

IS CREATIVITY A MODULATING VARIABLE OF THE RELATIONSHIP BETWEEN HEALTH AND GENDER?

Rosa María LIMIÑANA-GRAS, Francisco Javier CORBALÁN-BERNÁ, M^a del Pilar SÁNCHEZ-LÓPEZ

Abstract: *Relationships between gender and health are becoming increasingly better established. Moreover, creativity, considered as a cognitive variable, probably impinges on the optimisation of personal resources when one is faced with illness. In this work we study how creativity modulates relationships between health and gender, by making it possible for individuals to optimise the way in which they tackle pathogenic situations and facilitate their salutogenic behaviour. The results indicate differences in occurrence of illnesses in men (N42) and women (N48) in connection with their conformity with gender norms of femininity and masculinity. The creativity potential seems to be linked to greater conformity to these norms as well.*

Keywords: *sex roles, masculinity norms, feminine norms, sex differences, gender differences, creativity*

Introduction

Researches on relationships between sex differences and health clearly show that being a man or woman has a serious impact on health, and it determines some aspects such as propensity to certain health conditions or illnesses, different risk factors or different treatments or operations for an illness, traumatism or injury.

In addition to sex, gender also has a profound effect upon the determination of health status, because it conditions individuals' risks or vulnerabilities, different patterns in the search for treatment or differential impacts made by social and economic determinants of health. This relationship will also partly depend on which type of health indicator is used (Matud and Aguilera, 2009).

Gender is defined as a concept constructed on sexual role, as a consequence of an evolutionary process by which social expectations and norms are interiorised. Measuring it has been traditionally dealt with by evaluation of Masculinity/Femininity, conceived as how closely people correspond to social stereotypes related to how each sex behaves. From works in the 70s the Masculinity/Femininity construct has been

conceived either as opposing poles of one particular dimension of personality, interests and behaviour related to the sexual role, or fundamentally, following the works by Bem (1977, 1981), as a bipolar construct. In addition to Bem's inventory, other classic scales such as the Masculinity/Femininity scales of MMPI-2, or the Californian Psychological Inventory were developed and used, basically, till the nineties.

The most recent works, however, cast doubt on some of the key aspects of measures such as the Bem Sex Role Inventory (Bem, 1974), since the data indicate that it is an instrument that evaluates instrumental, characteristic personality traits rather than sexual roles in themselves. Thus, an up-to-date, valid instrument has been chosen, "Conformity to Masculine Norms Inventory" (CMNI-Mahalik, 2003) and Conformity to Feminine Norms Inventory" (CFNI –Mahalik, 2005), adapted by our research group to the Spanish population.

Mahalik (2000) and Mahalik et al. 2003, 2005) propose the use of the concept of social gender norm to make sexual roles operative; the latter can be defined as a rule that guides and prescribes what men and women should do, think or feel, when having the same properties as social norms, (for a definition of social norm, see Cialdini & Trost, 1999, p. 152) Many gender norms would exist, depending on culture and social context, and they are transmitted in the same way as social norms, that is by means of models and social agents (such as parents, classmates, mass media, etc.), who transmit what is and is not expected from the boys and girls and who bestow rewards or punishments for such behaviors (Mahalik et al., 2003). However, after an individual understands what society expects of her or him, she or he may not conform to those normative messages as a function of a host of contextual and individual variables.

Frequently, however, when research is carried out into relationships between gender and health, the gender perspective is introduced into the discussion, in the conclusions and the explanation given for the findings, but not previously, that is, when health conduct is evaluated sex differences are worked with (evaluation in men/women, boys/girls), but no measure is made of their conformity to social norms established for each sex, something which constitutes the core of gender. In this study the gender variable will be directly borne in mind from the beginning of the research, by means of the introduction of measures of conformity to social gender norms for men and women proposed by Mahalik (2000, 2003, 2005).

In this relationship between gender and health creativity has been regarded as a cognitive variable which impinges on the optimisation of personal resources when dealing with illness and nuances differences both of sex and gender between men and women. From the viewpoint of cognitive Psychology creativity is considered to be a cognitive style, a macroprocess (Hayes, 1989; Corbolan and col., 2003). From this paradigm, including the gender viewpoint in research work means improving the study of differences between men and women, which hitherto have not produced significant results (Matud, Rodriguez and Grande, 2007).

Several studies have recently examined the personality of creative men and women (Helson, 1996; Subotnik and Arnol, 1993; Russ, 2002). Findings reveal significant differences in gender and show how both men and women express and manifest their creative potential in very different ways. There is evidence that social expectations at least determine the importance men and women give to creativity (Charyton and Snel-

becker, 2007). Women do not regard creativity as satisfying social expectations; perhaps this deprives them of opportunities and makes it more difficult for their creations to be rated as “creative” (Runco, Cramond and Pagnani, 2010).

To sum up, the concept of social gender norm has been defined as a rule or guide which prescribes what men and women ought to do, think or feel (Mahalik, 2000). From this viewpoint we consider the question of researching whether the health of men and women and their conformity to gender norms may be modulated by creativity. The aims of the study are, therefore, to analyse, in the first place, differences between men and women in the health and creativity variables, secondly, gender-modulated differences in health and creativity, and, finally, to identify the relationships between health and creativity and feminine and masculine gender norms.

Method

Participants

Those taking part in this study were 90 people, 3rd course university students of the Graduate Course in Psychology (31.1 %) and the first year of the Psychology Degree course (studies adapted to the common European norm, in accordance with the Bologna Plan) (68.9 %), of which 42 are men and 48 women. All of them are Spanish, except for one person who comes from Colombia, but has been living in Spain for 15 years. The average age is 21.08 (*S.D.* is 6.18), and the ages range from 17 to 49. The average age for the men is 21.17 (*S.D.* = 5.3) and that of the women 21 (*S.D.* = 6.92), with the ages ranging from 17 to 38 for the men and 17 to 49 for the women. The predominant socioeconomic level is the medium, with differentiation between medium-high (54.4 %) and medium-low (45.6 %). More than half (67.8) are not employed, with 17.8 % working sporadically and 14.4 % of the sample being so on a regular basis. 84.4 % of the sample are unmarried and 6.7 % married, with 8.9 % having a de facto partner.

Instruments

- Conformity to Feminine Norms Inventory (CFNI-Mahalik et al., 2005). This questionnaire has 84 items, which enable the degree of conformity shown by people to a series of gender norms traditionally associated with women, (specifically 8 norms) to be evaluated: They are Nice in Relationships, Care for children, Thinness, Sexual Fidelity, Modesty, Involvement in Romantic Relationships and Domestic and Invest in Appearance). It uses a Likert type 4-point scale (0 completely disagree, 1=disagree, 2=agree, 3=totally agree, 4=totally agree). The inventory has been adapted to the Spanish population with satisfactory results in its psychometric characteristics, and an internally consistent average value has been obtained for all Cronbach alpha subscales .74 (Sánchez-López, Cuéllar-Flores, Dresch and Aparicio-Garcia, 2009).
- The CMNI (Mahalik et al., 2003) contains statements which have been designed to measure attitudes, beliefs and behaviour reflecting conformity or disconformity with eleven messages associated with masculine gender roles: Winning, Emotional Control, Risk Taking, Violence, Power over Women, Dominance, Playboy,

Self-Reliance, Primacy of Work, Disdain for Homosexuality and Pursuit of Status. It contains 94 items to be answered on a 4-point Likert scale (0=completely disagree, 1=disagree, 2=agree, 3=totally agree). The inventory has been adapted to the Spanish population with satisfactory results in its psychometric characteristics (Cuéllar, Sánchez-López and Dresch, in press).

- CREA Creative Intelligence. A cognitive measure of creativity (Corbalán, Martínez, Alonso, Donolo, Tejerina and Limiñana, 2003). This test is aimed at recognising creative intelligence by means of a cognitive evaluation of individual creativity according to the indicator for question generation, in the theoretical context of problem searching and solving. It has three strips (two of them for adults) from which the subject has to generate all types of questions as suggested to him/her by the drawings. CREA meets the basic reliability and validity standards that can be required of a psychological test (the estimated reliability for forms A and B is .87). For this sample two strips have been used: the A and B CREA for adults.
- Psychological Health Questionnaire GHQ-12 (Goldberg and Williams, 1988) an adapted version for the Spanish population made by Sánchez-López and Dresch (2008), with a .76 Cronbach alpha (.75 in the women's group and .76 in the men's).
- Moreover, they were requested to complete sociodemographic information (age, employment situation and socioeconomic level), a self-perceived health scale (scale of 1 to 5, the lower the value, the higher the self perception of health) and a *physical health questionnaire* (number of illnesses, pains and self-perceived health).

Procedure

The questionnaires were given out to university students in several classes of students of Psychology in the University of Murcia, Spain. All the participants in our study gave their informed consent after we explained the purpose of the investigation, provided a description of the procedures of the study and alternatives to participation, guaranteed their freedom to withdraw from any part of the study without any consequences, and described the risks and benefits of participating in the study. We also guaranteed the anonymity of their data. In addition they were asked to be as candid as possible. Then the participants received the questionnaires, which took about 30 minutes to fill in. All those participating in the study completed the personal, sociodemographic and health data, did the CREA test, and answered the CFNI, in the case of the women and the CMNI in that of the men.

Data analyses

Differences between men and women in Health and Creativity have been discovered through the Student *t*. Calculation was also made of the indices of the size of the effect by means of the statistical *d* proposed by Cohen (1977, 1988).

Differences between men and women in Health and Creativity modulated by gender have been found from the scores of men and women in the CMNI and CFNI respectively. The group of men and that of women have been divided into two subgroups with roughly the same number of subjects; men and women who obtained high scores in conformity with masculine or feminine norms would make up the first two subgroups

(HCMN/HCFNI) and those men and women obtaining low scores (LCMN/LCFNI) the last two. The cutoff point (percentile 50) for men was 121.5 and for women 147.5. The two groups of men have been compared through *Anova*. The object of these comparisons is to analyse the modulating influence exerted by gender (made operative via a measure of individual conformity with masculine and feminine norms) on differences found in health and creativity, according to sex.

To identify the health and creativity variables directly related to conformity with gender norms, linear relationships between the variables have been analysed by means of Pearson's correlation coefficient. Following Cohen's (1988) effect size guidelines for the values of the Pearson correlations (and interpreting the point-biserial correlations in the same way as Pearson's), $r = .10$ is low, $r = .30$ is moderate, and $r = .50$ is high.

Results

Before making comparisons between men and women and between the subgroups, based on gender, an analysis was made to ascertain whether differences existed in sociodemographic characteristics between groups and subgroups of men and women. As for sex-based differences, the results indicate that there are no statistically significant differences between men and women in age ($t(88) = 0.127; p = .899$), socioeconomic level ($\chi^2(1) = 0.627; p = .0428$), in present employment situation ($\chi^2(2) = 0.73; p = .693$) or in marital state ($\chi^2(2) = 4.12; p = .128$).

Neither are differences according to subgroup in gender conformity statistically significant for age ($F(3.85) = 1.89; p = .137$), socioeconomic level ($\chi^2(3) = 2.41; p = .492$), present employment situation ($\chi^2(6) = 4.597; p = .596$) nor for marital status ($\chi^2(6) = 8.07; p = .233$).

Differences between men and women in health and creativity variables

The results obtained by men and women on the health scales and on the CREA test have been compared by means of the Student *t*. Moreover, the appropriate sizes of the effect have been calculated by Cohen's *d*.

The results of the differences in means from the student *t* between men and women (see Table 1) indicate that women in the group of participants score significantly higher in number of pains and in creativity (Crea A).

Table 1. Means, standard deviations, Student *t* and Cohen's *d* for women and men

Variables	Men (n=42) <i>M (SD)</i>	Women (n=48) <i>M (SD)</i>	<i>t</i> (88)	<i>d</i>
1. Self-perceived health	1.86 (0.61)	1.90 (0.52)	-.327	-0.07
2. Illnesses	0.52 (0.92)	1.87 (2.28)	-3.73***	-0.79
4. GHQ-12	10.20 (4.73)	11.25 (4.66)	-1.06	-0.22
5. Crea A	12.26 (5.05)	12.67 (4.45)	-.40	-0.09
6. Crea B	10.86 (3.98)	13.04 (3.81)	-2.65**	-0.27

Gender modulated differences in health and creativity

Based on the scores of the women in the CFNI and the men in the CMNI, each group has been divided into two subgroups. In the case of the women, those obtaining high scores in conformity with female norms make up the HCFN group and those with low scores, the LCFN group (the cutoff point was 147). In the case of the men, those achieving high scores in conformity with masculine norms are the HCMN group and those obtaining low scores, the LCMN group (the cutoff point was 121.5).

The results for health and creativity have been compared among the four groups; descriptive statistics by groups and the Anova results are shown in Table 2. Statistically significant results have been found only in the case of Number of illnesses or pains and in creativity (Strip B).

The results from the multiple comparisons (Bonferron test) show no statistically significant differences in men with high or low conformity, nor between men with high or low conformity, only between women with high conformity with female gender norms and men with high conformity with male ones ($p=.025$). In creativity the statistically significant differences occur in Crea B, and between women with high conformity with female gender norms and men with low conformity with male gender norms ($p=.012$).

Table 2. Means, standard deviations and Anovas for groups according to conformity with gender norms.

Variables	LCMN Men (n=21) M (SD)	HCMN Men (n=20) M (SD)	LCFN Women (n=24) M (SD)	HCFN Women (n=24) M (SD)	F(88)
1.	1.86 (0.57)	1.90 (0.64)	1.96 (0.46)	1.96 (0.52)	0.23
2.	0.76 (1.09)	0.30 (0.66)	1.74 (2.40)	2.00 (2.21)	4.35**
3.	10.95 (5.63)	9.42 (3.64)	11.25 (3.92)	11.25 (5.39)	0.69
4.	12.00 (4.07)	12.55 (6.12)	13.25 (4.83)	12.08 (4.06)	0.33
5.	9.90 (3.02)	11.95 (4.71)	12.50 (3.75)	13.58 (3.88)	3.52*

Note: * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$

1= Self-perceived health, 2= Number of illnesses 3= GHQ-12; 4=CREA, 5=Crea B

Significant linear relationships between variables for health, creativity and those for conformity with male and female gender norms.

For men statistically significant relationships have been obtained between *self-perceived Health* (the lower the mark, the higher the self-perceived health) and the *Dominant CMNI scale* ($r = .33, p = .032$); and between *Number of illnesses* and the *Playboy scale* ($r = .39, p = .010$). That is, the higher the conformity with the male gender norm to wish to have personal control over situations (Dominance), the lower the level of self-perceived health; and the higher the conformity with the male norm to want multiple or non-committed sexual relationships and emotional distance from sex partners (Playboy), the lower the number of pains or illnesses.

As far as creativity is concerned, we did not obtain any statistically significant

relationships with the health variables, but we did with some CMNI and CFNI scales which could nuance the differences found between men and women in health. Significantly statistical relationships have been found between creativity (Crea A) and the *Emotional control* scale ($r=-.31, p=.048$), *Power over women* ($r=.44, p=.003$) and that of *Playboy* ($r=.32, p=.039$). That is the greater conformity with the male gender Emotional control norm (emotional restriction and suppression) is related to lower creative performance, greater conformity with that of having perceived control over women at both personal and social levels (Power Over Women) is related to higher creativity, and greater conformity with the male gender norm of being a playboy, as well as with having a smaller number of pains and illnesses, with higher creativity.

For women statistically significant relationships have been obtained only between *Self-perceived Health* and the CFNI Romantic relationship scale ($r=-.33, p=.022$), that is, greater conformity with the female norm of investing self in romantic relationship (Romantic relationship), the better the self-perceived health. In creativity, statistically significant relationships have been discovered between creativity (Crea A) and the *Thinness* scales ($r=-.31, p=.030$) and *Domestic* ($r=.32, p=.025$), with higher creativity in Crea B. That is, the greater the conformity with the female norm of pursuing a thin body ideal (Thinness), the lower the creativity and greater conformity with the female norm of maintaining the home (Domestic), the higher the creativity.

Discussion and conclusions

The results obtained in the present study, even when the very limitations to be expected from the sample size and the age of the participants are taken into account, may indicate the tendencies in how the variables taken into consideration are related. As a whole, they could be synthesized in the following way.

Firstly, there are differences of sex, according to which, women tend to suffer a higher number of pains and at the same time tend to be more creative.

Secondly, gender differences exist, according to which, women with high conformity with gender norms tend to suffer significantly more illnesses than men with high conformity with gender norms. Nevertheless, these women with high conformity with gender norms have significantly higher creative potential than men with lower conformity with gender norms.

Thus, in terms of health, women fare worse, having a higher number of illnesses than men. This fact tends to become accentuated when the women show greater conformity with female gender norms and, nonetheless, tend to diminish among men with a higher conformity with male gender norms.

Regarding creativity, women are globally more creative than men, even more so if they have higher conformity with female gender norms. Men less in agreement with male gender norms show a lower creative potential.

Thirdly, when relationships between the health, gender and creativity variables are observed, it is seen that:

Regarding health, there is better self-perception among men showing conformity with the male being dominant gender norm and the lower number of pains is related to conformity with the male being a playboy norm. Among women, on the other hand,

better self-perceived health is obtained among those showing greater conformity with the female gender norm of having romantic relationships.

As for creativity, it is seen that, in men, a higher creativity level is related to greater conformity with the male norms of having power over women and being a playboy; and a lower creativity level in men is associated with conformity with the emotional control norm.

Among women, however, a higher creativity level is related to greater conformity with the female gender norm of being more orientated towards domestic matters; and a lower level of creativity in women is associated with conformity with the female thinness gender norm.

Global consideration of the data obtained throws up the following interpretations:

1. With regard to a global appreciation on health and gender norms:

Globally, these results show that men and women differ with regard to the illnesses they suffer, with women suffering the most pains. When the fact of being a woman is compounded by a greater conformity with female gender norms, the relationship becomes more serious. Only the specific conformity with the Romantic relationships female norm improves, not the number of their pains, but there is greater self-perception of their health.

Men show a lesser number of illnesses, a number which is significantly lower in the group showing the highest conformity with male gender norms. In particular, conformity with the norm of valuing being a playboy produces an even greater reduction in the number of pains. What is more, conformity with being dominant, though not reducing the number of pains, does improve self-perceived health.

2. With regard to the global appreciation on creativity and gender norms:

Likewise, these results show in a global manner that men and women differ in their creative potential, as evaluated by the CREA-B test. Women are shown to be significantly more creative than men and in a greater proportion in the case of those showing conformity with female gender norms. In particular, conformity with the gender norm of Orientation to domestic topics is associated with higher creativity, whereas women conforming with the Thinness norm would be the least creative.

Men are potentially less creative than women, a tendency that grows among men not in agreement with male gender norms. Among them the most creative are those in agreement with the gender norms of Power over women and Playboy, the least creative being those conforming with the Emotional control norm.

As can be seen, gender factors impinge upon health, in a more favourable way for men than for women. But whilst in questions of health, male gender factors “improve” health and female ones “worsen” it, Creativity, on the contrary, would seem to be more favoured by female gender factors. Men are healthier, but women more creative.

In creativity, women are more creative, even more so if they have greater conformity with female gender norms, but men are more creative if they have greater conformity with male ones.

Therefore, regarding health, gender norms would affect both sexes unidirectionally.

nally. The greater the level of female conformity, the worse the level of health and the higher the conformity with male gender norms, the better the health. On the other hand, for creativity, male or female gender norms behave differently in men and women, the female ones favouring creativity in women and the male ones that of the men.

In this manner, albeit in the study it has not been possible to prove the existence of a direct link between creativity, health and conformity, it can be indirectly inferred that creativity is manifested as one of the resources women possess innately, and since they are potentially favoured by their gender norms, it may be relatively available for them, as an indirect help for their health. There are a large number of studies which have clearly shown the importance of creativity as one of the most favourable means, along with good temper, optimism and others, of creating mental health in persons (Webster, 2008; Evans, 2007; Munt, D., & Hargreaves, 2009) and, in this sense, the present data make clear the female “advantage” in accessing this “favouring element” of better health which, starting from its psychological side, finally also achieves the plane of physical health.

Perhaps, what the data also show up is how, despite having this available to them, women probably do not make massive use of it. This may be due to interferences provoked in the psychology of women, particularly when recent studies clearly show that the light and shade of the complex relationship between health and creativity may invert their direction, creating vulnerability in more creative persons (De Manzano, Cervenka, Karabanov, Farde & Ullen, 2010). As a whole this vulnerability throws its weight in the direction of increasing illnesses suffered, except for Romanticism, which in fact does not improve health, but, rather, in harmony with the idealised thought it proposes, improves the perception held regarding the situation of women.

Considering that the creativity dimension assessed is not the one related to creative achievements, but, instead, to the potential available for achieving it (Corbalán et al., 2003), perhaps it is more comprehensible to glimpse how certain gender norms express to us the difficulties faced by women when using the creative capacity they possess in a direction favouring their health. Thus, conformity with thinness appears to be linked to lower creativity in women, which gives proof of the limitations that a gender norm such as this can impose on a woman’s life, simultaneously restricting a cognitive capacity like creativity while jeopardising her health by forcing her into pursuit of an ideal of thinness contrary to female morphology, something which merely satisfies social idealisation. This is one more piece of evidence of how women trivialise creativity in order to meet social expectations (Runco, Cramond and Pagnini, 2010).

Only the valuing of domestic matters norm is related to greater presence of creative resources, which may be related to greater accessibility to this resource among women who have managed to maintain an identity less obsessed with stress, competitiveness and masculinisation in so many jobs, designed to need rigidity of thought, submissiveness or routine in contexts offering little scope for creativity and, on occasions, even health.

In the case of men, male gender norms show themselves to be more favourable both for their health and their creative potential, which, even if they may have it to a lesser extent than women, on the other hand, it gives greater reinforcement by the social beliefs expressed in their gender norms. Therefore, creativity would become

a health resource which is more easily available for men who have a gender “advantage” which women do not have.

As turns out to be so evident in many researches (Munt & Hargreaves, 2009), emotional control contravenes a favourable disposition towards creative potentiality. And this is the gender norm which is so clearly contrary both to health and creative development in men. However, other gender norms such as power over women or the evaluation of behaving like a playboy are associated with creative potential, which, in turn, reinforces the greater tendency towards health in men. In this sense, traditional gender norms, despite the limits they may impose, appear as enablers of certain “advantages” for men.

Both men and women suffer from highly restrictive aspects stemming from certain gender norms promoted by every culture. Nonetheless, in the present day women continue to suffer most from these norms which burden them with extra antagonists for their health (Labouvie-Bief, 1994), to add to their higher rates of illness.

Creativity, for its part, is a resource that may turn out to be important as an enabler of mental and physical health. More available in women, it is probably less used to improve states of health, than appears to be the case in men. Once more this is because gender norms are more ambiguous than that of the former to promote it.

In the search for evidence as to, whether, in some way, this dimension modulates relationships between gender and health, it could be stated that creative potential, evaluated through the CREA, constitutes, in accordance with the data found, a dimension which gives clear evidence of how the already established relationships between gender and health can be nuanced by the intervention of a factor, apparently unrelated to them, but which in general optimises people’s positive resources.

Literature

- BEM, S. L. (1981). Gender schema theory: a cognitive account of sex typing. *Psychological Review*, 88, 354–364.
- BEM, S. L. (1977). On the utility of alternative procedures for assessing psychological androgyny. *Journal of Consulting and Clinical Psychology*, 45, 196–205.
- BEM, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 42, 165–172.
- CIALDINI, R. B. & TROST, M. R. (1999). Social influence: social norms, conformity, and compliance. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.). *The handbook of social psychology* (Vol. 2). Boston: McGraw-Hill.
- CHARYTON, C. & SNELBECKER, G. E. (2007). Engineers’ and musicians’ choices of self-descriptive adjectives as potential indicators of creativity by gender and domain. *Psychology of Aesthetics, Creativity, and the Arts*, 1(2), 91–99.
- COHEN, J. (1977). *Statistical power analysis for the behavioral sciences* (revised edition). New York: Academic Press.
- COHEN, J. (1988). *Statistical power analysis for the behavioural sciences*. Hillsdale, NJ: Lawrence Earlbaum Associates.
- CORBALÁN, F. J., MARTÍNEZ, F., ALONSO, C., DONOLO, D., TEJERINA, M. &

- LIMIÑANA, R. M. (2003). *CREA. Inteligencia creativa. Una medida cognitiva de la creatividad (Creative intelligence. A cognitive measure of creativity)*. Madrid: TEA ediciones.
- CUÉLLAR, SÁNCHEZ-LÓPEZ y DRESCH, (en prensa). El Inventario de Conformidad con las Normas de Género Masculinas (CMNI) en la población española. (Conformity to Masculine Gender Norms Inventory in the Spanish population). *Anales de Psicología*.
- De MANZANO, Ö.; CERVENKA S.; KARABANOV, A.; FARDE, L. & ULLÉN, F. (2010). Thinking Outside a Less Intact Box: Thalamic Dopamine D2 Receptor Densities Are Negatively Related to Psychometric Creativity in Healthy Individuals. *PLoS ONE* 5(5): e10670. doi:10.1371/journal.pone.0010670
- EVANS, J. (2007). The science of creativity and health. In I. A. SERLIN, J. SONKE-HENDERSON, R. BRANDMAN & J. GRAHAM-POLE (Eds.), *Whole person healthcare, Vol 3: The arts and health* (pp. 87-105). Westport, CT: Praeger Publishers..
- HAYES, J. R. (1989). *The complete problem solver*. Hillsdale, NJ: Erlbaum.
- HELSON, R. (1996). In search of the creative personality. *Creativity Research Journal*, 9, 295-306.
- LABOUVIE-VIEF, G. (1994). Women's creativity and images of gender. *Women growing older: Psychological perspectives* (pp. 140-168). Thousand Oaks, CA US: Sage Publications, Inc. Retrieved from PsycINFO database.
- MAHALIK, J. R. (2000). A model of masculine gender role conformity. Symposium Masculine gender role conformity: Examining theory, research, and practice. Paper presented at the 108th Annual Convention of the American Psychological Association, Washington DC.
- MAHALIK, J. R., Locke, B., Ludlow, L., Diemer, M., Scott, R.P.J., & Gottfried, M. (2003). Development of the Conformity to Masculine Norms Inventory. *Psychology of Men and Masculinity*, 4, 3-25.
- MAHALIK, J. R., Morray, E.B., Coonerty-Femiano, A., Ludlow, L.H., Slattery, S.M., & Smiler, A. (2005). Development of the Conformity to Feminine Norms Inventory. *Sex Roles*, 52, 417-435.
- MATUD, P., & AGUILERA, L. (2009). Roles sexuales y salud mental en una muestra de la población general española. (Sex roles and mental health in a sample of the general Spanish population) *Salud Mental*, 32 (1), 53-58.
- MATUD, P., RODRIGUEZ, C. y GRANDE, J (2007). Gender differences in creative thinking. *Personality and Individual Differences*, 43, 1137-1147
- MUNT, D., & HARGREAVES, J. (2009). Aesthetic, emotion and empathetic imagination: Beyond innovation to creativity in the health and social care workforce. *Health Care Analysis*, 17(4), 285-295. doi:10.1007/s10728-009-0131-2.
- RUNCO, A. m., GRAMOND, B. & PAGNANI, A. R. (2010) Gender and creativity. In J. C. Chrisler & D. R McCreary (Eds.) *Handbook of gender research in psychology* (343-357), New York: Springer.

SÁNCHEZ-LÓPEZ, M. P., CUÉLLAR-FLORES, I., DRESCH, V. y APARICIO-GARCÍA (2009). Conformity to feminine norms in Spanish population. *Social Behavior and Personality*, 37(9), 1171-1186.

WEBSTER, M. (2008). Review of 'Promoting health through creativity: For professionals in health, arts and education'. *Journal of Health Psychology*, 13(2), 299-300.

JE KREATIVITA PROMĚNNOU HODNOTOU MODULUJÍCÍ VZTAH MEZI ZDRAVÍM A POHLAVÍM ČLOVĚKA?

Abstrakt: V současné době se stále více potvrzují vztahy mezi genderem a zdravím. Na optimalizaci osobních zdrojů v době, když jedinec čelí onemocnění, má pravděpodobně také vliv kreativita, která je považována za kognitivní proměnnou. V předkládané studii jsme zjišťovali, jak kreativita ovlivňuje vztah mezi zdravím a genderem tím, že jedinci umožňuje optimalizovat způsob, jakým řeší svoje situace v době nemoci, a také usnadňuje chování vedoucí k uzdravení. Výsledky naznačují, že existují rozdíly ve výskytu onemocnění mezi muži (N42) a ženami (N48) v souvislosti s tím, do jaké míry jsou tito konformní s genderovými normami feminity a maskulinity. Kreativní potenciál je patrně také spojen s větší konformitou s těmito normami.

Klíčová slova: role pohlaví, mužské genderové normy, ženské genderové normy, rozdíly mezi pohlavími, tvůrčí schopnosti