European Journal of Pain 14 (2010) 194–199

Contents lists available at ScienceDirect

European Journal of Pain

journal homepage: www.EuropeanJournalPain.com

Being less of a man or less of a woman: Perceptions of chronic pain patients' gender identities

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ARTICLE INFO

Article history:
Received 10 November 2008
Received in revised form 7 April 2009
Accepted 17 April 2009
Available online 24 May 2009

Keywords:
Masculinity
Femininity
Gender stereotypes
Chronic low-back pain
Nurses

ABSTRACT

Living with chronic pain may be a threatening experience to one's own gender identity. Findings suggest that the presence of chronic pain does not allow individuals to achieve the most valued standards of being male or female in our societies. Such contention, however, has not yet been empirically supported. Therefore, our goal was to explore laypeople's and nurses' perceptions of the man/woman with chronic low-back pain (CLBP) as compared to the typical man/woman, respectively. Three hundred and sixteen laypeople (52.8% women) and 161 nurses (54% women) participated in this study. Half of the participants were presented with a written vignette depicting a man/woman with CLBP, followed by a list of 33 traits of the masculine and feminine stereotypes. Participants evaluated the extent to which each trait fit their image of the man/woman with CLBP. The other half of the participants described the image people in general had of the typical man/woman using the same list of traits. This study consisted on a quasi-experimental design, 2 (character's sex) × 2 (type of character) × 2 (participant's sex) × 2 (health-care training). Results have generally supported our hypotheses. Both laypeople and nurses perceived: (1) the man with CLBP as having less masculinity and more femininity-related traits than the typical man; (2) the woman with CLBP as having less femininity and more masculinity-related traits than the typical woman; and (3) the man and woman with CLBP as more similar to each other than the typical man/woman. Issues on gender identity conflicts in CP patients are discussed.

1. Introduction

Chronic pain (CP) often takes a huge toll on a person's life. Apart from its bodily constraints and consequent activity restrictions, it may have a severe impact on patients' identities in general (e.g., Miles et al., 2005), and gender identities in particular.

Some studies have highlighted the negative impact of CP on individual's gender identities, i.e., their subjective sense of being a man/woman (e.g., Deaux and LaFrance, 1998). The most pervasive and valued representation of masculinity in most societies is based on valued characteristics like endurance, dominance, independence, and instrumentality, which presuppose the presence of a healthy body (e.g., Burgess and Borgida, 1999; Connell, 1995, 2002; Deaux and Kite, 1993; see also Bernardes et al., 2008). Because a severe and disabling CP often does not allow men to achieve such valued standards of being, some men's phenomenological experiences of pain revolve around shame and fear of being judged as weak, whiny, dependent and hence unmanly (e.g., Galdas et al., 2007; Paulson et al., 1999, 2002; White and Johnson, 2000). In order to protect their identities these men often behave in ways that put at risk their own health and even their own lives (e.g., social isolation, delaying help seeking).

Some recent studies have also shown chronic pain's deleterious effects on women's identities. The most widespread representation of femininity is often associated with being affectionate, expressive, dependent, concerned with others' needs and an object of desire (e.g., Burgess and Borgida, 1999; Deaux and Kite, 1993). If a CP condition may reinforce some of the most negative dimensions of the female stereotype (e.g., dependency and being overly expressive; Amâncio, 1993, 1994), it may also prevent women's access to desirable roles and characteristics. Recent studies with women living with chronic vulvodynia showed that they reported intense feelings of inadequacy as objects of desire and sexual partners and, consequently, a pervasive loss of femininity (Ayling and Ussher, 2008; Marriott and Thompson, 2008).

Hence, living with a severe and disabling pain may be highly threatening to men and women who strongly endorse the stereotypical images of the ideal man and woman. However, the association between reported gender identity conflicts and such gender representations is merely an assumption. In fact, to our knowledge no studies have aimed at exploring the impact of CP on the images people have of men's and women's masculinities and femininities.

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1090-3801/$36.00
doi:10.1016/j.ejpain.2009.04.009

Therefore, this paper will aim at exploring individuals' images of a man/woman with CP as compared to the stereotypical man/woman, respectively. Following the previous arguments, we predicted that:

H1: as compared to a typical man, a man with CP will lose masculinity traits;
H2: as compared to a typical woman, a woman with CP will lose positive femininity traits, and consequently;
H3: the man and woman with CP will be perceived as more similar to each other than the typical man and woman.

Finally, we will compare laypeople's and nurses' representations in order to support our contention that their strength and pervasiveness overcomes the effects of health-care training.

2. Methods

2.1. Participants

One hundred and sixty one nurses and 316 laypeople participated in this study, making a total of 477 Caucasian participants. Nurses' ages ranged from 22 to 60 years old ($M = 33.75$; $SD = 9.46$; 54% women). All of them worked at public hospitals in Lisbon, and their years of professional experience ranged from 1 to 37 ($M = 11.38$; $SD = 9.16$). Of the 83 nurses that participated in the "Conditions: character with chronic low-back pain (CLBP)" (see procedure below), 73.2% reported having professional contact with chronic pain patients rather frequently ($M = 5.08$ out of 7; $SD = 1.27$). Almost 22% (12 women and 6 men) were suffering or had suffered constant or intermittent pain for more than 3 months, mostly on a daily or weekly basis and located at their spine or lower limbs. About half (49.4%) of those nurses were acquainted with other people suffering from chronic pain, mostly women (67.6%) and/or close relatives (75%).

Laypeople's ages ranged from 18 to 52 years old ($M = 26.03$; $SD = 7.90$; 52.8% women). Most of them were attending graduate courses at different higher education institutes in Lisbon, mainly in the areas of management, technology and social sciences. About half (52.8%) were professionals working mainly as bank clerks. Of the 176 laypersons that participated in the "Conditions: character with CLBP", 13.6% (11 women and 13 men) reported suffering or having suffered constant or intermittent pain for more than 3 months, again mostly on a daily or weekly basis and located at their spine or lower limbs. Half of those participants (51.1%) knew other people suffering from chronic pain, mostly women (81.8%) and/or family-related (74%).

Age, $t(267.02) = -8.81$, $p = .000$, and years of education, $t(474) = -28.82$, $p = .000$, were the only significant differences found between nurses and laypeople: laypeople were younger and had fewer years of education ($M = 13.84$; $SD = .66$) than nurses ($M = 15.58$; $SD = .53$).

2.2. Procedure

Written vignettes depicting a man/woman with CLBP were randomly presented to 176 laypeople (93 women and 83 men) and 83 nurses (43 women and 40 men). Participants were then asked to rate to which extent several personality traits applied to their personal impression of the man/woman with CLBP. The remaining participants were asked about the characteristics people in general would attribute to the typical man or woman, using the aforementioned list of traits. Finally, socio-demographic data was collected. Also, data on personal, vicarious and professional experience with chronic pain was collected among the participants who were presented to the chronic pain scenarios.

The paper-and-pencil instruments were administered to small groups of lay participants ($10 < n < 30$) while they were attending classes or training sessions. As for the nurses, chief-nurses from the several services in the public hospitals took the responsibility of distributing the questionnaires to their subordinates and gathering them later on. Time of completion of the questionnaire ranged from 5 to 10 min.

2.3. Experimental design

This study was a $2 \times 2 \times 2 \times 2$ quasi-experimental between-subjects design, with two manipulated variables – character's sex (man vs. woman) and type of character (with chronic pain vs. typical) – and two natural variables – participants' sex (man vs. woman) and health-care training (absent vs. present, i.e., laypeople vs. nurses).

2.4. Manipulation of the independent variables

The type of character was manipulated by the task instructions; half the participants were asked to form an impression of the typical man/woman (Condition: typical character), and the other half was asked to form an impression of a man/woman with CLBP as depicted in the written vignettes presented below (Condition: character with CLBP). The choice of a CLBP condition was related not only to its worldwide pervasiveness (e.g., Crombie et al., 1999), but also because it is equally prevalent among men and women (e.g., Berkley, 1997; LeResche, 2000). This latter fact would allow us to build a more gender-neutral scenario.

As for the character's sex, it was obviously operationalized by asking participants either to form an impression of a (typical vs. with CLBP) man or a woman.

A sample-vignette is presented below, which includes the wording used to operationalize the character's sex and also the information held constant across experimental conditions of the character with CLBP:

> *Three years ago, a 37-year-old **man/woman** suffered an accident sustaining injuries on his/her lumbar spine. Since that day this **man/woman** has been living with a constant and intense pain in **his/her** low back, which spreads to **his/her** right leg. **He/she** has trouble sleeping more than two hours straight. Sometimes pain is so intense that walking or even standing in an upright position becomes difficult. Pain has been seriously interfering with this **man/woman's** family, professional and social life.*

Care was taken in order to build a gender-neutral written scenario that would depict, realistically and reliably, a chronic, severe and incapacitating pain. In order to do that, firstly, we based the development of the scenario on the description of the CLBP syndrome by the *Classification of Chronic Pain* (IASP; Merskey and Bogduk, 1994) and on excerpts of CLBP patients' testimonies. Moreover, several independent health-care providers (e.g., doctors, nurses and psychologists), with broad experience with chronic pain patients, helped to develop the scenario in order to depict realistically the average experience of a patient with a severe CLBP. Afterwards, the gender-neutrality of the vignette was tested in an independent sample of 27 nurses ($M_{age} = 36.03$; $SD = 5.08$; 85.2% women) and 33 laypeople ($M_{age} = 19.94$; $SD = 1.71$; 72.7% women). After reading the vignette of a person with CLBP, i.e., where the sex of the character was not specified, both laypeople and nurses saw the chronic pain patient as being as likely to be a man as a woman ($M = 3.00$ out of 5; $SD = .49$).

Moreover, and as expected, they perceived the pain as very intense ($M = 4.35$ out of 5; $SD = .58$) and very disabling ($M = 4.30$ out of 5; $SD = .72$).

2.5. Dependent variables

A list of the most consensual traits used to describe the images of the typical man or woman in the Portuguese population (Amâncio, 1993, 1994) was presented to the participants. The methodology used by this author to identify such traits was similar to the ones used in classical studies of the descriptive component of gender stereotypes undertaken in several other countries (e.g., Broverman et al., 1972; Williams and Best, 1986). Firstly, the author requested a large sample of male and female adults to describe, by a free association task, the main characteristics of a person of the same and other sex category. Afterwards, she presented a list of around 100 of the most mentioned traits, both by males and females, to another large sample of adults, who had to identify the typically masculine and feminine traits or the traits with positive (+) and negative (−) valence. Only the traits that were mentioned by at least 75% of the males and 75% of the females as being either masculine/feminine or positive/negative were chosen. The results were similar to the ones found by other studies undertaken in other cultures and societies (e.g., Bem, 1974; Burgess and Borgida, 1999; Deaux and Kite, 1993; Helgeson, 1994; Rocheblave-Spenlé, 1964; Spence and Helmreich, 1980; Williams and Best, 1986); the male stereotype included the dimensions of instrumentality, agency and dominance, while the female stereotype included the dimensions of expressiveness, orientation towards others and dependence.

Based on Amâncio's results, we have selected a list of 18 typically masculine traits and 15 typically feminine traits, which were presented to participants in a random order. The typically masculine traits were: ambitious, authoritarian, adventurous, courageous (+), careless (−), disorganized (−), dominant (−), strong (+), independent (+), fighter (+), macho, objective (+), paternalist, rational (+), rigid, sure of himself (+), superior and virile. The typically feminine traits were: affable (+), affectionate (+), beautiful (+), good-looking, dependent (−), emotional, feminine, fragile (−), inferior (−), maternal, tender (+), sensitive (+), sentimental, curious and submissive (−).

All participants had to evaluate to which extent each one of the traits would fit either their personal impression of the man/woman with chronic pain or the image people in general had of the typical man/woman, on a 7-point Likert scale ranging from *It Does Not Apply* (1) to *It Totally Applies* (7).

3. Results

3.1. Factorial structure of the personality traits

A principal axis factoring analysis with orthogonal rotation was undertaken on the 33 traits. Five factors were extracted using the Kaiser criterion, which accounted for 67.25% of the variance (Table 1): (1) masculinity_dominance, i.e., typically masculine traits that, despite some of their negative connotations, convey a sense of social dominance; (2) femininity_expressiveness, i.e., typically feminine traits, some with a clear positive connotation, related to a dimension of expressiveness and affectivity; (3) femininity_dependence, i.e., typically negative feminine traits related to a dimension of dependence, subordination and vulnerability; (4) masculinity_stoicism, i.e., typically positive masculine traits related to a stoical pattern of behaviours; and finally (5) masculinity_instrumentality, i.e., typically positive masculine traits related to a task-oriented and instrumental posture. As it can be seen in Table 1 all factors presented good internal reliability scores.

Table 1
Principal axis factoring analysis of the personality traits (orthogonal rotation): factor scores, explained variance and internal consistency.

Personality traits	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Macho	.836				
Disorganized (−)	.825				
Authoritarian	.761				
Virile	.735				
Careless (−)	.689				
Rigid	.680				
Superior	.624				
Feminine		.788			
Affectionate (+)		.779			
Tender		.756			
Maternal		.730			
Affable (+)		.686			
Sensitive (+)		.639			
Inferior (−)			.649		
Submissive (−)		.306	.581		
Fragile (−)		.317	.556		
Dependent (−)			.550		
Strong (+)				.823	
Courageous (+)				.680	
Fighter (+)				.632	
Sure of him/herself (+)					.654
Objective (+)					.545
Explained variance (%)	24.94	20.25	10.76	6.70	4.6
Chronbach alpha	.90	.88	.72	.77	.65

Note: factor loadings below .30 were not included; (−) traits with negative valence; (+) traits with positive valence (Amâncio, 1993, 1994).

3.2. Analyses of the mean differences in trait attributions

In order to test our hypotheses, we undertook five analyses of variance, 2 (character's sex) × 2 (type of character) × 2 (participants' sex) × 2 (health-care training) over each one of the resulting factors, respectively. A Bonferroni correction was made to avoid type I error ($\alpha = .05/5 = .01$). Given that the socio-demographic and personal or professional chronic pain experience-related variables were not correlated to our dependent variables, they were not included in subsequent analyses.

3.2.1. Attribution of masculinity_dominance traits

As Table 2 shows, the woman and the person with CLBP were perceived as being less dominant than the man and the typical person, respectively.

However, such character's sex effect was only significant for the typical characters (Table 3). In fact, planned comparisons showed that the typical man was perceived as clearly more dominant than the typical woman, $F(1, 461) = 196.37$, $p = .000$, but no such difference was found between the man and woman with CLBP. Moreover, both man and woman with CLBP lost dominance when compared to the typical man and woman, respectively, but such loss seemed steeper for the man, $F(1, 461) = 379.64$, $p = .000$, than for the woman, $F(1, 461) = 41.24$, $p = .000$.

3.2.2. Attribution of femininity_expressiveness traits

The man and the person with CLBP were perceived as less feminine and expressive than the woman and the typical person, respectively (Table 2).

However, the effect of the type of character was only significant for the female character (Table 3). Specifically, planned comparisons showed that while the man with CLBP was perceived as equally expressive as the typical man, the woman with CLBP suf-

Table 2
Main effects of the character's sex and type of character on trait attributions.

Trait dimensions	Character's sex				Type of character			
	M (*SD*)		*F*	η^2	*M* (*SD*)		*F*	η^2
	Man	Woman			Typical	CLBP		
Masculinity_dominance	3.71 (1.47)	2.85 (.88)	113.2**	.20	4.07 (1.09)	2.58 (.99)	313.9**	.41
Femininity_expressiveness	3.16 (.85)	4.60 (1.18)	309.3**	.41	4.36 (1.30)	3.50 (1.08)	114.2**	.20
Femininity_dependence	3.42 (1.20)	3.96 (1.05)	24.27**	.05	3.50 (1.05)	3.87 (1.21)	10.59**	.02
Masculinity_instrumentality	4.17 (1.26)	3.75 (1.14)	17.51**	.04	4.43 (.84)	3.55 (1.34)	54.03**	.11

** $p \leqslant .001$.

Table 3
Interaction effects of the character's sex by type of character on trait attributions.

Trait dimensions	*M* (*SD*)				*F*	η^2
	CLBP		Typical			
	Man	Woman	Man	Woman		
Masculinity_dominance	2.66 (1.08)	2.52 (.91)	4.92 (.74)	3.24 (.65)	77.6**	.15
Femininity_expressiveness	3.09 (.97)	3.88 (1.03)	3.24 (.68)	5.45 (.69)	67.25**	.13
Femininity_dependence	3.90 (1.26)	3.84 (1.14)	2.88 (.79)	4.11 (.92)	43.22**	.09
Masculinity_stoicism	4.54 (1.35)	4.83 (1.41)	5.19 (.84)	4.55 (.98)	14.96**	.03
Masculinity_instrumentality	3.66 (1.37)	3.45 (1.31)	4.76 (.78)	4.10 (.78)	4.01*	.01

* $p \leqslant .05$.
** $p \leqslant .001$.

fered a deep loss in femininity compared to the typical woman, $F(1, 465) = 195.88$, $p = .000$. Moreover, and as expected, the typical woman was clearly perceived as more expressive than the typical man, $F(1, 465) = 351.16$, $p = .000$, but when comparing the man and woman with CLBP such difference, although still significant, was much smaller, $F(1, 465) = 52.32$, $p = .000$.

3.2.3. Attribution of femininity_dependence traits

The woman and the person with CLBP were perceived as slightly more dependent than the man and the typical person, respectively (Table 2).

As the results found for the masculinity_dominance dimension, the character's sex effect was only significant for the typical characters (Table 3). In fact, planned comparisons showed that the typical woman was perceived as clearly more inferior and dependent than the typical man, $F(1, 465) = 71.62$, $p = .000$, but no such difference was found between the man and woman with CLBP. Moreover, while the woman with CLBP was perceived as equally dependent as the typical woman, the man with CLBP was perceived as much more dependent than the typical man, $F(1, 465) = 52.48$, $p = .000$.

3.2.4. Attribution of masculinity_stoicism traits

The pattern of results for this dimension was a bit more complex. An interaction effect of the character's sex by the type of character once again emerged (Table 3). Nevertheless, it was only significant for the male participants (Fig. 1), $F(1, 458) = 10.73$, $p = .001$, $\eta^2 = .02$. More specifically, planned comparisons showed that for such participants the typical man was perceived as more stoic than the typical woman, $F(1, 466) = 16.45$, $p = .000$, but the man with CLBP was perceived as less stoic than the woman with CLBP, $F(1, 466) = 9.70$, $p = .002$. Also, while the woman with CLBP was perceived as more stoic than the typical woman, $F(1, 466) = 9.61$, $p = .002$, the man with CLBP was perceived as less stoic than the typical man, $F(1, 466) = 16.98$, $p = .000$.

A type of character by health-care training interaction effect was also significant, $F(1, 458) = 6.51$, $p = .01$, $\eta^2 = .014$. Planned comparisons showed that the nurses perceived the typical person ($M = 4.88$; $SD = .92$) as more stoic than the person with CLBP

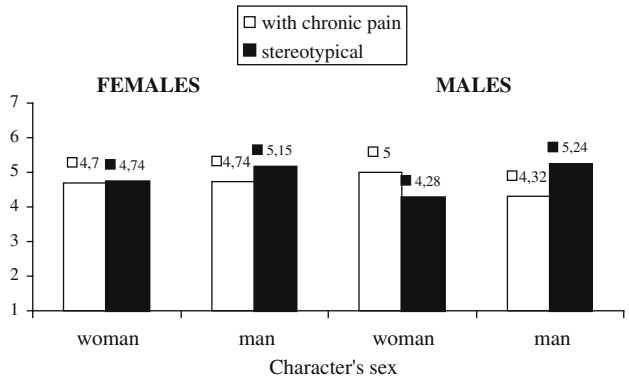

Fig. 1. Masculinity_stoicism: character's sex by type of character by participant's sex effect.

($M = 4.26$; $SD = 1.53$), $F(1, 470) = 16.45$, $p = .000$, while laypeople perceived no such difference ($M = 4.85$ and 4.89; $SD = .99$ and 1.26, respectively). Moreover, laypeople perceived the person with CLBP as being more stoic than the nurses, $F(1, 470) = 15.89$, $p = .000$.

3.2.5. Attribution of masculinity_instrumentality traits

The person with CLBP and the woman were perceived as less objective and sure of themselves than the typical person and the man, respectively (Table 2). Also, a character's sex by type of character interaction effect was of borderline significance (Table 3); both the man and the woman with CLBP tended to lose instrumentality when compared to the typical man and typical woman, respectively, but such loss tended to be bigger in the case of men.

4. Discussion

This study aimed at exploring laypeople's and nurses' gender representations of the man/woman with CLBP as compared to the typical man/woman, respectively. It is noteworthy that, aside

from the fact that nurses had a less optimistic view of CLBP patients than laypeople as far as the attribution of stoicism traits was concerned, nurses and laypeople shared similar socially-constructed gendered ideas both about the typical man/woman and the man/woman with CLBP.

Firstly, as compared to the typical person, the person with CLBP was perceived as less dominant, instrumental and expressive, and also slightly more dependent. Therefore, if CLBP led to a loss of masculinity traits regardless of their valence, its effect on the attribution of femininity traits depended on the traits' valence, leading to a loss of positive traits and a slight gain of negative ones.

Findings have also showed that the woman was generally perceived as less dominant, instrumental and more dependent and expressive than the man. These findings come as no surprise as they are consistent with the results of many studies, conducted in different countries, on the contents of gender stereotypes (e.g., Amâncio, 1994; Burgess and Borgida, 1999; Spence and Helmreich, 1980; Williams and Best, 1986).

If the perceived differences between the typical man and woman were clear and evident, the images of the man and woman with CLBP were not as different from each other, as hypothesized (H3). In fact, the woman with CLBP was perceived as equally dominant, dependent and instrumental as the man with CLBP. Even when differences were found – the woman with CLBP was seen as more expressive than the man with CLBP and, for the male participants, as more stoic – such differences were less intense than the ones found between the typical man and woman. The findings discussed below on the images of the man/woman with CLBP as compared to the typical man/woman, respectively, may help understand such convergence between the images of the man and woman with CLBP.

4.1. The man with CLBP as compared to the typical man

As predicted (H1), the man with CLBP lost masculinity traits as compared to the typical man. More specifically, the man with CLBP was perceived as less dominant and, in the eyes of other men, less stoic. Moreover, he was also perceived as having more femininity traits than the typical man, namely, dependency-related traits conveying an image of vulnerability.

These results account for previous findings stressing how hard it is for certain men with chronic illnesses and/or disabilities to maintain an image of "maleness" in the eye of others (e.g., Charmaz, 1995; Gerschik and Miller, 1995). It becomes clear that the stereotyped image of the "ideal man", which rests on the negation of weakness and vulnerability (Connell, 1995, 2002), is in direct conflict with the image of the man with CLBP, who represents frailty and dependence. Hence, this may justify the identity conflicts that some men experience when trying to integrate chronic illness and/or disability into their identities (Charmaz, 1995; Gerschik and Miller, 1995; Paulson et al., 1999, 2002; White and Johnson, 2000).

It is also noteworthy that men in general pose a greater threat than women to the man with CLBP. In fact, only the male participants saw the man with CLBP as less stoic than the typical man. This may reflect the so-called "black-sheep effect" (Marques et al., 2001, 1998), i.e., the tendency of most social groups to evaluate more negatively a deviant in-group member than a deviant out-group member in order to protect their social identities. As strength and courage are central and extremely valued characteristics of the most valued representations of masculinity (e.g., Connell, 1995) downgrading the man with CLBP in this particular dimension would be a way of protecting the group's image by keeping away the in-group deviant.

These results are consistent with findings of cross-cultural studies showing male participants as endorsing more critical stands towards other men's overt pain behaviours (e.g., Nayak et al., 2000; Hobara, 2005). Also, they may in part account for Charmaz's (1995) conclusions that men with chronic illness and/or disabilities feel their own male identities more threatened in public than in private domains, often devoting vast amounts of energy keeping their public identities intact, especially in their work environments.

4.2. The woman with CLBP as compared to the typical woman

As hypothesized (H2), the woman with CLBP, although keeping some negative traits of dependency, lost positive traits of expressiveness as compared to the typical woman. Interestingly, the loss of femininity has come out in other work as being a central theme among research on women with disabilities. Some have argued that such women often have to fight the prejudice that excludes them from fulfilling traditional female roles like child-bearing and motherhood (e.g., Begum, 1992; Gerschik, 2000; Lloyd, 2001). The loss of a dimension of expressiveness and affectivity, so often linked to the caretaker role, may in part account for such findings.

Also, although the woman with CLBP was perceived as slightly less dominant and instrumental as compared to the typical woman, she was unpredictably perceived by the male participants as more stoic than the typical woman and the man with CLBP. This fits with the results of some studies that have shown that both laypeople and nurses sometimes expect women to be better able to endure and/or cope with pain than men (Bernardes et al., in press; Bendelow, 2000; McCaffery and Ferrell, 1992). If such expectations may contribute to a valued identity, they may also lead to sex-related inequities in pain relief (Bendelow, 2000). In fact most of the nurses in McCaffery and Ferrell's (1992) study reported they would probably not give as much pain relief to a person that they perceived as being more able to deal with pain. These evidences may account for some findings on treatment bias in pain, which in fact have shown that women's pain is often under-treated as compared to men's pain (e.g., Hoffman and Tarzian, 2001).

4.3. Limitations and directions for future practice and research

Some shortcomings may be pointed out to the generalization of such findings. First, most participants were Portuguese middle class Caucasians with access to higher education. It would be interesting to explore whether participants from other social classes, ethnic backgrounds and/or cultures would share these same gender representations.

Second, although our findings suggest that health-care training has little impact on such representations, it would be useful to check whether the implications of such findings might be extended to other classes of health-care providers.

Third, the extent to which this pattern of results would be found with other CP conditions remains unexplored. Some CP conditions may be perceived as more typically feminine (e.g., migraines and fibromyalgia) or masculine (e.g., cluster headaches). In such cases, how would people perceive men's and women's gender identities?

Forth, although care was taken to build scenarios that depicted realistically the experience of a CLBP patient, the common external validity constraints associated with the use of written vignettes must be considered. Moreover, the content of the vignettes does not allow us to identify the "active ingredient" (e.g., pain duration, intensity or disability) responsible for the changes in gender representations. Would we find the same pattern of results in a scenario of chronic non-disabling pain? Also, would the individuals' perceptions of CP severity predict such changes in gender representations?

Apart from such shortcomings, the clinical relevance of such findings should be highlighted. On one hand, these results contribute to the conceptualization of CP patients' phenomenological experiences of gender identity threat. In fact, these findings urge us to further explore the impact of CP on gender identity conflicts not only among men but also among women. It would be interesting to understand whether a CP condition actually influences a patient's subjective sense of being a man/woman, pulling it apart from his/her ideal gender identity. The distance between a patient's actual vs. ideal gender identity might be directly related with the intensity of gender identity conflicts. Because identity conflicts may interfere with the acceptance and integration of CP on a person's life (e.g., Miles et al., 2005), we agree with Holloway et al. (2007) when they stress the importance of addressing strategies for the management of (gender) identities within social contexts in pain management programmes. These findings also suggest that the male health-care providers may have an important role in male patients' experiences of identity threats.

On the other hand, it would be interesting to explore to which extent such gender representations influence how laypeople and, especially, health-care providers judge and act towards other individuals' CP experiences.

In conclusion, we have shown how CLBP can have a large impact on laypeople's and nurses' gender representations of males and females, which may account for pain patients' gender identity conflicts and also, eventually, for sex-related inequities in pain assessment or treatments. Hence, the need for further developments on the contents and effects of such largely shared social representations on pain experiences could not be stressed enough.

Acknowledgements

This work was partially financed by the main Portuguese Science Funding Agency – Fundação para a Ciência e Tecnologia (PIHM/PSI/63505/2005).

We would also like to thank our colleague Isabel Correia for her comments on previous versions of this paper.

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