

MASCULINITY, DRIVE FOR MUSCULARITY AND EATING CONCERNS IN MEN

MASCULINIDAD, LA OBSESIÓN POR LA MUSCULATURA Y PREOCUPACIONES ALIMENTARIAS EN LOS HOMBRES

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ABSTRACT

Keywords:

masculinity, muscularity, obsessions, eating concerns, eating disorders, muscle dysmorphia

Recibido. Mayo 31 - 2013

Aceptado. Junio 25 - 2013

Western society promotes a culture of appearance both for males and females, although dieting and the drive for thinness are more typical female concerns. In contrast, men desire a larger body with more muscle instead of low weight. For this reason, this study aims to determine whether men who endorse a strong male identity (i.e. have a high score in a masculinity scale) report a higher drive for muscularity and less eating concerns than individuals who score low in a masculinity scale. Data obtained from 624 male students revealed that participants with high scores in a masculinity scale reported a greater drive for muscularity and less eating concerns than individuals with low scores. Finally, it is discussed whether masculinity may be considered as a protective factor to not develop eating disorders and, at the same time, a risk factor to develop problems related with muscle dysmorphia.

RESUMEN

La sociedad occidental promueve una cultura de la apariencia para hombres y mujeres, aunque la dieta y la obsesión por la delgadez son más típicas en las mujeres. Por el contrario, para el caso de los hombres, en vez de un bajo peso corporal, se fomenta un cuerpo trabajado y musculado. Por esta razón, se estudia si los hombres con una fuerte identidad masculina (que

Palabras clave:

masculinidad, musculatura, obsesiones, preocupación por la comida, trastornos de la conducta alimentaria, dismorfia muscular

tienen una puntuación alta en una escala sobre masculinidad) informan de mayor obsesión por la musculatura y menor preocupación por la comida que personas con puntuaciones bajas en una escala sobre masculinidad. Los datos obtenidos de 624 participantes masculinos ponen de manifiesto que las personas que puntuaban alto en una escala sobre masculinidad informaban de mayor obsesión por la musculatura y menor preocupación por la comida que aquellos participantes con puntuaciones bajas en la escala de masculinidad. Finalmente se discute si se puede considerar la masculinidad un factor protector en el caso de los trastornos de la conducta alimentaria y al mismo tiempo un factor de riesgo para la dismorfia muscular.

In Western cultures there is great emphasis on physical appearance as a determinant of people's personal value (Thompson, Heinberg, Altabe & Tantleff-Dunn, 1999). According to the reviewed literature, Western society promote a culture of appearance for both males and females, although dieting and a drive for thinness are more typical of female concerns because a key attribute of female beauty is a low body weight (McKinley, 2006). In contrast, instead of low weight, many men in industrialized countries desire a larger body, with more muscle (Bottamini, 2006). In other words, in industrialized countries women usually desire a thinner body (Swami et al., 2010) while men appear to idealize a muscular physique accompanied by minimal body fat (Behar, de la Barrera & Michelotti, 2002). This is especially relevant for male individuals high in masculinity, which can be defined as a set of qualities, characteristics or roles generally considered typical of, or appropriate to, a man (Mussap, 2008). As a matter of fact, muscularity is often equated with masculinity (Helgeson, 1994), a male characteristic that is highly emphasized within Western society.

With these sociocultural norms in industrialized countries, which suggest that muscularity is associated with masculinity, men often strive for a muscular physique (McFarland & Petrie, 2012). The research conducted so far shows that, for example, traditional masculine norms (as for example, risk taking, emotional control or primacy of work) are significantly and positively correlated to drive for muscularity among college

football players (Steinfeldt, Gilchrist, Halterman, Gomory & Steinfeldt, 2011). Additionally, the reviewed literature confirms the relationship between traditional masculine ideology and the pursuit of muscularity, but in this case, in a sample of school boys (Martin & Govender, 2011). Finally, it has been proven that men's greater endorsement of sexist attitudes and objectification of women were associated with drive for muscularity. This work showed that greater drive for muscularity was significantly predicted by stronger objectification of women, hostility towards women and sexist attitudes (Swami & Voracek, 2012). Altogether, these results suggest that men high in masculinity should report more drive for muscularity than individuals less worried about their male identity.

Although there are not many studies about the relationship between masculinity and eating disorders, some results have shown that males with higher levels of body dissatisfaction also have lower masculinity (possessing qualities or characteristics considered typical of a man) scores (Hospers & Jansen, 2005) and that sexual orientation and masculinity in males are related with weight concerns (Calzo, Corliss, Blood, Field & Austin, 2013; Toro-Alfonso, Lugo & Borrero, 2010). For this reason, in this paper it is suggested that the differences that may exist in masculinity between individuals may explain the reason some men are less worried than women about thinness (Morgan, 2012). According to this idea, men with high scores in masculinity scales would be expected to report less eating concerns.

It is important to remark that other works have shown the opposite pattern: there is a significant relation between the traditional model of masculinity and distorted eating behaviors (Toro-Alfonso, Urzúa & Sánchez, 2012; Toro-Alfonso, Walters & Sánchez, 2012).

To date there are not studies about the relationship that may exist between the drive for muscularity and eating concerns with regard to masculinity. For this reason, a study is conducted with a sample of men to analyze whether men with high scores in masculinity develop less eating concerns and more drive for muscularity than individual with low scores on a scale to measure masculinity.

In sum, it is expected that men who endorse a strong male ideology will be less vulnerable to develop eating concerns compared with individuals with low scores on a masculinity scale (Martin & Govender, 2011; Steinfeldt et al., 2011; Swami & Voracek, 2012). Additionally, it should be expected that male individuals who score high in a male gender ideology scale may have a greater drive for muscularity than those with low scores on a masculinity scale (Calzo et al., 2013; Hospers & Jansen, 2005).

Method

Sample

Participants were 624 Spanish male students of the UNED (Universidad Nacional de Educación a Distancia) from 18 to 29 years (age: $M = 25.88$, $SD = 3.65$) who were enrolled in a psychology course and who received extra credit for their participation. The UNED campus is spread across Faculties, Colleges and Centers in Madrid (the Spanish capital) and the extensive network of Associated Centers throughout Spain and abroad. All participants were normal weight (Body Mass Index or BMI between 18 and 30; $M = 24.18$, $SD = 3.05$). Participants who had a BMI lower than 18 (underweight) or higher to 30 (obesity) were excluded from the final analysis in order to make the sample as homogenous as possible.

Procedure

To recruit participants, male students of all the Spanish territory were contacted through the university webpage. Male students were informed on the general purposes of the research and those who voluntarily wanted to participate filled out a booklet with the different questionnaires available for a short period of time in the webpage to be downloaded. After completing all the scales, participants deliver their answers and submit them to the main researcher.

The research protocol for the study was approved by the Ethical Committee of the University. Additionally, informed consent was appropriately obtained for all the participants of the study.

Instruments

In order to measure whether participants had eating concerns, the Eating Attitudes Test (EAT-26) was used (English: Garner, Olmsted, Bohr & Garfinkel, 1982; Spanish: Rivas, Bersabé, Jiménez & Berrocal, 2010) The EAT-26 ($\alpha = .87$) consists of 26 items scored on a 5-point Likert scale ranging from 1 (*never*) to 5 (*always*). A score was computed by averaging the 26 items of the scale. Higher scores on the EAT-26 reflect greater eating concerns. An example of this scale is "I am terrified about being overweight".

To measure pursuit of muscularity, the Drive for Muscularity Scale (DMS) (English: McCreary & Sasse, 2000; McCreary, 2007; Spanish: Escoto et al., 2013) was used. The DMS ($\alpha = .84$) is a 15-item measure of the extent to which people desire to have a more muscular body. Items on the DMS represent a combination of attitudes and behaviors and are scored on a 5-point scale ranging from 1 (*very much like me*) to 5 (*not at all like me*). Higher scores on this scale reflect a greater drive for muscularity. An example of this scale is "I wish I were more muscular".

The Multicultural Masculinity Ideology Scale (MMIS) was used in order to measure male ideology (English: Doss & Hopkins, 1998; Spanish: Castillo-Mayén, 2011). The MMIS ($\alpha = .93$) is scored on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A score

was computed by averaging the 35 items of the MMIS. Higher scores on MMIS reflect greater masculinity. An example of this scale is “Guys should not cry even when something really bad happens”.

BMI was calculated as the relationship between weight (kg) and height squared (m). Weight and height were provided by the participants of the study.

Results

Statistical analyses were conducted with the SPSS software (version 21.0).

In order to analyze whether men with high scores in masculinity (MMIS) reported less eating concerns (EAT-26) and greater drive for muscularity (DMS), it was decided to select individuals with more extreme scores.

The groups of participants were formed by categorizing those individuals with the higher and lower scores on the masculinity scale (25% upper and 25% below). Participants with medium scores were not selected for the final sample and were excluded of the final analysis.

According to previous criterion, 291 individuals were selected (low score on MMIS: $n=137$; and high score on MMIS group: $n=154$). These groups were correctly formed, given that the mean scores on the classification variable (MMIS) was significantly different between groups [low score on MMIS = 1.87; $SD = .55$ vs high score on MMIS = 2.65, $SD = 1.13$; $F(1, 289) = 53.27$, $p < .01$]. A one way ANOVA was calculated with the extreme groups as a factor and the masculinity scale as a dependent variable (DV) to show that the groups were formed correctly. This procedure has been used before, showing that it is useful to test differences between groups with extreme scores (Fritz, Beneciuck & George, 2011).

Comparisons between these groups on all the variables (eating concerns and drive for muscularity) were made by means of the Multiple Analysis of Variance (MANOVA).

Cohen's d s (Cohen, 1988) were also calculated as indexes of effect size. Cohen (1988) defined d as the difference between means divided by standard deviation of either group (d s $\geq .2$ are

considered medium effect sizes and d s $\geq .8$ large effect sizes; Cohen, 1988). Additionally, partial eta-squared (η_p^2) were calculated to estimate effect sizes (Richardson, 2011). η_p^2 works like a correlation coefficient and it informs on a scale from 0 to 1 about how much of variance in the Dependent Variable (DV) can be account for by each Independent Variable (IV).

A MANOVA was conducted (see Table 1), with the masculinity scale (MMIS) as a factor (two groups: low and high scores) and EAT-26 (eating concerns) and DMS (Drive for Muscularity Scale), as DVs in order to check if the hypotheses of the current study could be supported. The MANOVA revealed a significant multivariate main effect for MMIS, [Wilks' $\lambda = .89$, $F(1,289) = 11.87$, $p < .01$].

The results showed that men with higher scores in MMIS reported less eating concerns than participants with lower scores in the MMIS. Additionally, it was found that men with higher scores in MMIS reported also higher scores on the DMS scale than in the low score group. The 2 Analysis of Variance (ANOVA) conducted revealed that the differences were statistically significant (see Table 1). All the effect sizes are medium according to Cohen's criterion (1988).

Table 1
Differences between groups (MMIS) on EAT-26 and DMS

Dependent variables		Low scores $n=137$	High scores $n=154$	$F_{1,230}$	d	η_p^2
EAT-26	M	2.44	1.97	28.27**	.63	.01
	SD	.85	.61			
DMS	M	2.28	3.16	18.28**	.51	.06
	SD	1.71	1.78			

Notes: ** $p < .01$; All scales from 1 to 5; MMIS: Multicultural Masculinity Ideology Scale (male ideology); EAT-26 = Eating Attitudes Test (eating concerns); DMS: Drive for Muscularity Scale

Discussion

The results obtained show that men with high scores on MMIS (masculinity) report less eating concerns (EAT-26) and a higher drive for muscularity (DMS) than male individuals with low scores on the MMIS (the effect sizes found

were medium). These results give support to the hypotheses of the current study.

Results show a negative link between the endorsement of a strong masculinity and eating concerns. It is important to remark that this is the first time that it has been shown that masculinity is negatively related to the apparition of eating concerns in a sample of men although this result is similar to other works which have found that male individuals with higher levels of body dissatisfaction have also lower masculinity scores (Hospers & Jansen, 2005) but contrary to other works that show the opposite pattern (Toro-Alfonso, Walters et al., 2012). This result suggests that the endorsement of a strong male identity may work as a protective factor that helps men to have less eating concerns than women. In other words, this result may be explaining why prevalence studies usually show that men report less eating disorders than women (Hudson, Hiripi, Pope & Kessler, 2007).

Additionally, the results show that individuals highly worried by their male identity are in risk to have other type of problems related with the obsession to develop a muscular body. Despite not being considered a mental disease, bigorexia (or muscle dysmorphia) is considered a disorder by experts (Grieve, 2007). It is important to remark that bigorexia (a person becomes obsessed with the idea that they are not muscular enough) is more prevalent in men than in women (Mosley, 2009). In this sense, drive for muscularity contributes to psychological distress in men, because male individuals compare themselves to other men, attempting to adjust their bodies to meet sociocultural expectations of what it means to be a man. In other words, men acknowledge sociocultural messages that put pressure on them to adjust their bodies to meet these sociocultural standards that link muscularity and masculinity and for that reason may develop problems like muscle dysmorphia.

The current study is subject to some limitations worthy of being mentioned. First of all, it should be noted that the sample consisted of psychology students and that it would be necessary to reply these findings with clinical samples (for example, with a sample of men with eating disorders) in order to improve the quality of the study. Second,

all data were based on self-report, and it is possible that social desirability influenced participants' responses. Participants were informed that their responses would remain confidential, and college student samples have been found to provide relatively accurate self-reports of health-related behaviors. However, more rigorous objective measures would provide a more precise assessment. Finally, this is a cross-sectional study; however only longitudinal studies can provide insight into how the variables studied in this paper interact with different daily life stressful experiences. Despite these limitations, the study provides new data with potential applications.

References

- Behar, R., de la Barrera, M., & Michelotti, J. (2002). Feminidad, masculinidad, androginidad y trastornos del hábito del comer. *Revista médica de Chile*, *130*, 964-975. doi: 10.4067/S0034-98872002000900002
- Bottamini, G. (2006). Male voices on body image. *International Journal of Men's Health*, *5*, 109-132. doi: 10.3149/jmh.0502.109
- Calzo, J., Corliss, H., Blood, E., Field, A., & Austin, S. (2013). Development of muscularity and weight concerns in heterosexual and sexual minority males. *Health Psychology*, *32*, 42-5. doi: 10.1037/a0028964
- Castillo-Mayén, M. R. (2011). *Orientación a la dominancia social e identidad de género: mediación de variables socializadoras del género*[Social dominance orientation and gender identity]. Jaén: Servicio de Publicaciones de la Universidad de Jaén.
- Cohen, J. (1988). *Statistical power analysis for the behavior sciences*. New York: Lawrence Erlbaum Associates.
- Doss, B.D., & Hopkins, J.R. (1998). The multicultural masculinity ideology scale: Validation from three cultural perspectives. *Sex Roles*, *38*, 719-741. doi: 10.1023/A:1018816929544
- Escoto, M. C., Alvarez-Rayón, G. L., Mancilla-Díaz, Camacho, E. J., Franco-Paredes, K., & Juárez, C. S. (2013). Psychometric properties of the Drive for Muscularity Scale in Mexican males. *Eating and Weight Disorders*, *18*, 23-28. doi: 10.1007/s40519-013-0010-6
- Fritz, J., Beneciuck, J., & George, S. (2011). Relationship Between Categorization With the STarT Back Screening Tool and Prognosis for People Receiving Physical Therapy for Low Back Pain. *Physical Therapy*, *91*, 722-732. doi: 10.2522/ptj.20100109
- Garner, D.M., Olmsted, M.P., Bohr, Y., & Garfinkel, P.E. (1982). The Eating Attitudes Test: Psychometric features and clinical correlates. *Psychological Medicine*, *12*, 871-878. doi: 10.1017/S0033291700049163
- Grieve, F. G. (2007). A conceptual model of factors contributing to the development of muscle dysmorphia. *Eating Disorders*, *15*, 63-80. doi: 10.1080/10640260601044535
- Helgeson, V. S. (1994). Prototypes and dimensions of masculinity and femininity. *Sex Roles*, *31*, 653-682. doi: 10.1007/BF01544286

- Hospers, J., & Jansen, A. (2005). Why homosexuality is a risk factor for eating disorders in males. *Journal of Social & Clinical Psychology, 24*, 1188-1201. doi: 10.1521/jscp.2005.24.8.1188
- Hudson, J.I., Hiripi, E., Pope, H.G., & Kessler, R.C. (2007). The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. *Biological psychiatry, 61*, 348-358. doi: 10.1016/j.biopsych.2006.03.040
- Martin, J., & Govender, K. (2011). "Making Muscle Junkies": Investigating Traditional Masculine Ideology, Body Image Discrepancy, and the Pursuit of Muscularity in Adolescent Males. *International Journal of Mens Health, 10*, 220-239. doi: 10.3149/jmh.1003.220
- McCreary, D.R., (2007). The Drive for Muscularity Scale: Description, psychometrics, and research findings. In J.K. Thompson & G. Cafri (Eds.), *The muscular ideal: Psychological, social, and medical perspectives* (pp. 87-106). Washington, DC: American Psychological Association.
- McCreary, D. R., & Sasse, D. K. (2000). An exploration of the drive for muscularity in adolescent boys and girls. *Journal of American College Health, 48*, 297-304. doi: 10.1080/07448480009596271
- McFarland, M., & Petrie, T. (2012). Male body satisfaction: Factorial and construct validity of the Body Parts Satisfaction Scale for men. *Journal of Counseling Psychology, 59*, 329-337. doi: 10.1037/a0026777
- McKinley, N. (2006). Longitudinal Gender Differences in Objectified Body Consciousness and Weight-Related Attitudes and Behaviors: Cultural and Developmental Contexts in the Transition from College. *Sex Roles, 54*, 159-173. doi: 10.1007/s11199-006-9335-1
- Morgan, J. (2012). Male eating disorders. In A. June & J. Treasure (eds.), *A collaborative approach to eating disorders* (pp. 272-278). New York: Taylor & Francis Group.
- Mosley, P. (2009). Bigorexia: bodybuilding and muscle dysmorphia. *European Eating Disorders Review, 17*, 191-198. doi: 10.1002/erv.89
- Mussap, A. (2008). Masculine Gender Role Stress and the Pursuit of Muscularity. *International Journal of Men's Health, 7*, 72-89. doi: 10.3149/jmh.0701.72
- Richardson, J. (2011). Eta squared and partial eta squared as measures of effect size in educational research. *Educational Research Review, 6*, 135-147. doi: 10.1016/j.edurev.2010.12.001
- Rivas, T., Bersabé, R., Jiménez, M., & Berrocal, C. (2010). The Eating Attitudes Test (EAT-26): Reliability and Validity in Spanish Female Samples. *The Spanish Journal of Psychology, 13*, 1044-1056. doi: 10.1017/S1138741600002687
- Steinfeldt, J., Gilchrist, G., Halterman, A., Gomory, A., & Steinfeldt, M. (2011). Drive for muscularity and conformity to masculine norms among college football players. *Psychology of Men & Masculinity, 12*, 324-338. doi: 10.1037/a0024839
- Swami, V., Frederick, D. A., Aavik, T., Alcalay, L., Allik, J., Anderson, D., Andrianto, S., Arora, A., Brännström, A., Cunningham, J., Danel, D., Doroszewicz, K., Forbes, G.B., Furnham, A., Greven, C.U., Halberstadt, J., Hao, S., Haubner, T., Hwang, C.S., Inman, M., Jaafar, J.L., Johansson, J., Jung, J., Keser, A., Kretschmar, U., Lachenicht, L., Li, N.P., Locke, K., Lönnqvist, J.-E., Lopez, C., Loutzenhiser, L., Maisel, N.C., McCabe, M.P., McCreary, D.R., McKibbin, W.F., Mussap, A., Neto, F., Nowell, C., Alampay, L.P., Pillai, S.K., Pokrajac-Bulian, A., Proyer, R.T., Quintelier, K., Ricciardelli, L.A., Rozmus-Wrzesinska, M., Ruch, W., Russo, T., Schütz, A., Shackelford, T.K., Shashidharan, S., Simonetti, S., Sinniah, D., Swami, M., Vandermassen, G., van Duynslaeger, M., Verkasalo, M., Voracek, M., Yee, C.K., Zhang, E.X., Zhang, X., & Zivcic-Becirevic, I. (2010). The attractive female body weight and female body dissatisfaction in 26 countries across 10 world regions: Results of the International Body Project I. *Personality and Social Psychology Bulletin, 36*, 309-325. doi: 10.1177/0146167209359702
- Swami, V., & Voracek, M. (2012). Associations Among Men's Sexist Attitudes, Objectification of Women, and Their Own Drive for Muscularity. *Psychology of Men & Masculinity*. Advance online publication. doi: 10.1037/a0028437
- Thompson, J. K., Heinberg, L. J., Altabe, M. N., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment and treatment of body image disturbance*. Washington: American Psychological Association. doi: 10.1037/10312-000
- Toro-Alfonso, J., Walters, K.Z., & Sánchez, I. (2012). El cuerpo en forma: Masculinidad, imagen corporal y trastornos en la conducta alimentarios de atletas varones universitarios. *Acta de Investigación Psicológica, 2*, 842-857.
- Toro-Alfonso, J., Urzúa, A., & Sánchez, I. (2012). El cuerpo del delito: La imagen corporal e indicadores de trastornos alimentarios en una muestra de hombres gays de diez países latinoamericanos. *Revista Argentina de Clínica Psicológica, 21*(2), 101-111.
- Toro-Alfonso, J., Nieves Lugo, K., & Borrero, N. (2010). Cuerpo y masculinidad: Los desórdenes alimentarios en hombres. *Revista Interamericana de Psicología, 44*(2), 203-201.