

Differences between individualist and collectivist cultures in emotional Facebook usage: relationship with empathy, self-esteem, and narcissism

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Abstract

Background: Adolescents are one of the groups who most use social networks in an emotional way, to express their own emotions and to empathize with the emotions of others. Although personality factors; namely, empathy, self-esteem, and narcissism appear to play an important role in this usage, the contribution of cultural variables has yet to be examined. The aim of this study is to examine cross-cultural variations in Facebook usage and the relationship of those variations with empathy, self-esteem and narcissistic personality factors. **Method:** Using a sample of 479 Spanish adolescents (220 females) and 405 Thai adolescents (224 females), the Use of Facebook Questionnaire was applied, and empathy, self-esteem and narcissism personality traits were measured. **Results:** Findings suggested variations between Thai and Spanish samples at the intra- and inter-cultural level. The Thai sample had higher scores in Affective Empathy but lower scores in Cognitive Empathy, used Facebook more, and engaged in more emotional and empathic expression when using Facebook. Also, results also show interesting differences related with the interaction between gender and country. **Conclusions:** We discuss the results in relation to Hofstede's criteria about the differences between Eastern and Western societies. We highlight the need for longitudinal studies about this topic.

Keywords: cross-cultural differences, Facebook, empathy, self-esteem, narcissism.

Resumen

Diferencias entre culturas individualistas y colectivas en el uso emocional de Facebook: relación con la empatía, la autoestima y el narcisismo. **Antecedentes:** los adolescentes son el grupo de población que más usan las redes sociales de forma emocional para expresar sus emociones y para empatizar con las emociones de otros. Mientras que factores de personalidad como empatía, autoestima y narcisismo parecen desempeñar un papel importante en este uso, la contribución de las variables culturales no ha sido examinada. El objetivo de este estudio es examinar variaciones interculturales en el uso de Facebook, y su relación con la empatía, autoestima y narcisismo. **Método:** usando una muestra de 479 adolescentes españoles (220 mujeres) y 405 adolescentes tailandeses (224 mujeres), se aplicó el Cuestionario de Uso de Facebook y se midieron los rasgos de empatía, autoestima y narcisismo. **Resultados:** los resultados sugieren variaciones entre las muestras españolas y tailandesas a nivel intra e intercultural. La muestra tailandesa puntuó más alto en Empatía Afectiva, pero más bajo en Empatía Cognitiva, y usó más Facebook expresando emociones y empatía. También se obtuvieron resultados relacionados con la interacción entre sexo y país. **Conclusiones:** se discuten estos resultados en relación con los criterios de Hofstede acerca de las diferencias entre las sociedades occidentales y orientales. Se destaca la necesidad de estudios longitudinales.

Palabras clave: diferencias interculturales, Facebook, empatía, autoestima, narcisismo.

Cross-cultural differences in human behavior are a significant area within the realm of psychology. The importance of this area is well recognized in basic research that helps enhance theoretical understanding of human minds, for example, in emotional response (Quirós-Ramírez & Onisawa, 2015) and emotional expression in interpersonal relations (Nisbett, Peng, Choi, & Norenzayan, 2001) as well as in reasoning styles (Spencer-Rodgers, Williams, & Peng, 2010). In practical terms, the role of cross cultural differences have not been overlooked. Examples include cross-cultural comparisons of therapeutic effectiveness (Helms, 2015)

and internet consumption behaviors (Obal & Kunz, 2016). These cross-cultural differences have also been studied in relation to specific challenges that face societies in an increasingly globalized world –for example, new technologies such as the Internet and virtual social networks-. Currently, virtual social networks have brought about one of the largest “macro-social interventions” ever, the results of which will appear over the coming decades. Hence, many studies have been conducted to examine possible cross-cultural differences in the use and the self-representations that are made in these social networks (Braiilovskaia & Bierhoff, 2016; Cho & Park, 2013; Rui & Stefanone, 2013).

Most cross-cultural studies have considered differences between Western and Eastern cultures. According to Hofstede (1980) Western and Eastern cultures differ across five cultural dimensions: power distance, masculinity, uncertainty avoidance, long-term orientation and individualism. Whereas Hofstede's first four dimensions of cultural variations were recognized (Schmitt

& Allik, 2005), the most frequently used criterion that helps distinguish Eastern and Western cultures is individualism. This individualism versus collectivism classification generally infers orientation toward individual rights versus collective duties, with empirical evidence that characterize Western countries with individualism and Eastern countries with collectivism. Recent studies have shown that cultural dichotomy is potentially associated with social network usage, cross-cultural variations in network density, usage frequency, or the position that the individual occupies within the social interaction. More specifically, when compared with users from collectivist countries, individuals in individualist cultures participate more in self-centered social networks (Na, Kosinski, & Stillwell, 2015), make more positive self-presentations (Lee-Won et al., 2014), and more readily accept friend requests from strangers (Rui & Stefanone, 2013). Anyway, the number of studies in this domain remains very limited. It would be interesting to know if the emergence of a new tool such as Facebook will contribute to reduce cultural differences between different countries or if, on the contrary, such differences will be maintained when adapting the use of social networks to the characteristics of each culture (Na et al., 2015).

It is also possible to study the relationship between individual differences and the use of the social network Facebook. Maybe this use is mediated by personalities of the users, and maybe the development of adolescents' personalities could be mediated by the use of Facebook (Blachnio, Przepiorka, & Ruydnicka, 2016; Carrier, Spradlin, Brunce, & Rosen, 2015). A literature review led to the selection of three personality factors empirically studied in social network research and very relevant in interpersonal relations and self-presentation, especially during adolescence: empathy, self-esteem and narcissism.

Empathy is a personality variable that indicates emotional and social functioning and entails affective empathy: the affective contagion to the emotions of other people, and cognitive empathy: the understanding of the reasons for the actions of others (Jolliffe & Farrington, 2006). There is evidence that empathy has declined among young people, -the population who uses social networks more frequently-, over the last decades (Konrath, 2013); however, it is unclear whether such a decline is associated with the use of social networks (Carrier et al., 2015). Likewise, research on cross-cultural differences about empathy in young people has yielded ambiguous results (Cassels, Chan, Chung, & Birch, 2010).

Self-esteem is a personality variable that refers to the individual's general sense of worth. Low levels of self-esteem have been shown to lead to the construction of false selves in Facebook and an increase in Facebook usage as well as its significance (Blachnio et al., 2016). One of the most recognized cross-cultural studies on self-esteem was conducted by Schmitt and Allik (2005), where the Rosenberg Self-esteem Scale was administered to individuals from fifty-three countries. Whereas the overall self-esteem did not differ among individuals from individualist and collectivist countries, different roles of competence perception emerged. Although participants from collectivist countries reported lower perception of their competences, they reported higher self-liking than participants from individualist countries.

Narcissism is a personality trait characterized by feelings of entitlement, superiority, exhibitionism and an intense need to be admired by others. Consequently, narcissistic individuals achieve gratification from attention and appreciation of their attributes. Attempts have been made to identify factors contributing to

narcissism. Among these, Carpenter (2012) reported a strong positive association between the "grandiose exhibitionism" component of narcissism and certain Facebook usage such as excessive self-presentation, photo posting, and numbers of "friends". Additionally, the "entitlement" component of narcissism was positively associated with antisocial and aggressive usage of Facebook. Brailovskaia & Bierhoff (2016) reported no cross-cultural differences between Russian and German users in the relationship between Facebook usage and users' narcissistic scores.

Despite the aforementioned initial attempts to investigate cross-cultural variation in Facebook usage, such investigations remained very limited. The current study attempts to compare Facebook usage among adolescents from a collectivist country – Thailand – and an individualist one – Spain –. Their levels of empathy, self-esteem, and narcissism, will be additionally examined in terms of their relationship with Facebook usage.

Method

Participants

The Spanish participants were sampled from school networks in North West Spain (Asturias). Four-hundred and seventy-nine pupils in a total of eight schools participated in the study ($M = 14.62$, $SD = 0.75$). Two-hundred and fifty-nine of them (54.1%) were boys and 220 (45.9%) were girls. The Thai participants were sampled from junior high-schools in the Bangkok metropolitan area. Four-hundred and five pupils engaged in the current study in a total of three schools ($M = 14.76$, $SD = 0.52$). One-hundred and eighty-one of them (44.7%) were boys and 224 (55.3%) were girls. The two samples combined for a total of 884 pupils ($M = 14.68$, $SD = 0.65$). Four hundred and forty (49.8%) were male and 444 (50.2%) were female.

Instruments

Empathy was assessed using the *Basic Empathy Scale* (BES; Jolliffe & Farrington, 2006), a 20-item scale that captures two dimensions of empathy: Affective Empathy or the sharing of others' emotion on an affective level ($\alpha = 0.92$), and Cognitive Empathy or the sharing of others' emotion on a cognitive or rational level ($\alpha = 0.96$). The Spanish adaptation (Villadangos, Errasti, Amigo, Jolliffe, & García-Cueto, 2016) of the BES was used in Spain. The BES was translated into Thai following the ITC guidelines (Muñiz, Elosua, & Hambleton, 2013).

Self-esteem was assessed using the *Rosenberg Self-Esteem Scale* (RSES; Rosenberg, 1989), an established 10-item scale that assesses one general factor of self-esteem ($\alpha = 0.86$). This scale has a Spanish adaptation (Martín-Albo, Núñez, Navarro, & Grijalvo, 2007). The RSES was translated into Thai following the ITC guidelines (Muñiz et al., 2013).

Narcissism was assessed using the *Narcissistic Personality Inventory* (NPI; Raskin & Hall, 1981), a well-recognized 40-item questionnaire with a trifactorial structure: (1) a self-perceived leadership ability, social potency, and to a lesser extent, dominance (Leadership/Authority; $\alpha = 0.78$); (2) a combination of self-absorption vanity, superiority, and exhibitionism tendencies (Grandiose Exhibitionism; $\alpha = 0.72$); and (3) entitled beliefs and behaviors related to interpersonal contexts, such as a sense of deserving respect and a willingness to manipulate and take

advantages of others (Entitlement/Exploitativeness; $\alpha = 0.46$; only four items). The NPI was translated into Spanish and into Thai following the ITC guidelines (Muñiz et al., 2013).

A 12-item *Use of Facebook Questionnaire* (UFQ) was designed (Errasti, Amigo, & Villadangos, 2017) based on Carpenter’s study (2012) about the relationship between Narcissism and Facebook usage. Factor analyses suggested that the items could be divided into three factors: (1) the frequency with which adolescents post information or updates their Facebook page (FB-Frequency; $\alpha = 0.66$); (2) the expression of empathy for others’ emotions on Facebook or the frequency with which the adolescents use Facebook to offer consolation or appreciation to others (FB-Empathy; $\alpha = 0.84$) and (3) the expression of personal emotions on Facebook or the frequency with which the adolescents connect into Facebook in order to express their emotional states (FB-Emotions; $\alpha = 0.80$) (Errasti, Amigo, & Villadangos, 2017).

Procedure

Study participation was voluntary. In Spain, signed consent was obtained from both the school council and each pupils’ parents for their children to participate in the study. Pupils who did not return parental informed consent were not included in the study and were asked to spend their time at the school library, while the participants responded to the questionnaires in their classroom. In Thailand, data collection proceeded after the ethical review and school authorization were obtained. Verbal consent was obtained from pupils regarding their voluntary agreement to participate in

the study. The aforementioned procedure for the data collection in Spain applied to the Thai sample. The study involved applying the BES, the RSES, the NPI and the UFQ.

Data analysis

In first place, the reliability of the scales was calculated using Chronbach’s alpha. Then the data analysis examined possible differences in all of the scales with one ANOVA test for each of the scales, considering also the Gender (Male versus Female) and Sample (Thai versus Spanish) factors. The Bonferroni correction was used. Given that ten different scales were used, the corrected level of α was 0,005.

Results

The values of Cronbach’s alphas obtained were .566 for the FB-Frequency subscale, .849 for the FB-Empathy subscale, .900 for the FB-Emotions subscale, .791 for the BES-Affective subscale, .766 for the BES-Cognitive subscale, .859 for the RSES subscale, .692 for the NPI-Leadership subscale, .683 for the NPI-Exhibitionism subscale, and .338 for the NPI-Entitlement subscale.

Results of the ANOVAs carried out in the first set of analyses are represented in Tables 1-3. The interaction between the two factors (Table 1) was significant for FB-Empathy, where posthoc tests showed differences between the Thai males and Spanish males ($p < .001$, 95% CI of the difference = [0.56, 1.81]) but not between females ($p = .772$, 95% CI of the difference = [-0.54,

Table 1

Results of the ANOVA tests for the Gender x Sample interaction. N_{MT} , N_{MS} , N_{FT} and N_{FS} are the number of Thai males, Spanish males, Thai females and Spanish females included in the analysis. M_{MT} , M_{MS} , M_{FT} and M_{FS} are the mean value of Thai male, Spanish male, Thai female and Spanish female samples respectively, and the value in parenthesis is the standard error of the mean. η^2_p is the estimation of the effect size

| Scale | N_{MT} | N_{MS} | N_{FT} | N_{FS} | M_{MT} | M_{MS} | M_{FT} | M_{FS} | F | P | η^2_p |
|-------------------|----------|----------|----------|----------|--------------|--------------|--------------|--------------|-----------------|------|------------|
| FB-Frequency | 179 | 157 | 218 | 128 | 3.02 (0.09) | 2.41 (0.10) | 3.15 (0.08) | 2.68 (0.11) | F(1,678) = 0.51 | .477 | .001 |
| FB-Empathy | 181 | 155 | 216 | 129 | 8.18 (0.22) | 6.99 (0.23) | 7.43 (0.20) | 7.52 (0.26) | F(1,677) = 7.96 | .005 | .012 |
| FB-Emotions | 180 | 154 | 217 | 128 | 7.02 (0.20) | 4.90 (0.22) | 6.96 (0.18) | 5.31 (0.24) | F(1,675) = 1.22 | .270 | .002 |
| BES-Affective | 169 | 253 | 221 | 216 | 34.11 (0.49) | 32.89 (0.40) | 38.59 (0.43) | 38.09 (0.43) | F(1,855) = 0.67 | .413 | .001 |
| BES-Cognitive | 171 | 256 | 210 | 217 | 30.91 (0.35) | 34.21 (0.29) | 33.00 (0.32) | 36.17 (0.31) | F(1,850) = 0.04 | .842 | < .001 |
| RSES | 176 | 250 | 220 | 215 | 27.55 (0.39) | 30.95 (0.33) | 27.09 (0.35) | 28.35 (0.35) | F(1,857) = 9.05 | .003 | .010 |
| NPI-Leadership | 179 | 245 | 223 | 212 | 14.32 (0.18) | 15.76 (0.15) | 14.09 (0.16) | 14.89 (0.16) | F(1,855) = 3.84 | .050 | .005 |
| NPI-Exhibitionism | 179 | 243 | 220 | 218 | 12.53 (0.16) | 12.63 (0.13) | 12.90 (0.14) | 12.33 (0.14) | F(1,856) = 5.37 | .021 | .006 |
| NPI-Entitlement | 181 | 246 | 221 | 217 | 5.39 (0.08) | 5.30 (0.07) | 5.44 (0.07) | 5.11 (0.07) | F(1,861) = 2.89 | .089 | .003 |

Table 2

Results of the ANOVA tests for the Gender factor. N_{MALE} is the number of males included in the analysis, and N_{FEMALE} the number of females. M_{MALE} and M_{FEMALE} are the mean value of males and females respectively, and the value in parenthesis is the standard error of the mean. η^2_p is the estimation of the effect size

| Scale | N_{MALE} | N_{FEMALE} | M_{MALE} | M_{FEMALE} | F | P | η^2_p |
|-------------------|------------|--------------|--------------|--------------|--------------------|---------|------------|
| FB-Frequency | 336 | 346 | 2.72 (0.07) | 2.92 (0.07) | F(1, 678) = 4.23 | .040 | .006 |
| FB-Empathy | 336 | 345 | 7.59 (0.16) | 7.47 (0.16) | F(1, 677) = 0.25 | .619 | < .001 |
| FB-Emotions | 334 | 345 | 5.96 (0.15) | 6.13 (0.15) | F(1, 675) = 0.69 | .407 | .001 |
| BES-Affective | 422 | 437 | 33.50 (0.32) | 38.34 (0.30) | F(1, 855) = 122.13 | < 0.001 | .125 |
| BES-Cognitive | 427 | 427 | 32.56 (0.23) | 34.58 (0.22) | F(1, 850) = 40.23 | < 0.001 | .045 |
| RSES | 426 | 435 | 29.25 (0.25) | 27.72 (0.25) | F(1, 857) = 18.50 | < 0.001 | .021 |
| NPI-Leadership | 424 | 435 | 15.04 (0.12) | 14.49 (0.11) | F(1, 855) = 11.63 | < 0.001 | .013 |
| NPI-Exhibitionism | 422 | 438 | 12.58 (0.10) | 12.61 (0.10) | F(1, 856) = 0.05 | .832 | < .001 |
| NPI-Entitlement | 427 | 438 | 5.35 (0.05) | 5.27 (0.05) | F(1, 861) = 0.99 | .321 | .001 |

0.73]). The interaction in the case of RSES was also significant, where the difference between male samples ($p < .001$, 95% CI of the difference [2.41, 4.40]) was higher than the one found between female samples ($p = .011$, 95% CI of the difference = [0.29, 2.24]).

In the case of the Gender factor (Table 2), significant differences were found in the BES-Affective, BES-Cognitive, RSES and NPI-Leadership. Males had lower scores in the BES-Affective and BES-Cognitive scales, and higher in the RSES and NPI-Leadership scale.

In the case of the Sample factor (Table 3), there were significant differences in all of the scales except for the NPI-Exhibitionism, FB-Empathy and BES-Affective scales. The Thai sample had higher mean scores in FB-Frequency, FB-Emotions and NPI-Entitlement, and lower in RSES and NPI-Leadership, and lower mean scores in Bes-Cognitive, RSES and NPI-Leadership.

Discussion

Consistent with past literature (Toussaint & Webb, 2005), males in both the Thai and Spanish samples had lower mean scores for Affective and Cognitive Empathy than females. Likewise, it has been observed that the RSES scores were significantly higher in male participants than in their female counterparts, consistently across the two cultures. During the past two decades, a large number of studies have highlighted these gender differences in self-esteem (Bleidorn et al., 2015). Similar gender differences have been found in the NPI Leadership Scale, both in the total sample and in the two cultural groups. The findings were consistent with past findings (Grijalva et al., 2015). Finally, females reported higher usage of Facebook as measured by the FB-Frequency scale, both in the Thai and Spanish sub-samples, although the differences did not reach statistical significance after the Bonferroni correction ($p = 0.40$). Studies such as Joinson (2008) had indicated greater predilection toward Facebook and other social network usage in females, when compared with males.

Regarding the cross-cultural comparison between the Thai and Spanish samples, the results show that the Thai sample had lower mean scores in Cognitive Empathy, when compared with the Spanish sample. This cross-cultural variation was consistent with Hofstede's explanation (1980), given that individuals of Eastern cultures are generally more emotionally involved in their social relationship, but tend less to analyze this kind of events from a rational point of view.

It is worth noting that the Thai sample not only engaged more on Facebook usage but, when compared with their Spanish counterpart, also engaged more in emotional expression through this medium. The Spanish sample used Facebook less in transmitting empathic messages and emotional expression, in consonance with their scores on Affective Empathy, that were relatively lower. These results does not agree with Carrier et al. (2015) that suggested that in individualist societies, empathic communication occurs increasingly through the virtual interaction more than through the face-to-face one. According to these authors, emotional expressiveness is more important for maintaining good interpersonal relations in individualist societies but emotion differentiation takes precedence in collectivist cultures. These suggestions were supported in a cross-cultural study of Euro-American, Asian, Korean, and Chinese participants (Kang, Shaver, Sue, Min, & Jing, 2016). Members of individualist cultures engaged more in on-line self-disclosure (Lee-Won et al., 2014); and Facebook empathy expression could be considered as a part of this. In the current study, this effect was not observed and there were no differences between the empathy shown on-line and the empathy shown in real life, measured by our questionnaires. This is true among male and female participants: Thai males exhibited a much greater empathic use of Facebook than their Spanish counterparts; Thai females exhibited only a little bit more of empathic use of Facebook than their Spanish counterparts.

The lower levels of self-esteem and leadership found in the Thai sample are consistent with tendencies previously reported by Hofstede (1980). Schmitt and Allik (2005) reported significantly lower scores in the RSES in Japanese samples than in the North American ones. As reported by Cho and Park (2013), members of an individualist culture are likely to engage in self-expression behaviors characterized by a high level of self-esteem. Also, the Spanish male participants scored significantly higher in leadership than their Thai counterparts. With Western countries being characterized by less power distance between citizenship and authority figures, the Spanish sample are possibly socialized to become more independent of their authority and to be higher in terms of their leadership than their Thai counterpart. This possibility could apply across genders, because higher leadership scores were observed in Spain than in Thailand regardless of the participants' genders.

Gender differences are modulated differently in various cultures. Interesting results were obtained regarding the interaction between gender and country. Within-culture variations were observed.

Table 3

Results of the ANOVA tests for the Sample factor. N_{THAI} is the size of the Thai sample included in the analysis, and $N_{SPANISH}$ the size of the Spanish sample. M_{THAI} and $M_{SPANISH}$ are the mean value of Thai and Spanish samples respectively, and the value in parenthesis is the standard error of the mean. η^2_p is the estimation of the effect size

| Scale | N_{THAI} | $N_{SPANISH}$ | M_{THAI} | $M_{SPANISH}$ | F | P | η^2_p |
|-------------------|------------|---------------|--------------|---------------|--------------------|---------|------------|
| FB-Frequency | 397 | 285 | 3.09 (0.06) | 2.55 (0.07) | F(1, 678) = 31.65 | < 0.001 | .045 |
| FB-Empathy | 397 | 284 | 7.80 (0.15) | 7.26 (0.17) | F(1, 677) = 5.80 | .016 | .009 |
| FB-Emotions | 397 | 282 | 6.99 (0.14) | 5.1 (0.16) | F(1, 675) = 79.79 | < 0.001 | .106 |
| BES-Affective | 390 | 469 | 36.35 (0.32) | 35.49 (0.29) | F(1, 855) = 3.84 | .050 | .005 |
| BES-Cognitive | 381 | 473 | 31.95 (0.24) | 35.19 (0.21) | F(1, 850) = 103.50 | < 0.001 | .109 |
| RSES | 396 | 465 | 27.32 (0.26) | 29.65 (0.24) | F(1, 857) = 43.26 | < 0.001 | .048 |
| NPI-Leadership | 402 | 457 | 14.20 (0.12) | 15.32 (0.11) | F(1, 855) = 48.63 | < 0.001 | .054 |
| NPI-Exhibitionism | 399 | 461 | 12.71 (0.11) | 12.48 (0.10) | F(1, 856) = 2.57 | .109 | .003 |
| NPI-Entitlement | 402 | 463 | 5.41 (0.05) | 5.21 (0.05) | F(1, 861) = 7.90 | .005 | .009 |

Thai male participants engaged more in empathic expression via Facebook when compared with their female counterparts. The opposite, however, was found applied to the Spanish sample, with less engagement in the male ones. Similarly, Thai male participants obtained lower scores in exhibitionism than their female counterparts. Again, the opposite was observed in the Spanish sample, obtaining the Spanish males higher scores in exhibitionism than the Spanish females, although the differences did not reach statistical significance after the Bonferroni correction ($p = 0.21$).

It is important to note that the effect sizes found in this research have been small in all cases, indicating that we are dealing with a phenomenon in which many more variables are involved than those that have been studied. Anyway, although the effect size of the differences found were small, these results suggested that within-culture variations should not be overlooked in cross-

cultural investigation. Similarly, gender studies should take into consideration these variations in their conclusions.

Future investigations should take into consideration the role of virtual social network, not only as a medium for social interaction, but also as a contributor for personality development. The cross-sectional nature of this study prevents the identification of the causal influence of social network on personality development. Such influence could be clarified through the use of a longitudinal research design that examines how personality changes are manifested as a consequence of social network usage and how this manifestation occurs across cultures.

From a methodological point of view, it will be necessary to ensure that the constructs measured are invariant with respect to the cultures (Byrne & van de Vijver, 2017; Gómez-Benito, Balluerka, González, Widaman, & Padilla, 2017).

References

- Blachnio, A., Przepiorka, A., & Rudnicka, P. (2016). Narcissism and self-esteem as predictors of dimensions of Facebook use. *Personality and Individual Differences, 90*, 296-301. doi: 10.1016/j.paid.2015.11.018
- Bleidorn, W., Arslan, R., Denissen, J., Rentfrow, P., Gebauer, J., Potter, J., & Gosling, S. (2015). Age and gender differences in self-esteem: A cross-cultural window. *Journal of Personality and Social Psychology, 111*(3), 396-410. doi: 10.1037/pspp0000078
- Brailovskaia, J., & Bierhoff, H. (2016). Cross-cultural narcissism on Facebook: Relationship between selfpresentation, social interaction and the open and covert narcissism on a social networking site in Germany and Russia. *Computers in Human Behavior, 55*, 251-257. doi: 10.1016/j.chb.2015.09.018
- Byrne, B. M., & van de Vijver, F. J. R. (2017). The maximum likelihood alignment approach to testing for approximate measurement invariance: A paradigmatic cross-cultural application. *Psicothema, 29*, 539-551. doi: 10.7334/psicothema2017.178
- Carpenter, C. (2012). Narcissism on Facebook: Self-promotional and anti-social behavior. *Personality and Individual Differences, 52*, 482-486. doi:10.1016/j.paid.2011.11.011
- Carrier, L., Spradlin, A., Brunce, J., & Rosen, L. (2015). Virtual empathy: Positive and negative impacts of going online upon empathy in young adults. *Computers in Human Behavior, 52*, 39-48. doi: 10.1016/j.chb.2015.05.026
- Cassels, T., Chan, S., Chung, W., & Birch, S. (2010). The role of culture in affective empathy: Cultural and bicultural differences. *Journal of Cognition and Culture, 10*, 309-326. doi: 10.1163/156853710X531203
- Cho, S., & Park, H. (2013). A qualitative analysis of cross-cultural new media research: SNS use in Asia and the West. *Qual Quant, 47*(4), 2319-2330. doi: 10.1007/s1135-011-9658-z
- Errasti, J., Amigo, I., & Villadangos, M. (2017). Emotional uses of Facebook and Twitter: Its relation with empathy, narcissism and self-esteem in adolescence. *Psychological Reports, 120*(6), 997-1018. doi: 10.1177/0033294117713496
- Gómez-Benito, J., Balluerka, N., González, A., Widaman, K. F., & Padilla, J. L. (2017). Detecting differential item functioning in behavioral indicators across parallel forms. *Psicothema, 29*, 91-95. doi: 10.7334/psicothema2015.112
- Grijalva, E., Newman, D., Tay, L., Donnellan, M., Harms, P., Robins, R., & Yan, T. (2015). Gender differences in narcissism: A meta-analytic review. *Psychological Bulletin, 141*(2), 261-310. doi: 10.1037/a0038231
- Helms, J. (2015). An examination of the evidence in culturally adapted evidence-based or empirically supported interventions. *Transcultural Psychiatry, 52*(2), 174-197. doi: 10.1177/1363461514563642
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.
- Joinson, A. (2008). 'Looking at', 'Looking up' or 'Keeping up with' people? Motives and uses of Facebook. *Proceedings of the 26th Annual SIGCHI Conference on Human Factors in Computing Systems, CHI'08* (pp. 1027-1036). New York: ACM. doi: 10.1145/1357054.1357213
- Jolliffe, D., & Farrington, D. (2006). Development and validation of the Basic Empathy Scale. *Journal of Adolescence, 29*(4), 589-611. doi: 10.1016/j.adolescence.2005.08.010
- Kang, S., Shaver, P., Sue, S., Min, K., & Jing, H. (2003). Culture-specific patterns in the prediction of life satisfaction: Roles of emotion, relationship quality, and self-esteem. *Personality and Social Psychology Bulletin, 29*(12), 1596-1608. doi: 10.1177/0146167203255986
- Konrath, S. (2013). The empathy paradox. En R. Lippicini (Ed.), *Handbook of research on technoself* (pp. 204-228). Hershey, PA: IGI Global. doi: 10.4018/978-1-4666-2211-1.ch012
- Martín-Albo, J., Núñez, J., Navarro, J., & Grijalvo, F. (2007). The Rosenberg Self-Esteem Scale: Translation and validation in university students. *The Spanish Journal of Psychology, 10*(2), 458-467. doi: 10.1017/S1138741600006727
- Muñiz, J., Elosúa, P., & Hambleton, R. (2013). International Test Commission Guidelines for test translation and adapting tests. *Psicothema, 25*(2), 151-157. doi: 10.7334/psicothema2013.24
- Nisbett, R., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review, 108*(2), 291-310. doi: 10.1037//0033-295X.108.2.291
- Na, J., Kosinski, M., & Stillwell, D. (2015). When a new tool is introduced in different cultural contexts: Individualism-Collectivism and social network on Facebook. *Journal of Cross-Cultural Psychology, 46*(3), 355-370. doi: 10.1177/0022022114563932
- Obal, M., & Kunz, W. (2016). Cross-cultural differences in uses of online experts. *Journal of Business Research, 69*(3), 1148-1156. doi: 10.1016/j.jbusres.2015.08.030
- Quiros-Ramírez, M., & Onisawa, T. (2015). Considering cross-cultural context in the automatic recognition of emotions. *International Journal of Machine Learning and Cybernetics, 6*(1), 119-127. doi: 10.1007/s13042-013-0192-2
- Raskin, R., & Hall, C. (1981). The Narcissistic Personality Inventory: Alternative form reliability and further evidence of construct validity. *Journal of Personality Assessment, 45*(2), 159-162. doi: 10.1207/s15327752jpa4502_10
- Rosenberg, M. (1989). *Society and the adolescent self-image. Revised edition*. Middletown, C.T., England: Wesleyan University Press.
- Rui, J., & Stefanone, M. (2013). Strategic self-presentation online: A cross-cultural study. *Computers in Human Behavior, 29*, 110-118. doi: 10.1016/j.chb.2012.07.022
- Schmitt, D., & Allik, J. (2005). Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: Exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology, 89*(4), 623-642. doi: 10.1037/0022-3514.89.4.623

Spencer-Rodgers, J., Williams, M., & Peng, K. (2010). Cultural differences in expectations of change and tolerance for contradiction: A decade of empirical research. *Personality and Social Psychology Review, 14*(3), 296-312. doi: 10.1177/1088868310362982

Toussaint, L., & Webb, J. (2005). Gender differences in the relationship

between empathy and forgiveness. *The Journal of Social Psychology, 145*(6), 673-685. doi: 10.3200/SOCP.145.6.673-686

Villadangos, M., Errasti, J., Amigo, I., Jolliffe, D., & García-Cueto, E. (2016). Characteristics of Empathy in young people measured by the Spanish validation of the Basic Empathy Scale. *Psicothema, 28*(3), 323-329.