

Group identification, discrimination and psychological health in an obese sample

Alejandro Magallares*, José Francisco Morales

Universidad Nacional de Educación a Distancia, España

Miguel Ángel Rubio

Universidad Complutense de Madrid, España

ABSTRACT

Obesity represents a serious health issue affecting millions of people in Western industrialized countries. The severity of the medical problems it causes is paralleled by the fact that obesity has become a social stigma, as in many cases it brings rejection and discrimination to the people who suffer it. Our study, in which 95 members of Spanish obesity associations participated, focused specifically on how group identification (Group Identification Scale), one of the strategies according to the Rejection-Identification Model that people have to deal with discrimination (Obesity-Related Problems Scale), is related to psychological health (Self-esteem, Life Satisfaction and Depression scales) in an obese sample. It was shown that discrimination is negatively linked with psychological health (low self-esteem and life satisfaction, and high depression) while group identification is positively correlated with psychological health (high self-esteem and life satisfaction, and low depression). Finally, the Rejection-Identification Model is tested with the obese sample.

Key words: obesity, discrimination, group identification.

Novelty and Significance

What is already known about the topic?

- Research on obesity has focused on the well-being of obese people, on the assumption that it should be lower than the one of normal weight people. However, studies conducted to date are not conclusive.

What this paper adds?

- This paper introduces a set of social variables not included in other works to explain differences of well-being among obese people exposed to discrimination and prejudice because of their weight.

Obesity is a medical condition in which excess body fat produces a negative effect on health, reduces life expectancy and increases the likelihood of several illnesses, among others, heart disease, breathing difficulties during sleep, type 2 diabetes, certain types of cancer and osteoarthritis (Haslam & James, 2005). Additionally, obese people have psychological (Torres Mendoza, Valdivia Hernández, Flores Villavicencio, & Vázquez Valls, 2009) and emotional problems (Rodríguez García, Fusari, Ellgrin, Gómez Candela, & de Cos, 2008; García Rodríguez, Ellgrin, & Gómez Candela, 2010) because of their weight. For example, several meta-analysis prove that obesity is related with less psychological health: it has been found that obese individuals suffer more depression (de Wit, Luppino, van Straten, *et al.*, 2010) and anxiety (Garipey, Nitka, & Schmitz, 2010)

* Correspondence concerning this article: Alejandro Magallares, Departamento de Psicología Social y de las Organizaciones, Facultad de Psicología UNED, c/ Juan del Rosal 10, 28040 Madrid. E-mail: amagallares@psi.uned.es.

and have less self-esteem (Miller & Downey, 1999) and a higher stress (Wardle, Chida, Gibson, Whitaker, & Steptoe, 2011). For all that reasons, obesity is today considered by authorities in advanced societies, like the World Health Organization (WHO), one of the highest risks to public health (WHO, 2000). The WHO (2000) estimates that 400 million adults (9.8% of the world population) are obese. For example, in Canada, 23.1% of people older than 18 years have a Body Mass Index (BMI) greater than 30kg/m² (Tjepkema, 2005). In the United Kingdom the rate of obesity has increased in the last few years up to the current 22% of the adult population (Kopelman, Caterson, Stock, & Dietz, 2005). In the United States, the pattern is the same, with a current rate of 32% of the adult population with weight problems (Ogden *et al.*, 2006). This trend not only affects Western industrialized countries and prevalence rates are increasing all over the world (e.g., Ng, Zaghoul, Ali, Harrison, & Popkin, 2011). In Spain, the country where this study has been carried out, obesity has increased significantly in the last few years, reaching currently a prevalence rate of 23% (Gutiérrez-Fisac *et al.*, 2011). Its steadily increasing prevalence rate in these societies has been paralleled by an ever stronger social rejection and exclusion of obese people, who nowadays are exposed to a full array of discriminatory and stigmatizing experiences of many kinds in largely unfavourable societal contexts (Puhl & Heuer, 2009). Despite the social problems that obese people have to face, there are not many studies analyzing the psychological consequences of the rejection they suffer. Although there are several researches studying how the overweight affects the quality of life of the obese (see for example Kozak, Daviglius, Chan, *et al.*, 2011), not many works focus their attention in how these social problems that obese people suffer may be having an impact in their psychological health. For this reason, in this research it will be studied how this discrimination that happens in several social areas affects the psychological health of people with weight problems.

Obese people have to face discrimination in many social areas (Puhl, Heuer, Brownell, 2010). For instance, there is evidence of discrimination at every stage of the employment cycle (Giel, Thiel, Teufel, Mayer, & Zipfel, 2010). As a matter of fact, it has been found that obese people have serious difficulties in selection processes (they are hired less than normal weight people; Swami, Chan, Wong, Furnham, & Tovée, 2008), they have worse positions than people without weight problems (they get worse jobs with the same education and experience; Ball, Mishra, & Crawford, 2002), their wages are lower (even with the same education and experience they earn less money; Han, Norton, & Stearns, 2009) and they suffer more unemployment (they are more likely to be fired; Tunceli, Li & Williams, 2006). According to the reviewed literature, there is a negative effect of work discrimination on the well-being of obese people (Magallares, Morales, & Rubio, 2011). There is also evidence of discrimination in healthcare and educational contexts. It has been shown that doctors tend to be prejudiced against obese people (Hansson, Näslund, & Rasmussen, 2010) and that health care professionals' judgments and practices are influenced by negative perceptions (Hebl & Xu, 2001). In school, overweight kids are the usual targets of teasing, insults, and weight remarks (Zeller, Ingerski, Wilson, & Modi, 2010). Obese discrimination is so ubiquitous that it does not disappear at higher educational levels: there is less parental support for obese people trying to go to college (Crandall, 1995). It is also present at every day

activities, as shown by the fact that obese people are considered less attractive and that they have fewer chances of finding a partner (Falkner *et al.*, 2001). Additionally, it has been proved that the mass media, films and TV shows present a very negative image of obese people (McClure, Puhl, & Heuer, 2011). Despite the increased prevalence of weight discrimination, few studies have examined the association between rejection and the psychological consequences of this exclusion, although some investigations have showed the link that exists between discrimination and a poor psychological (Carr & Friedman, 2005; Hatzenbuehler, Keyes, & Hasin, 2009; Schafer & Ferraro, 2011) and physical health (Tsenkova, Carr, Schoeller, & Ryff, 2011). For this reason, this research will analyze the relationship between discrimination and psychological health.

There is ample evidence that the same negative fact (like discrimination) can affect positively or negatively, depending on the way people cope with it (Lazarus & Folkman, 1984). Carver, Sellen, and Weintraub's (1989) and Carver (1997) investigations show that, when facing a potentially stressful situation, different forms of coping can be used to deal with negative situations. Puhl & Brownell (2003, 2007) argue that in the case of obese people it is very relevant to study coping strategies in order to analyze how people with weight problems deal with stressful events associated with their disease. In the case of stigmatized groups, as in the obese group, it has been proved that to avoid very low levels of psychological health, a very adaptive strategy is to identify with your own rejected group (Outten, Schmitt, García, & Branscombe, 2009; Wohl, Giguère, Branscombe, & McVicar, 2011). Branscombe, Schmitt, & Harvey (1999) consider that "if one cannot gain acceptance in the group with much of society's power and prestige, the most adaptive response might be to increase one's investment in one's own group" (page 137). The *Rejection-Identification Model* (Branscombe *et al.*, 1999) claims that, in order to cope with prejudice and social discrimination, the best way is to identify with the rejected ingroup, for group identification has a positive correlation with psychological health (Latrofa, Vaes, Pastore, & Cadinu, 2009). Additionally, as a result of the discrimination, it is not unusual for those stigmatized people who identify with their group to feel hostility toward people that discriminate them (Branscombe *et al.*, 1999). Despite the interest of this model, there are no studies testing this model with obese people. For that reason, this study will try to prove if the identification has a protective role of the psychological health of obese people by testing the Rejection-Identification Model.

Therefore, the general goal of this study is to analyze how the psychosocial variables mentioned in this section (discrimination and group identification) are related to the psychological health of obese people. According to the reviewed literature (Branscombe *et al.*, 1999; Carr & Friedman, 2005; Hatzenbuehler *et al.*, 2009; Schafer & Ferraro, 2011) our first hypothesis is that there will be a negative relationship between discrimination and psychological health. Our second hypothesis, as the state of the art suggests (Branscombe *et al.*, 1999; Latrofa *et al.*, 2009), is that there will be a positive relationship between group identification and psychological health. Finally, the third hypothesis is that the Rejection-Identification Model can be applied to an obese sample (Branscombe *et al.*, 1999).

METHOD

Participants

Participants ($N=95$; 63 female, 5 did not specify sex) were members from Spanish obese associations that voluntarily answered the research questionnaire (accidental sample). Their average Body Mass Index (BMI) was 42.61 kg/m^2 ($SD=9.76$). Mean age was 39.54 years ($SD=11.18$). Inclusion criterion was to have been diagnosed as obese by a medical doctor working for the associations. Therefore, only participants with a BMI equal or higher to 30 kg/m^2 were included in the final sample of the study.

Procedures

All participants belonged to two Spanish associations of obese people: OBECAN (Obese Canary Island Association) and ASOFE (Obese Almería Association). Self-administered questionnaires were sent to the presidents of the associations for their distribution to the participants who returned them by mail to the authors of the study.

Instruments

Discrimination was measured with the *Obesity-Related Problems Scale* (OP; Bilbao et al., 2009; Karlsson, Taft, Sjöström, Torgerson, & Sullivan, 2003). This scale measures how obesity affected the everyday life of the participants. A 6-point Likert scale (from 1, never, to 6, always) was used. A score was computed by averaging the 8 items of the scale ($\alpha=.93$). Higher scores on the *Obesity-Related Problems Scale* reflect greater weight rejection.

To measure identification with the group of obese people (that is, the degree of intensity of the feeling of belongingness to the group of obese), *Group Identification Scale* (CSES; Luhtanen & Crocker, 1992; Sánchez, 1999) was used ($\alpha=.86$). A 6-point Likert scale (from 1, strongly disagree, to 6, strongly agree) was used. A score was computed by averaging the 4 items of the scale. Higher scores on the *Group Identification Scale* reflect greater importance of the obese group.

To measure hostility (that is, the degree of aggressiveness toward the outgroup, in this case, thin people) we used one of the items of the Branscombe *et al.* (1999) study. A 6-point Likert scale (from 1, strongly disagree, to 6, strongly agree) was used. Higher scores on this item scale reflect greater hostility toward thin people.

To measure psychological health in the most complete way we included positive (self-esteem and life satisfaction) and negative (depression) measures. Self-esteem (RSES; Chorot & Navas, 1995; Rosenberg, 1989), depression (CD; Sandín & Valiente, 1998) and life satisfaction (SWLS; Cabañero *et al.*, 2004; Pavot & Diener, 1993) scales had high reliabilities (Self-esteem: 10 items, $\alpha=.85$; Depression: 16 items, $\alpha=.95$; Life-satisfaction: 5 items, $\alpha=.84$). A 6-point Likert scale (from 1, strongly disagree, to 6,

strongly agree) was used for the 3 scales. Three scores were computed by averaging the items of the different scales. Higher scores on the *Self-Esteem and Life Satisfaction Scale* reflect greater psychological health. On the contrary, higher scores on the Depression scale reflect lower levels of psychological health.

Participants supplied also information about their height and weight (to calculate BMI), sex, level of education and working situation.

RESULTS

Table 1 shows the pattern of correlations among the three components of the psychological health and the BMI. Only the correlation between one of the components of psychological health (depression) and BMI reaches statistical significance. The rest (self-esteem and life satisfaction) shows a negative link with BMI but the correlations are not statistically significant.

Table 2 shows a negative correlation between discrimination and psychological health (high depression, and low self-esteem and life satisfaction). These results provide support for our first hypothesis.

As can be seen in Table 3, there is a positive link between group identification and psychological health (low depression, and high self-esteem and life satisfaction). The correlations were statistically significant, giving support to our second hypothesis.

Finally, Rejection-Identification Model by Branscombe *et al.* (1999) was tested in order to ascertain if it could be applied to obese people. A path analysis was performed with AMOS software (Arbuckle, 2009). Variables used were perception of discrimination, hostility, group identification and self-esteem (the one used in the original study of Branscombe *et al.*, 1999). This model presents an appropriate goodness of fit

Table 1. Correlations between psychological health and BMI.

	1	2	3	4
1. BMI	-	-	-	-
2. Self-esteem	-.20	-	-	-
3. Satisfaction	-.13	.65**	-	-
4. Depression	.31*	-.67**	-.68**	-
Mean	42.61	4.41	3.08	3.17
SD	9.79	1.07	1.29	1.38

Notes: * $p < .05$; ** $p < .01$

Table 2. Correlations between psychological health and discrimination.

	1	2	3	4
1. Discrimination	-	-	-	-
2. Self-esteem	-.45**	-	-	-
3. Satisfaction	-.41**	.65**	-	-
4. Depression	.41*	-.67**	-.68**	-
Mean	2.58	4.41	3.08	3.17
SD	1.56	1.07	1.29	1.38

Notes: * $p < .05$; ** $p < .01$

Table 3. Correlations between psychological health and group identification.

	1	2	3	4
1. Group identification	-	-	-	-
2. Self-esteem	.38**	-	-	-
3. Satisfaction	.41**	.65**	-	-
4. Depression	-.29*	-.67**	-.68**	-
Mean	4.17	4.41	3.08	3.17
SD	1.48	1.07	1.29	1.38

Notes: * $p < .05$; ** $p < .01$

-according to Byrne (2010) values between .95 and 1.00 for CFI and NFI, and values less than .05 for the RMSEA- ($\chi^2 = .14$, $p = .92$; CFI = 1; NFI = .99; RMSEA = .001). In the Figure 1, it can be observed that the relationship between the discrimination and the self-esteem is negative, but the link between the identification and the self-esteem is positive. Also, it can be observed that the discrimination has a positive relationship with hostility toward non obese people and at the same time a negative link with group identification. The results give support to our third hypothesis.

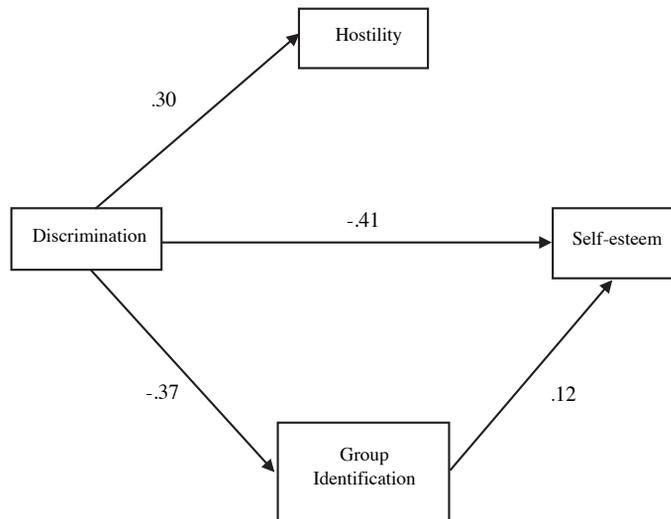


Figure 1. Rejection-Identification Model (Branscombe *et al.*, 1999). Standardized estimations of the model. The values of the arrows are the standardized regression coefficients (β).

DISCUSSION

Our work allows us to think that it is not the weight itself (according to the weak correlations between psychological health and BMI) what produces the depression or a low self-esteem and a poor life satisfaction, but the associated social consequences of the obesity, and most of all, the way that people have to deal with that negative

situations associated with the overweight. According to our results the discrimination that obese people suffer in their life has a major role in explaining the low psychological health they have, a variable that, despite its importance, has not been studied so much to date as other medical variables. According to some authors (Friedman & Brownell, 1995) many obesity studies tend to focus on the differences between obese and normal weight people in psychological health, but it would be necessary to analyze the individual differences within the obese group that may be explaining why some people with weight problems suffer with their disease and some of them have a normal life. Between those variables, as the results suggest, should be included group identification and discrimination, because as it has been showed, they both have a significant link with psychological health.

It was found in our work that discrimination has a negative relationship with psychological health. Branscombe *et al.* (1999) have found similar results, with other collectives as women or African-Americans, because, as they suggest, being the target of the prejudice of others always has negative consequences for the psychological health of the person who suffers it. This finding is very similar to what it has been found within the obese group (Carr & Friedman, 2005; Hatzenbuehler *et al.*, 2009; Schafer & Ferraro, 2011). For this reason, we think that it should be necessary to measure discrimination, because of its importance, when a quality of life study about the relationship between BMI and psychological health in obese samples is done.

Our work shows that group identification has a protective role of psychological health. Our results have confirmed that the identification with the group one belongs to (in this case the obese people) has a positive correlation with psychological health (high self-esteem and life satisfaction, and lower depression). This result is similar to Branscombe *et al.* (1999). They argue that stigmatized people have the chance to protect their self-esteem through the identification with the socially excluded group. However, this is the first time that it has been proved that group identification has a positive link with psychological health in the obese group. This means, that it would be interesting to promote in clinical settings group identification (through meetings, for example) between obese patients in order to increase their quality of life.

It is important to remark that is the first time that it has been proved that the Rejection-Identification Model can be applied in the obese group. According to Branscombe *et al.* (1999) stigmatized people, as we have seen obese people have to face discrimination in several social contexts, may believe that the only way (or one of the ways) to overcome with unfair situations is working together with other members of the rejected group. Strong identification may be instrumental for that goal. Therefore, besides the psychological benefits of identification, it seems to be important to encourage obese patients to fight for right treatment through associations or group movements, in order not just to increase their quality of life but also to obtain an improvement in their social lives.

It has been found a positive link between the discrimination that obese people suffer and the hostility they feel toward the out-group (in this case the thin people). This finding is very interesting because usually obese people have the desire to become thinner one day. This means that they should not be aggressive toward the people that

discriminate them because they want to be part of that group in the future. Despite the big social pressure to become slimmer (Flament *et al.*, 2012) and the time that obese people spend in loss weight programs (Stotland, Larocque, & Sadikaj, 2012), in this study it has been found that the obese feel hostility toward thin people.

The current study is subject to some limitations that deserve mention. First of all, participants of the sample belonged to obese associations, which means that they have a high identification with the obese group. For that reason, it will be necessary to conduct studies with clinical samples (with patients from hospitals) in order to analyze if identification has a protective role or not. In the second place, it is a cross-sectional study and it would be necessary to conduct longitudinal studies in order to see the relationship between discrimination, group identification and psychological health with the pass of the time. Despite these limitations, the study provides new data with potential applications.

REFERENCES

- Arbuckle JL (2009). Amos (Version 18.0) [Computer Program]. Chicago: SPSS.
- Ball K, Mishra G, & Crawford D (2002). Which aspects of socioeconomic status are related to obesity among men and women? *International Journal of Obesity*, *26*, 559-565. DOI: 10.1038/sj.ijo.0801960
- Bilbao A, Mar J, Mar B, Arrospide A, Martínez de Aragón G, & Quintana JM (2009). Validation of the Spanish translation of the questionnaire for the obesity-related problems scale. *Obesity Surgery*, *19*, 1393-1400. DOI: 10.1007/s11695-009-9800-3
- Branscombe N, Schmitt M, & Harvey R (1999). Perceiving pervasive discrimination among African Americans: Implications for group identification and well-being. *Journal of Personality and Social Psychology*, *77*, 135-149. DOI: 10.1037//0022-3514.77.1.135
- Byrne B (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. New York: Taylor & Francis Group.
- Cabañero M, Richart M, Cabrero J, Orts M, Reig A, & Tosal B (2004). Fiabilidad y validez de la Escala de Satisfacción con la Vida de Diener en una muestra de mujeres embarazadas y puérperas [Reliability and validity of satisfaction with life scale in a sample of pregnant women]. *Psicothema*, *16*, 448-455.
- Carr D & Friedman M (2005). Is obesity stigmatizing? Body weight, perceived discrimination, and psychological well-being in the United States. *Journal of Health and Social Behavior*, *46*, 244-259. DOI: 10.1177/002214650504600303
- Carver C (1997). You want to measure coping but your protocol's too long. Consider the Brief COPE. *International Journal of Behavioral Medicine*, *4*, 92-100. DOI: 10.1207/s15327558ijbm0401_6
- Carver C, Seller M, & Weintraub J (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, *66*, 184-195. DOI: 10.1037//0022-3514.56.2.267
- Chorot P & Navas JA (1995). *Escala de auto-estima de Rosenberg (SES) [Rosenberg Self-esteem scale]*. Madrid: Universidad Nacional de Educación a Distancia (UNED).
- Crandall C (1995). Do parents discriminate against their heavyweight daughters? *Personality and Social Psychology Bulletin*, *21*, 724-735. DOI: 10.1177/0146167295217007
- de Wit L, Luppino F, van Straten A, Penninx B, Zitman F, & Cuijpers P (2010). Depression and obesity: A meta-analysis of community-based studies. *Psychiatry Research*, *178*, 230-235. DOI: 10.1016/j.

psychres.2009.04.015

- Falkner N, Neumark-Sztainer D, Story M, Jeffery R, Beuhring T, & Resnick M (2001). Social, educational, and psychological correlates of weight status in adolescents. *Obesity Research*, 9, 32-42. DOI: 10.1038/oby.2001.5
- Flament M, Hill E, Buchholz A, Henderson K, Tasca G, & Goldfield G (2012). Internalization of the thin and muscular body ideal and disordered eating in adolescence: The mediation effects of body esteem. *Body Image*, 9, 68-75. DOI:10.1016/j.bodyim.2011.07.007
- Friedman M & Brownell K (1995). Psychological Correlates of Obesity: Moving to the Next Research Generation. *Psychological Bulletin*, 117, 3-20. DOI: 10.1037//0033-2909.117.1.3
- Rodríguez García B, Fusari A, Ellgrin H, Gómez Candela C, & de Cos A (2008). Sesgos en el procesamiento emocional en pacientes con obesidad tipo II y III (mórbida). [Emotional processing bias in patients with type II and III (morbid) obesity]. *Ansiedad y Estrés*, 14, 1-12.
- García Rodríguez B, Ellgring H, & Gómez Candela C (2010). Atención selectiva emocional en mujeres con obesidad y normopesas. [Emotional selective attention in obese and normal weight females]. *Ansiedad y Estrés*, 16, 227-236.
- Garipey G, Nitka D, & Schmitz N (2010). The association between obesity and anxiety disorders in the population: A systematic review and meta-analysis. *International Journal of Obesity*, 34, 407-419. DOI: 10.1038/ijo.2009.252
- Giel K, Thiel A, Teufel M, Mayer J, & Zipfel S (2010). Weight bias in work settings -a qualitative review. *Obesity Facts*, 3, 33-40. DOI: 10.1159/000276992
- Gutiérrez Fisac J, Guallar Castellón P, León Muñoz L, Graciani A, Banegas J, & Rodríguez Artalejo F (2011). Prevalence of general and abdominal obesity in the adult population of Spain, 2008-2010: the ENRICA study. *Obesity Review*. DOI: 10.1111/j.1467-789X.2011.00964.x
- Han E, Norton E, & Stearns S (2009). Weight and Wages: Fat versus Lean Paychecks. *Health Economics*, 18, 535-548. DOI: 10.1002/hec.1386
- Hansson L, Näslund E, & Rasmussen F (2010). Perceived discrimination among men and women with normal weight and obesity. A population-based study from Sweden. *Scandinavian Journal of Public Health*, 38, 587-596. DOI: 10.1177/1403494810372266
- Haslam D & James W (2005). Obesity. *Lancet*, 366, 1197-1209. DOI: 10.1016/S0140-6736(05)67483-1
- Hatzenbuehler ML, Keyes KM, & Hasin DS (2009). Associations between perceived weight discrimination and the prevalence of psychiatric disorders in the general population. *Obesity*, 17, 2033-2039. DOI: 10.1038/oby.2009.131
- Hebl MR & Xu J (2001). Weighing the care: Physicians' reactions to the size of a patient. *International Journal of Obesity*, 25, 1246-1252. DOI: 10.1038/sj.ijo.0801681
- Karlsson J, Taft C, Sjöström L, Torgerson JS, & Sullivan M (2003). Psychosocial functioning in the obese before and after weight reduction: construct validity and responsiveness of the Obesity-related Problems Scale. *International Journal of Obesity*, 27, 617-630. DOI: 10.1038/sj.ijo.0802272
- Kopelman P, Caterson I, Stock M, & Dietz W (2005). *Clinical obesity in adults and children*. Oxford: Blackwell.
- Kozak A, Daviglus M, Chan C, Kiefe C, Jacobs D, & Liu K (2011). Relationship of body mass index in young adulthood and health-related quality of life two decades later: The Coronary Artery Risk Development in Young Adults study. *International Journal of Obesity*, 35, 134-141. DOI: 10.1038/ijo.2010.120
- Latrofa M, Vaes J, Pastore M, & Cadinu M (2009). United we stand, divided we fall! The protective function of self-stereotyping for stigmatised members' psychological well-being. *Applied Psychology: An International Review*, 58, 84-104. DOI: 10.1111/j.1464-0597.2008.00383.x
- Lazarus R & Folkman S (1984). *Stress, Appraisal and Coping*. New York: Springer Publishing.
- Luhtanen R & Crocker J (1992). A collective self-esteem scale: Self-evaluation of one's social identity.

- Personality and Social Psychology Bulletin*, 18, 302-318. DOI: 10.1177/0146167292183006
- Magallares A, Morales JF, & Rubio M (2011). The effect of work discrimination on the well-being of obese people. *International Journal of Psychology and Psychological Therapy*, 11, 255-267.
- McClure K, Puhl R, & Heuer C (2011). Obesity in the news: Do photographic images of obese persons influence antifat attitudes? *Journal of Health Communication*, 16, 359-371. DOI: 10.1080/10810730.2010.535108
- Miller C & Downey K (1999). A meta-analysis of heavyweight and self-esteem. *Personality and Social Psychology Review*, 3, 68-84. DOI: 10.1207/s15327957pspr0301_4
- Ng S, Zaghoul S, Ali H, Harrison G, & Popkin B (2011). The prevalence and trends of overweight, obesity and nutrition-related non-communicable diseases in the Arabian Gulf States. *Obesity Reviews*, 12, 1-13. DOI: 10.1111/j.1467-789X.2010.00750.
- Ogden C, Carroll M, Curtin L, McDowell M, Taba C, & Flegal K (2006). Prevalence of overweight and obesity in the United States, 1999-2004. *Journal of the American Medical Association*, 295, 1549-1555. DOI : 10.1001/jama.295.13.1549
- Outten R, Schmitt M, García D, & Branscombe N (2009). Coping options: Missing links between minority group identification and psychological well-being. *Applied Psychology: An International Review*, 58, 146-170. DOI: 10.1111/j.1464-0597.2008.00386.x
- Pavot W & Diener E (1993). Review of the Satisfaction with Life Scale. *Psychological Assessment*, 5, 164-172. DOI: 10.1037//1040-3590.5.2.164
- Puhl R & Brownell K (2003). Ways of coping with obesity stigma: Review and conceptual analysis. *Eating Behaviors*, 4, 53-78. DOI: 10.1016/S1471-0153(02)00096-X
- Puhl R & Brownell K (2007). Strategies for coping with the stigma of obesity. In J. Latner, T. Wilson (Eds.) *Self-help approaches for obesity and eating disorders: Research and practice* (pp. 347-362). New York: Guilford Press.
- Puhl R & Heuer C (2009). The stigma of obesity: A review and update. *Obesity*, 17, 941-964. DOI: 10.1038/oby.2008.636
- Puhl R, Heuer C, & Brownell K (2010). Stigma and social consequences of obesity. In P Kopelman, I Caterson & W Dietz (Eds.), *Clinical obesity in adults and children* (pp. 25-40). New York: Wiley-Blackwell.
- Rosenberg M (1989). *Society and the Adolescent Self-Image*. Middletown: Wesleyan University Press.
- Sánchez E (1999). Relación entre la autoestima personal, la autoestima colectiva y la participación en la comunidad [The relationship between personal and collective self-esteem and the participation in the community]. *Anales de Psicología*, 15, 251-260.
- Sandín B & Valiente R (1998). *Cuestionario de Depresión (CD) [Depression Questionnaire]*. Madrid: Universidad Nacional de Educación a Distancia (UNED).
- Schafer M & Ferraro K (2011). The Stigma of Obesity: Does Perceived Weight Discrimination Affect Identity and Physical Health? *Social Psychology Quarterly*, 74, 76-97. DOI:10.1177/0190272511398197
- Stotland S, Larocque M, & Sadikaj G (2012). Positive and negative dimensions of weight control motivation. *Eating Behaviors*, 13, 20-26. DOI: 10.1016/j.eatbeh.2011.10.003
- Swami V, Chan F, Wong V, Furnham A, & Tovée M (2008). Weight-based discrimination in occupational hiring and helping behavior. *Journal of Applied Social Psychology*, 38, 968-981. DOI: 10.1111/j.1559-1816.2008.00334.x
- Tjepkema M (2005). *Measured Obesity-Adult obesity in Canada: Measured height and weight. Nutrition: Findings from the Canadian Community Health Survey*. Ottawa, Ontario: Statistics Canada.
- Torres Mendoza B, Valdivia Hernández N, Flores Villavicencio M, & Vázquez Valls E (2009). Asociación entre ansiedad y obesidad [Association between anxiety and obesity]. *Ansiedad y Estrés*, 15, 39-47.
- Tsenkova V, Carr D, Schoeller D, & Ryff C (2011). Perceived weight discrimination amplifies the link

- between central adiposity and nondiabetic glyceic control (HbA_{1c}). *Annals of Behavioral Medicine*, *41*, 243-251. DOI: 10.1007/s12160-010-9238-9
- Tunceli K, Li K & Williams L (2006). Long-term effects of obesity on employment and work limitations among U.S. adults, 1986 to 1999. *Obesity*, *14*, 1637-1646. DOI: 10.1038/oby.2006.188
- Wardle J, Chida Y, Gibson E, Whitaker K, & Steptoe A (2011). Stress and adiposity: A meta-analysis of longitudinal studies. *Obesity*, *19*, 771-778. DOI: 10.1038/oby.2010.241
- Wohl M, Giguère B, Branscombe N, & McVicar D (2011). One day we might be no more: Collective angst and protective action from potential distinctiveness loss. *European Journal of Social Psychology*, *41*, 289-300. DOI: 10.1002/ejsp.773
- World Health Organization (2000). *Technical report series 894: Obesity: Preventing and managing the global epidemic*. Geneva: World Health Organization.
- Zeller M, Ingerski L, Wilson L, & Modi A (2010). Factors Contributing to Weight Misperception in Obese Children Presenting for Intervention. *Clinical Pediatrics*, *49*, 330-336. DOI: 10.1177/0009922809346571

Received, May 21, 2012
Final Acceptance, May 20, 2014