The Journal of adolescent health: official publication of the Society for Adolescent Medicine*, 68(2), 229–230. <https://doi.org/10.1016/j.jadohealth.2020.11.002>

Tylka, T.L. & Wood-Barcalow, N.L. (2015). What is and what is not positive body image? Conceptual foundations and construct definition, *Body Image*, 14, pp. 118-129, 10.1016/j.bodyim.2015.04.001

Vagias, W. M. (2006). *Likert-type scale response anchors*. *Clemson International Institute for Tourism & Research Development*, Department of Parks, Recreation and Tourism Management: Clemson University.

Virendra Pratap Yadav (2017). Understanding the body image of adolescents: A psychological perspective. *International Journal of Applied Research*, 3(6), 588-594.

Yager, Z., Diedrichs, P.C. & Ricciardelli, L.A. (2013). What works in secondary schools? A systematic review of classroom-based body image programs, *Body Image*, 10, 271-281.