Running title: CULTURAL AND GENDER DIFFERENCES

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Abstract

Increased research on passion in physical activity calls for direct examination of possible mediating variables that could influence the research outcome. The present study using a two-by-two (nation by gender) between-participants design, examined whether gender and/or cultural differences in obsessive- and harmonious passion were present in Spanish and Hungarian physically active individuals. Participants (n=1,002) completed the Passion Scale, reported their gender, age, and weekly hours of physical activity. Multivariate analysis of covariance revealed that the experiencing of physical activity-related obsessive- and harmonious passion differed between the two countries and Hungarian women scored significantly higher on harmonious and obsessive passion than Spanish women. However, Hungarian men only scored significantly higher on obsessive passion, but not harmonious passion compared to Spanish men. These results suggest that the moderating role of gender and cultural differences should be addressed more carefully in conducting and interpreting results of research concerned with passion in physical activity.

Keywords: cross-cultural study, exercise, gender, physical training, sport psychology

Obsessive and Harmonious Passion in Physically Active Spanish and Hungarian Men and Women: A Brief Report on Cultural and Gender Differences

Passion for an activity reflects the significant extent to which individuals value an activity, dedicate substantial time and energy to it, and love it. Vallerand et al. (2003) provided a dual model of passion comprising obsessive and harmonious passion. Obsessive passion surfaces at times when an individual internalizes the beloved activity in rigidly controlled way, and which is positively related to negative affect (Stenseng, Rise, & Kraft, 2011). Harmonious passion means loving and dedicating time and energy to the activity in a well-balanced way. It appears when the activity is internalized into the self in an autonomous mode, when the individual engages in the activity with flexibility. It is positively related to positive affect, while being inversely associated with negative affect and self-compassion (Stenseng et al., 2011; Vallerand et al., 2003).

The role of passion in physical activity, including sports and exercise, has received increasing research attention in the literature, but cross-cultural studies have been lacking. A study related to sports fans' activity reported that Italian football fans exhibited higher levels of obsessive passion and harmonious passion than the French supporters (Vallerand et al., 2008), but these results cannot be generalized to individuals' physical activity. Nevertheless, the Collective Constructionist Theory (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997) suggests that that day-to-day situations vary among cultures and construct-specific mental realities, by generating distinct psychological frameworks, that systematically vary from one culture to another. People who follow their acquired cultural values and social-expectations exhibit behavioral tendencies that are consistent with those values and expectations. Indeed, cultural differences in passion have been shown to exist in love, socializing, risk-taking, and gastronomy (Aaker, Benet-Martinez, & Garolera, 2001). Furthermore, it has been demonstrated that Russian employees who exhibited greater

obsessive passion for work were satisfied with their jobs and were more committed to their occupations, a relationship that was absent in Chinese employees (Burke, Astakhova, Hang, 2015). Cultural differences also exist in the strength of the compliance with social-political norms (Gelfand et al., 2011) and in the patterns of physical activity across nations (World Health Organization Regional Office for Europe, 2016a, b). Therefore, based on the Collective Constructionist Theory, there may also be cultural differences in passion concerning physical activity as speculated by other researchers (Philippe, Vallerand, & Lavigne, 2009). To the authors' best knowledge, no previous study has ever examined obsessive and harmonious passion in physical activity in a cross-cultural context.

Some research has indirectly examined gender differences in relation to passion in physical activity. These studies have generally shown that there are no gender differences in passion in exercise (De La Vega, Parastatidou, Ruiz-Barquin, & Szabo, 2016; Donahue, Rip, & Vallerand, 2009; Parastatidou, Doganis, Theodorakis, & Vlachopoulos, 2012; Stenseng, 2008), but such differences in passion related to other activities have been reported including activities such as internet use (Seguin-Levesque et al., 2003). Based on this gap in the literature, the *specific* testing of gender differences in obsessive and harmonious passion in physically active people is warranted, as it was recommended some time ago (Philippe et al., 2009).

Such theory, as well as past research in other domains, suggests that cultural differences and gender could affect research outcomes on passion, Consequently, it is essential to study the moderating role of these factors in physical activity to ensure that research outcomes from the passion-physical activity studies can be generalized across cultures and gender. Therefore, the aim of the present study was to preliminary examine the hypothesis that passion in physical activity may vary between cultures and gender. While no justification is needed for gender, Spain and Hungary were chosen for the cultural

comparison, because these two distinct nations represent two very different European cultures (geographically and politically) that differ in the strength of their social norms and tolerance of novel nonconforming behavior. In contrast to possible expectations, Hungarians score lower on conforming behavior than the Spanish (Gelfand et al., 2011) and there is a greater percentage of adults reaching the World Health Organization's recommended physical activity levels in Hungary (85.4%) than in Spain (66.4%; see World Health Organization Regional Office for Europe, 2016a, b). Therefore, the two forms of passion for physical activity may be expected to differ in these nations.

Methods

Participants

Physically active participants aged 18 years or over were recruited via advertisements in fitness and sport centers around the greater metropolitan areas of Madrid and Budapest. A sample comprising 1,002 consenting volunteer participants was recruited for the present study. Participants' socio-demographic characteristics, weekly physical activity, and passion scores are shown in Table 1. The study received ethical approved from the Research Ethics Boards of two large universities in Spain and Hungary.

Table 1. *Participant characteristics (N=1002), means and standard deviations (SD) in brackets.*

	Spain		Hungary	
Gender	Male	Female	Male	Female
Number (n)	204	109	396	293
Age (years)[1,2]	31.11 (10.01)	28.60 (7.39)	24.23 (5.13)	23.89 (7.10)
Hours of weekly physical activity[3]	9.02 (3.93)	7.90 (4.66)	5.38 (3.51)	6.91 (34.07)
Obsessive passion[4]	18.16 (6.74)	17.27 (8.14)	21.87 (6.40)	23.27 (6.22)

Harmonious Passion[5]	32.23 (35.07)	30.03 (6.46)	32.73 (5.48)	34.00 (4.95)

Note: [1]Women in the study were younger than the men ($p = .005$); [2]The Spanish sample was older than the Hungarian sample ($p < .001$); [3]The Spanish sample reported more hours of weekly physical activity than the Hungarian sample ($p < .001$); [4]Obsessive passion was lower ($p < .001$) in the Spanish than Hungarian sample (Results section; Figure 1); [5]There was a country by gender interaction in harmonious passion (Results section; Figure 2).

Materials

Apart from demographic questions concerning age, gender, and hours of weekly physical activity, the revised Passion Scale (Marsh et al., 2013) was the main instrument used in the study. This 12-item scale includes items such as: "*This activity is in harmony with the other activities in my life*." or "*If I could, I would only do my activity.*" The word "activity" in the present study related to an individual's physical activity. The scale assesses harmonious passion and obsessive passion on two 6-item subscales, which are rated on a 7-point Likert scale, ranging from *"not agree at all"* to *"very strongly agree"*. The internal reliabilities of the two subscales for the overall sample in the present study (Cronbach's α) were .86 and .83, respectively, which is higher than the value reported for the original scale (.80 for both obsessive- and harmonious subscales). The values for harmonious and obsessive passion were lower, but acceptable (.79 and .77 for the Hungarian sub-sample and .70 and .77 for the Spanish sub-sample). The present study used the psychometrically validated Spanish version of the Passion Scale (Chamarro et al., 2015) and the Hungarian version adapted by Orosz, Vallerand, Bőthe, Tóth-Király, and Paskuj (2016).

Procedure and data analyses

After consenting to participate, respondents answered the demographic questions and completed the Passion Scale. Data were inputted in SPSS (Statistical Package for Social Sciences) data file and analyzed using the same software using both multivariate analysis of variance (MANOVA) as well as multivariate analysis of covariance (MANCOVA) when a linear correlation between the dependent variables and the covariates was established.

Results

Inspection of the skewness (.114 and -.798) and kurtosis (-.543 and .654) indices for obsessive and harmonious passion confirmed the normality of the data. First in a preliminary test, the age and physical activity volumes of the two samples from the two countries were compared. The 2 (countries: Spain and Hungary) by 2 (gender: men and women) MANOVA resulted in a statistically significant multivariate main effect for country (Pillai's Trace = .183, $F(2, 990) = 110.77$, $p < .001$, $\eta_p^2 = .183$) and gender (Pillai's Trace = .008, $F(2, 990) = 4.01$, $p = .018$, $\eta_p^2 = .008$), as well as a statistically significant multivariate interaction (Pillai's Trace = .029, $F(2, 990) = 15.04$, $p < .001$, $\eta_p^2 = .029$; see Table 1). These results, and the statistically significant correlations between obsessive- and harmonious passion with age and weekly hours of exercise (Table1), indicated that age and weekly hours of physical activity should be used as covariates in the principal analysis determining the cultural and gender differences in passion for physical activity.

Table 2. *Spearman's rho (ρ) correlations between age, weekly hours of exercise, and the two dependent measures, obsessive passion and harmonious passion.*

Dependent measure	Age	Weekly hours of exercise
Obsessive passion	-.315, $p < .001$	-.180, $p < .001$
Harmonious passion	.236, $p < .001$	.310, $p < .001$

The main analysis consisted of a 2 (country) by 2 (gender) MANCOVA of obsessive and harmonious passion, using age and the weekly hours of physical activity as covariates. While both covariates were significant ($p <.001$), the test still yielded a statistically significant multivariate main effect for country (Pillai's Trace = .110, $F(2, 988) = 61.25$, $p < .001$, $\eta_p^2 = .110$) and a statistically significant country by gender multivariate interaction (Pillai's Trace = .013, $F(2, 988) = 6.46$, $p = .002$, $\eta_p^2 = .013$). Automatically calculated in SPSS, the univariate ANOVAs revealed that in contrast to the Hungarian participants, respondents from Spain

scored lower on obsessive passion (M = 22.47 (SD = 6.35) vs. M = 17.84 (SD = 7.26), F(1, 989) = 119.12, p < .001, η_p^2 = .108), as well as on harmonious passion (M = 33.28 (SD = 5.29) vs. M = 31.46 (SD = 5.68), F(1, 989) = 44.4, p < .001, η_p^2 = .043; Figure 1). The country by gender interaction was followed up with Bonferroni-corrected analyses of variances (ANOVAs), in which the adjusted alpha was .007 (.05/8 = .00625, rounded to .007). Accordingly, Spanish women scored lower on both harmonious passion and obsessive passion compared to Hungarian women (p<.001), while Spanish men scored lower on obsessive passion (p<.001), but not on harmonious passion compared to Hungarian men. The Spanish men scored higher on harmonious passion than Spanish women (p =.001), but there were no significant differences in obsessive passion. Hungarian women scored higher on both obsessive passion *(p* = .003) and harmonious passion (p =.002) in contrast to Hungarian men. These results are illustrated in Figure 1 and Figure 2.

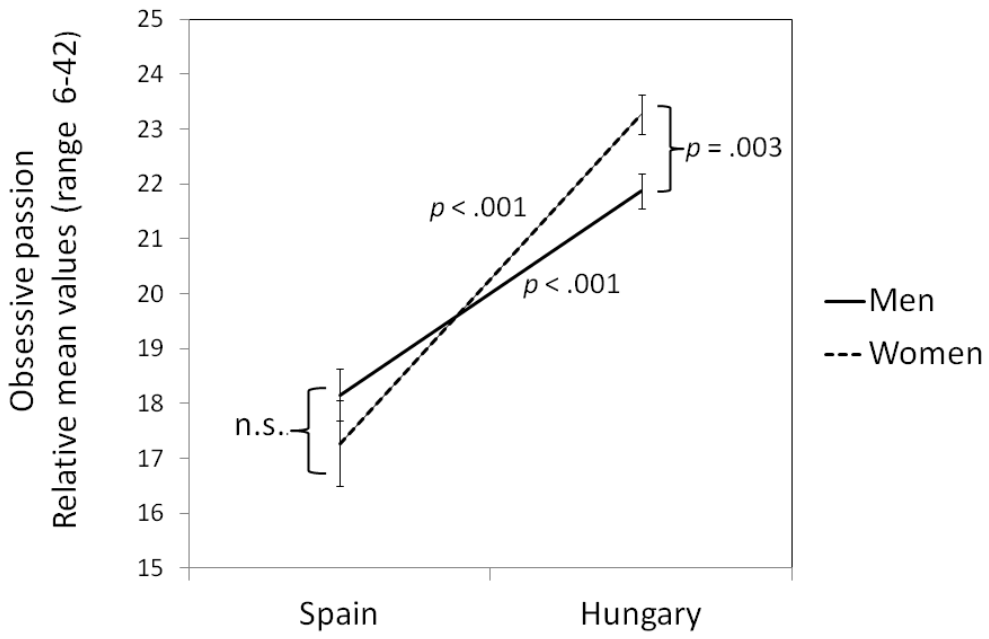

Figure 1. *Cultural and gender differences in obsessive passion.*

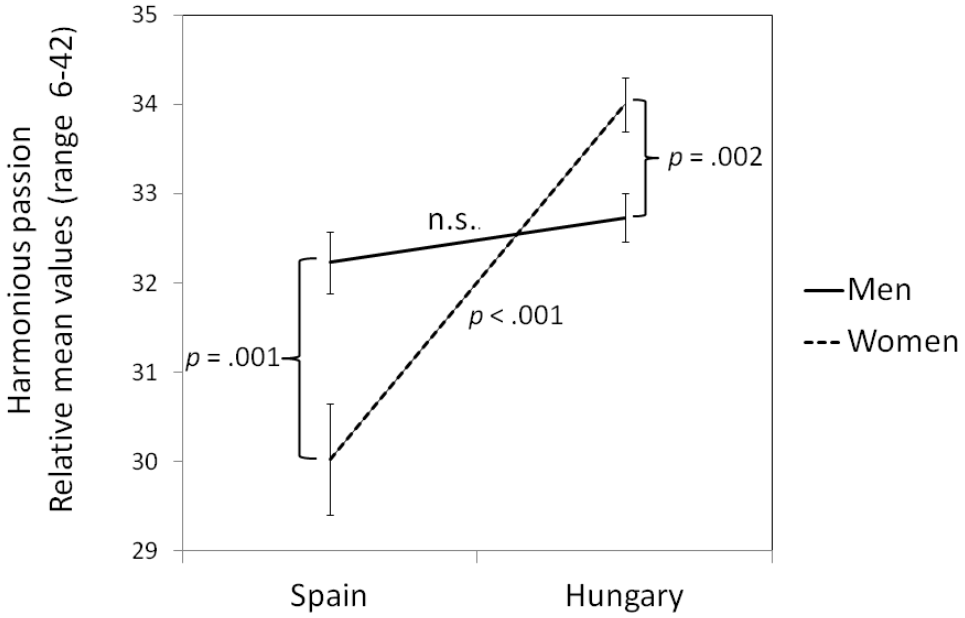

Figure 2. *Cultural and gender differences in harmonious passion.*

Discussion

The present study suggests that there are cultural and gender differences related to passion in physically active people. Although cultural differences in obsessive and harmonious passion were not examined in the context of physical activity, such differences may be expected since passion is not independent of the social-cultural environment (Aaker et al., 2001; Burke et al., 2015). In the present study, physically active Hungarian women and men scored higher on obsessive passion than their Spanish counterparts. In relation to harmonious passion, men from the two countries did not differ, whereas Hungarian women scored higher on harmonious passion than their Spanish counterparts. These findings may be related to a greater participation in physical activity by Hungarians as compared to Spaniards (World Health Organization Regional Office for Europe, 2016a, b), as well as several yet unexplored factors, such as the form and social aspect of exercise. Indeed, life goals, reasons

for being physically active, social and economic factors may all contribute to the differences found here. However, from the point of view of research in passion and physical activity, it is important to acknowledge that cultural differences appear to exist and they should be taken into consideration when interpreting the findings from such research.

These apparent cultural differences can be interpreted in light of the Collective Constructionist Theory (Kitayama, et al., 1997), which predicts that different social norms, values, and acts become psychologically adopted (i.e., internalized) by individuals that are reflected in their actions and attitudes. A plausible theory explaining how unique cultural features are subject to internalization is schema theory (McVee, Dunsmore, & Gavelek, 2005). A schema is a mental representation of aspects of physical, social, and emotional entourage of the person. Consequently, distinct socio-cultural environments are paralleled by different schemas. Such theory could shed light on culturally distinct psychological features related to the practice of physical activity while examining the culturally evoked psychological schemas, in an attempt to account for differences in passion.

However, aspects of Social Learning Theory (SLT; Bandura, 1965) cannot be omitted from the understanding of the cultural effects. In light of SLT, people internalize behaviors observed in their social environment, which then also leads to cultural differences in attitudes toward and practices of physical activity. Such differences, established between the two nations examined in the present study (World Health Organization Regional Office for Europe, 2016a, b), could be the result or the cause of the observed differences in passion in context of physical activity. However, future studies need to determine whether such differences are indeed activity-specific, or whether one can observe cultural differences in passion in general. Therefore, the use of a physically inactive control group may expand and clarify the findings of the present study.

The present study also indicated relatively clear gender differences in both obsessive passion and harmonious passion. Hungarians scored higher than the Spanish, and Hungarian women scored higher than Hungarian men. While the former finding is associated with the unexplained cultural differences, it was somewhat surprising to find that Hungarian women scored higher on obsessive passion than Hungarian men, whereas this was the opposite in the Spanish sample. These findings seem to suggest that Hungarian women and Spanish men internalize their physical activity in a more rigidly controlled way, showing more internal pressure in conformity, than the respective opposite gender in each of the two countries. In another activity (passion for Internet use), Canadian men scored higher than women on both obsessive passion and harmonious passion, but the mean values of the scale scores were about half of that obtained for the physically active samples in the present study, indicating the passion may also vary in the context of different activities (Seguin-Levesque et al., 2003). Additionally, passion in physical activity may change over time. In a longitudinal study, Martin (2016) reported that after an athletic season, young men reported increased harmonious passion while women exhibited the opposite trend. The results of the present study lends contextual support to these studies with regard to gender differences in passion.

The present findings concur with those of Philippe et al. (2009) who also showed gender differences between the age groups. In fact, the present study was inspired, at least in part, by Philippe et al.'s suggestion that "*Future research might do well to examine if cultural differences exist in the relationship between passion and well-being and as a function of age and gender.*" (p.19). The results in the present study show that such research is warranted among physically active people, and that studies on passion should further examine cultural and gender differences.

The present study is not without limitations. One limitation is the lack of random sampling and thus impacts on generalizability. Another limitation is the reliance on self-report

(subject to social desirability bias) and the retrospective assessment of the weekly hours of physical activity (subject to recall bias). However, most individuals can easily calculate the best estimate of their weekly physical activity relatively accurately. Furthermore, Hungarians were over-represented in the sample (2.2 to 1.0 ratio) that deterred testing of the psychometric structure of whether the Passion Scale is equivalent (invariant) across the two cultures. Future cross-cultural studies with more equal sample sizes would help establish the invariance of the scale.

Overall, the present study suggests that there may be cultural and gender differences in obsessive and harmonious passion among regularly physically active people. However, given the potential limitations of the study, the findings should be replicated in future research before definitive conclusions can be drawn. Prior the that, the possible differences should be taken into consideration when examining passion in sport and exercise, because they have implication for the generalizability as well as interpretation of the research findings in this area.

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