Are Socio-Demographic Factors Associated to Burnout Syndrome in Police Officers?
A Correlational Meta-Analysis

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Título: ¿Están los factores sociodemográficos asociados al síndrome de burnout en policías? Un meta-análisis correlacional.
Resumen: El síndrome de burnout se considera una reacción al estrés crónico que se ha observado principalmente en profesionales que trabajan de cara a otras personas. Las características sociodemográficas pueden afectar al desarrollo del síndrome, aunque los resultados obtenidos en los estudios empíricos han sido contradictorios. El objetivo del presente estudio es realizar una revisión meta-analítica sobre cuatro factores sociodemográficos (edad, sexo, estado civil y número de hijos) que pueden estar correlacionados con las dimensiones del Maslach Burnout Inventory (cansancio emocional, despersonalización y realización personal) en policías. Estos profesionales han sido considerados como un grupo de riesgo para desarrollar el síndrome debido a las características de su trabajo. Se obtuvieron 43 estudios empíricos que cumplían con los criterios de inclusión: 23 para edad, 32 para sexo, 9 para estado civil y 4 para número de hijos. Se utilizó el coeficiente de correlación bivariada como métrica del tamaño del efecto. Los resultados mostraron que todos los tamaños del efecto medio fueron bajos y la mayoría de ellos estadísticamente no significativos. Muchos de los estudios empíricos no informaban de suficiente información estadística para estimar los tamaños del efecto medio. Esta falta sistemática de información puede estar contribuyendo a que se sigan encontrando resultados contradictorios.
Palabras clave: MBI; burnout; policías; factores sociodemográficos; meta-análisis.

Abstract: Burnout is considered a long term stress reaction which is seen primarily among professionals who work face-to-face with other people. Socio-demographic characteristics have been suggested as risk factors to its development, although empirical studies have yield contradictory results. The objective of this study is to conduct a meta-analysis of four socio-demographic factors (age, sex, marital status, and number of children) that may be correlated to the Maslach Burnout Inventory dimensions (emotional exhaustion, depersonalization, and personal accomplishment) in police officers. These professionals have been considered a high-risk occupational group to suffer burnout due to specific characteristics of their job. We collected 43 empirical studies that fulfilled the inclusion criteria: 23 on age, 32 on sex, 9 on marital status, and 4 on number of children. The bivariate correlation coefficient was used as the effect size measure. The results show that all the average effect were small, and the majority of them were not statistically significant. We can conclude that sex and age are factors to discard in the development of the burnout in police officers. We found that many studies did not report enough statistical information to estimate effect sizes. This systematic lack of information is likely to contribute finding contradictory results.
Key words: MBI; Burnout; police; socio-demographic factors; meta-analysis.

Introduction

Burnout syndrome is a problem that affects a wide range of professions. It is characterized by symptoms that appear when workers suffer from chronic stress. At particularly high risk are workers whose jobs involve direct contact with the public, for example, nurses, doctors, teachers, and police officers (Leiter, Bakker & Maslach, 2014). At present, police work is one of the most stressful occupations in the world (Vuorensyrjä & Mälkiä, 2011). Police officers are subjected to a variety of potential stressors, which include pressure from superiors, social perceptions of their work, as well as exposure to violent events that can have a negative physical and psychological impact on their lives (Backteman-Erlanson, Padyab & Brulin, 2012). Previous research has detected high stress levels in police officers (e.g., Durán, Montalbán & Stangeland, 2006; De la Fuente, Aguayo, Vargas & Cañadas, 2013), which even surpass those found in other groups of professionals (e.g., Backteman-Erlanson et al., 2012). For this reason, police officers are regarded as being at a high risk of developing the burnout syndrome.

Burnout is generally conceived as having three dimensions: (i) emotional exhaustion (EE) refers to sensations of physical overexertion and mental weariness stemming from continuous interactions with other workers and clients; (ii) depersonalization (D) is the development of negative and cynical attitudes about one's clients; (iii) reduced personal accomplishment (PA) reflects the tendency of workers to feel unhappy about themselves and dissatisfied with their professional achievements (Maslach & Jackson, 1981). It is frequent for professionals with burnout syndrome to also suffer from physical health problems (e.g. psychosomatic illnesses), emotional disorders (e.g. depression and anxiety), and workplace problems (e.g. absenteeism and job dissatisfaction).

Although it is not the only tool available, the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981) is now considered to be the "gold standard" for measuring the burnout, which includes the three dimensions of the syndrome and has been used to conceptualize as well as to evaluate the syndrome (De la Fuente et al., 2013).The MBI is the most used instrument for measuring burnout (Schaufeli, Leiter & Maslach, 2009; Worley, Vassar, Wheeler & Barnes, 2008). Moreover, according to Schaufeli and Enzmann (1998) over 90% of burnout research is done with the MBI.

There is a wide range of literature on the risk factors that favor the appearance and subsequent development of the burnout syndrome. Up until now, research has largely focused on psychological and occupational risk factors though most studies also mention socio-demographic variables. In regards to police officers, the analysis of these variables has

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led to inconclusive and often contradictory results. As a result, there is currently no consensus as to which of these variables are conducive to the development of burnout syndrome.

For example, it is not clear whether younger police officers are at a greater risk of burnout than older ones (Aranda & Pando, 2010). Nor is there conclusive evidence that being in a sentimental relationship or having children protects officers against burnout (Durán et al., 2006). In relation to sex, certain studies affirm that female officers are more prone to emotional exhaustion (e.g., Adebayo, Sunmola & Udegbe, 2008) whereas male police officers are more susceptible to depersonalisation (e.g., Burke & Mikkelsen, 2005). However, according to other works, the relation between these two variables is not statistically significant (e.g., Chrisopoulos, Dollard, Winefield & Dormann, 2010; McCarty, Zhao & Garland, 2007).

The role that socio-demographic factors play in the development of the burnout syndrome is important for several reasons: first, it is important to check if these factors have a direct influence on burnout levels and its significance. This will allow the elaboration of a risk profile of police workers suffering burnout; second, the identification of several risk factors that may define a risk profile would facilitate the development of primary and secondary intervention programs. These programs focus their actions on preventing the syndrome in general or on risk population, and so, they are generally preferable than tertiary programs that are centered on recovering workers from health damages; Third, explicative models can be tested and elaborated for this specific population depending on the relations of socio-demographic factors on the three dimensions of burnout.

For this reason, certain authors (e.g., Salazar, 2015) highlight the need for meta-analytic studies that can shed light on the role of these risk factors. Specific questions are still waiting to be answered including the magnitude of the relations between socio-demographic factors and burnout, its variability, and which moderators can explain this variability. However, to our knowledge, there are no meta-analytic reviews that specifically focus on police officers. This is an excellent reason for analyzing the role of socio-demographic variables in the development of the burnout syndrome. Only in this way can they be confirmed or excluded as risk factors for this group of professionals.

The objective of this research was to carry out a meta-analytic review (Ato, López & Benavente, 2013) of four socio-demographic variables (age, sex, marital status, and number of children) which could be potentially related to the appearance and development of one of the three burnout dimensions, measured with the MBI, in police officers. This meta-analysis was done following the recommendations of PRISMA statement (Moher et al., 2015).

Method

Literature review and inclusion criteria

Various search strategies were used to identify primary studies. Firstly, we searched the following electronic databases: Web of Science, Scopus, OVID, Proquest, SocIndex, CSIC-ISOC, Dialnet, Psicodoc, and Social Science Research Network. The key words used were ("Maslach Burnout Inventory" or "MBI") and ("police*" or "officer?"). Secondly, previous reviews and meta-analytical studies along with their references were consulted. Thirdly, a search was made in scientific journals related to the topic. In addition, Google Scholar, Proquest Dissertations and Theses, and TESEO database were consulted. The Science Citation Index was also accessed to find studies that cited the work thus identified. Finally, references of the selected research were also retrieved and selected. The literature search was finished in June 2016, using default parameters.

Three inclusion criteria were used in this meta-analysis. All studies were empirical research that applied the Maslach Burnout Inventory (MBI) to a sample population of police officers and measured at least one socio-demographic variable. They all included sufficient statistical information to calculate the effect size between one of the MBI dimensions and at least one of the socio-demographic variables. Finally, all publications were written in English, Spanish, Portuguese, Italian, or French because these were the languages spoken by the authors of this study.

The search was limited to the MBI because it is the most used instrument among researchers. Over 90% of studies used the MBI, according to Schaufeli and Enzmann (1998). Moreover, there is no other instrument that fit the tridimensional conceptualization better than the MBI. For example, the Oldenburg Burnout Inventory (Halbesleben & Demerouti, 2005) only measures two dimensions (exhaustion and disengagement) and the Copenhagen Burnout Inventory (Kristensen, Borritz, Villadsen & Christensen, 2005) equals the burnout syndrome to emotional exhaustion, not considering the other two dimensions.

The complete search produced 1,133 published and unpublished articles, book chapters, master theses, PhD dissertations, and conference papers. Of these documents, 213 were of potential interest, based on their title and abstract. After a more detailed reading of these studies, 43 were found to fulfill all of the inclusion criteria. More specifically, the number of studies that focused on age, sex, marital status, and number of children was 23 ($n = 6,276$), 32 ($n = 19,655$), 9 ($n = 2,659$), and 4 ($n = 1,143$), respectively. The list of included studies is available upon request to authors. It is noteworthy that although the variables were measured in most cases, only 49% of the remaining studies included sufficient statistical information to calculate an effect size (see Figure 1).
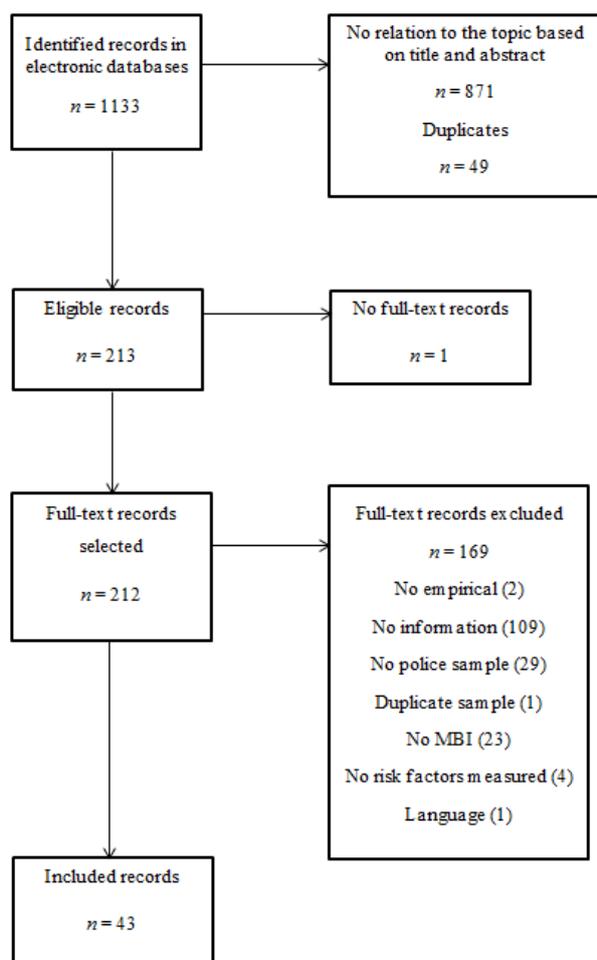
Figure 1. Flow chart of studies included in the meta-analysis.

Coding of variables and calculation of effect size

In order to analyze the variables that could be correlated with the effect sizes for each study, several substantive, methodological, and extrinsic variables of the primary studies were coded (Sánchez-Meca & Botella, 2010). For greater objectivity a codebook, available upon request, was created with the coding norms of these moderator variables.

Substantive variables were the following: (a) age (mean value and standard deviation of the age of the sample); (b) sex (percentage of males in the sample); (c) marital status (percentage of unmarried subjects); (d) children (percentage of subjects with children); (e) job seniority (mean value and standard deviation of the length of time that the subjects had been working at their current post); (f) professional experience (mean value and standard deviation of the length of time that the subjects had been working in their profession); (g) rank (percentage of subjects belonging to the lowest police rank); (h) work type (percentage of subjects who worked as patrol officers); (i) shift (percentage of subjects on a rotating shift); (j) socio-economic status (percentage of subjects of low socio-economic status); (k) education level (percent-

age of subjects with a low education level).

The methodological variables were the following: (a) sample size; (b) Cronbach's alpha coefficient of each of the MBI dimensions; (c) MBI type (1, original; 2, adaptation); (d) MBI version (1, HSS; 2, GS); (e) MBI language (1, English; 2, Spanish; 3, other); (f) number of items in each MBI dimension; (g) design (1, experimental; 2, quasi-experimental; 3, ex post facto; 4, survey; 5, observational); (h) measurement strategy (1, cross-sectional; 2, longitudinal); (i) sampling method (1, probabilistic; 2, non-probabilistic); (j) response rate.

The extrinsic variables were the following: (a) publication type (1, article included in a journal with a JCR impact factor; 2, article in a journal without a JCR impact factor; 3, Master thesis or PhD dissertation; 4, other type of document); (b) location where the study was conducted; (c) year of publication.

Correlation coefficients were used as the effect size index between each of the burnout dimensions and the socio-demographic factors of age, sex (0 = female; 1 = male), marital status (0 = not married; 1 = married), and number of children gender, this index was chosen following the recommendations by Rosenthal (1991). When bivariate Pearson correlations could not be directly obtained from primary studies, mean values, standard deviations, sample sizes, and t-values were used to estimate the effect size (Cooper, Hedges & Valentine, 2009).

The coding process was evaluated on the basis of a random sample (20%) of the meta-analyzed studies. Two independent judges, who were not directly involved in the research, were asked to code this subset. The level of coding reliability thus obtained was found to be highly satisfactory. In the case of continuous variables, the average intraclass correlation was 0.78 (minimum =.71, maximum = 1). For qualitative variables, the average Cohen's kappa was 0.84 (minimum =.78, maximum =1). When the effect size calculations were subjected to reliability analysis, they produced an average intraclass correlation coefficient of 0.85 (minimum =.76, maximum = 1) between the estimates made by the two independent judges.

Statistical analysis

For meta-analytic calculations, Pearson correlation coefficients were converted to Fisher z scores in order to improve the normality of the distributions (Cooper et al., 2009). They were then transformed back into correlation coefficients since this facilitated the interpretation of results. Normality assumption and influential cases were tested with qqplots, the Shapiro-Wilk test and Cook´s distance.

To avoid problems of statistical dependence, separate meta-analyses were performed for three of the four selected outcomes and the four MBI dimensions. Each analysis calculated the mean effect size with 95% confidence intervals, the Q test for heterogeneity, and the I^2 index (Higgins & Thompson, 2002; Huedo-Medina, Sánchez-Meca, Marín-

Martínez & Botella, 2006). When the heterogeneity was greater than expected, a moderator analysis was performed using ANOVAs for qualitative moderator variables and regression models for continuous moderator variables, all by weighted least squares (Cooper et al., 2009). Also multiple regression models were performed to test the influence of several moderators together.

For age and sex variables, a random-effects model was applied since it is generally considered to be more realistic than the fixed-effects model for this type of data (Card, 2012). In contrast, a fixed-effects model was adopted for marital status and number of children because of the scarcity of studies detected. Publication bias was assessed through Egger regression test and the rank correlation test. The statistical analyses were performed with the software applications Comprehensive Meta-Analysis 3.0 (Borenstein, Hedges, Higgins & Rothstein, 2014) and the R 3.1.1 metafor package (Viechtbauer, 2010).

Results

Distribution of effect sizes

Before analyzing the average effect sizes, an exploratory analysis was conducted in order to check normality and influential cases. Since the study of Adebayo et al. (2008) was identified as an outlier, it was not used to calculate the average correlation between Emotional Exhaustion and sex. Likewise, Briones and Boutin (2013) study was eliminated from the distribution of correlation coefficients among Emotional Exhaustion and marital status. The normality assumption was met in all datasets, except for the correlation coefficients between Personal Accomplishment and age. However, visual inspection of the data revealed a very slight departure from normality.

The first purpose of a meta-analytic study is to describe the distribution of effect sizes (see Figures 2, 3, and 4) and estimate the average effect size. The results of this study are presented for each MBI dimension: Emotional Exhaustion (EE), Depersonalization (D), and Personal Accomplishment (PA). Other complementary data (forest plots, funnel plots, correlation matrix between variables, is available upon request to the corresponding author).
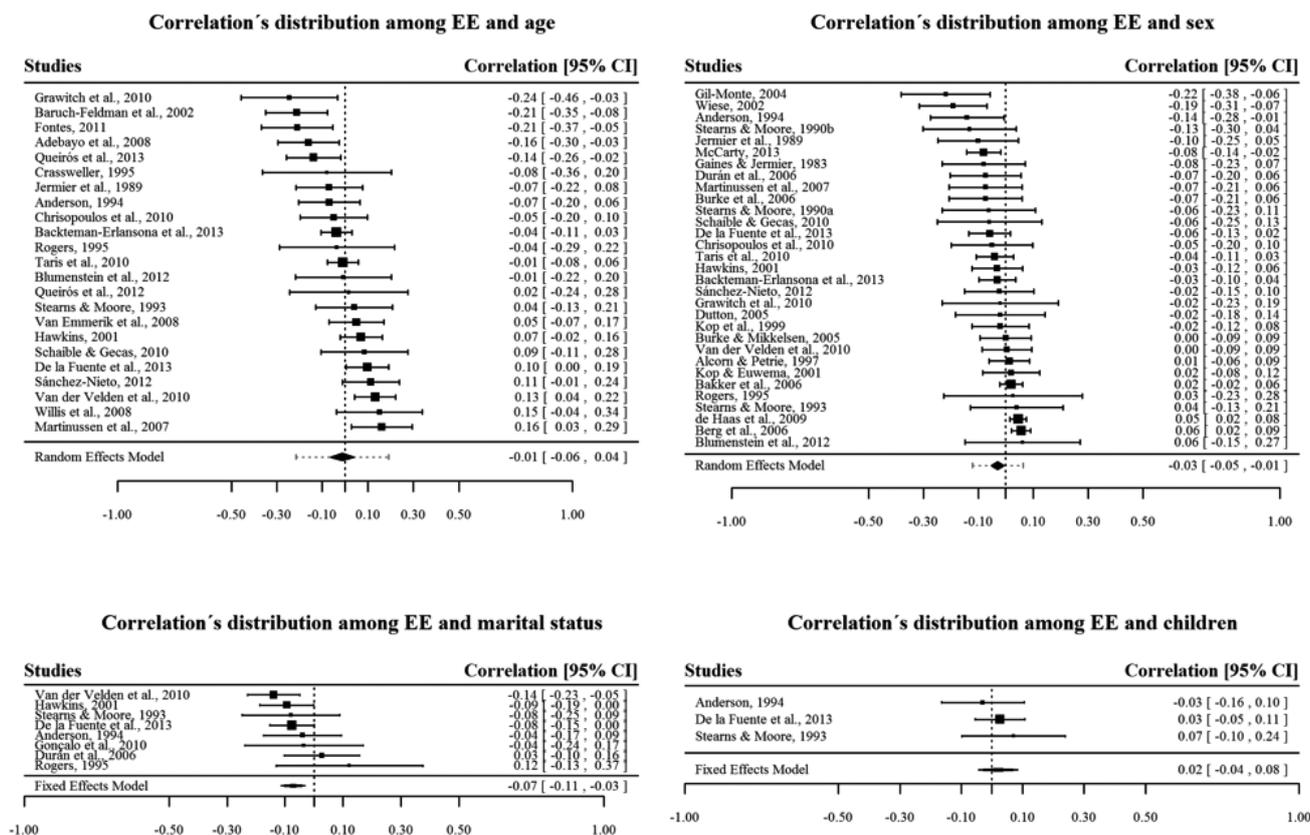

Figure 2. Forest plots of socio-demographic variables in emotional exhaustion.

Are Socio-Demographic Factors Associated to Burnout Syndrome in Police Officers? A Correlational Meta-Analysis
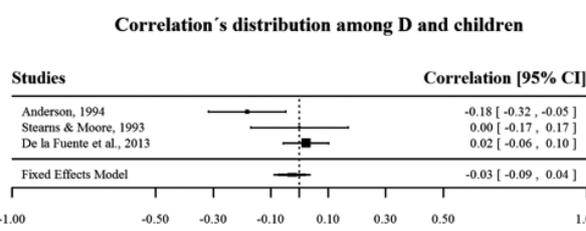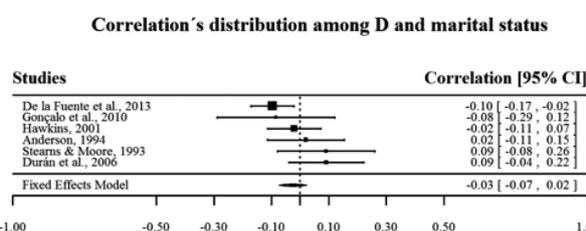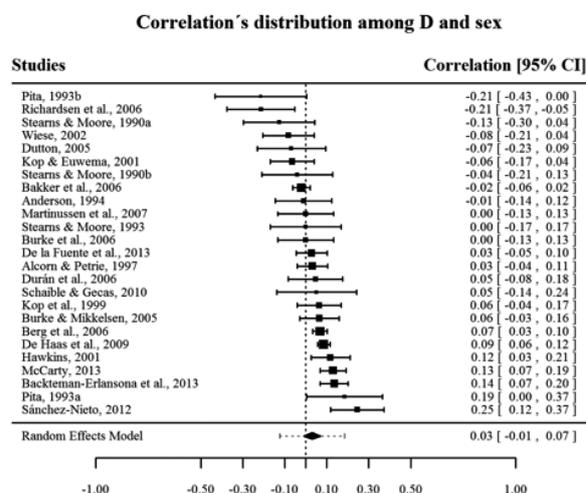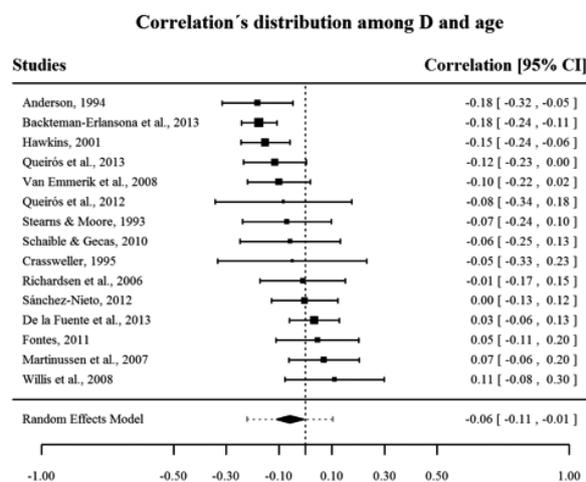
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Figure 3. Forest plots of socio-demographic variables in depersonalization.
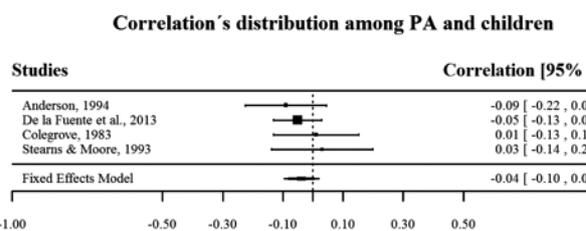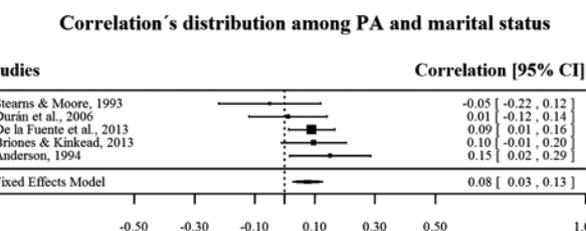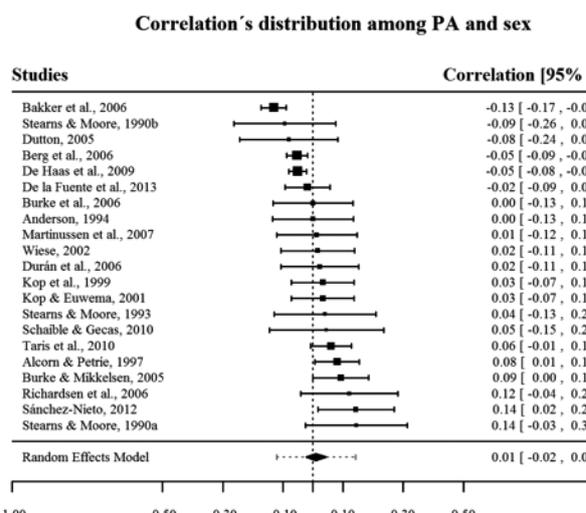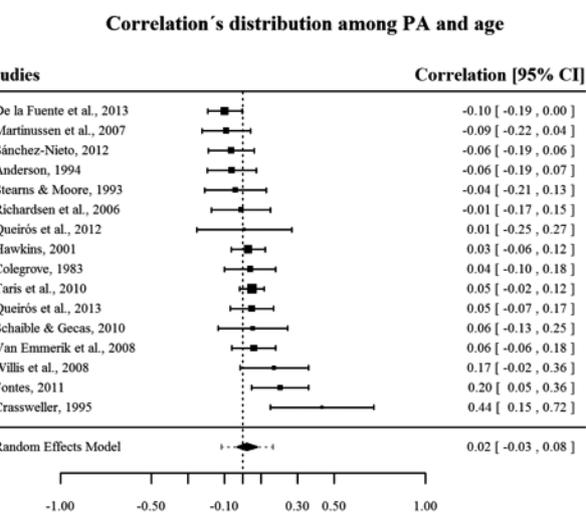

Figure 4. Forest plots of socio-demographic variables in personal accomplishment.

In regards to EE, the following mean correlation coefficients were obtained: age, -.01 (95% CI: -.06, .04; k = 23); sex, -.03 (95% CI: -.05, -.01; k = 31); marital status, -.07 (95% CI: -.11, -.03; k = 8); number of children, .02 (95% CI: -.04, .08; k = 3).

In reference to D, mean correlation coefficients were: age, -.06 (95% CI: -.11, -.01; k = 15); sex, .03 (95% CI: -.01, .07; k = 25); marital status, -.03 (95% CI: -.07, .02; k = 6); number of children, -.03 (95% CI: -.09, .04, k = 3).

In the case of PA, the mean correlations coefficients were the following: age, .02 (95% CI: -.03, .08; k = 16); sex, .01 (95% CI: -.02, .04; k = 21); marital status, .08 (95% CI: .03, .13; k = 5); number of children, -.04 (95% CI: -.10, .02, k = 4).

Based on Cohen's (1988) cut-off points, all mean effect sizes were small, and the majority of them were not statistically significant. Nevertheless, the mean correlations between EE and sex, EE and marital status, D and age, and PA and marital status were statistically significant. Despite the inclusion of unpublished studies (e.g. Master theses and PhD dissertations), publication bias was statistically tested. The Egger regression test showed statistically significant results for the effect sizes of sex and EE (p < .001), and sex and PA (p = .004). The rank correlation test was then applied, but showed no evidence of bias. These results indicated that publication bias was unlikely to seriously affect our findings.

The second purpose of a meta-analysis is to estimate the heterogeneity of the mean effect size. For marital status and number of children, the effect sizes were homogeneous, as reflected by the fact that the null hypothesis of homogeneity in the Q test was not rejected in each dimension. However,

for age and sex variables, the effect sizes were more heterogeneous than expected since statistically significant Q values (p < .05) were obtained in each dimension. For these variables, the level of heterogeneity was medium in the MBI dimensions as shown by the I^2 indexes (minimum = 46.9%, maximum = 69.8%). These results indicated the need to find moderator variables that could explain the variability of correlation coefficients for age and sex.

Analysis of moderator variables.

The final purpose of a meta-analytic study is to test various moderator variables in order to explain the observed heterogeneity. In regards to the correlation between EE and age, none of the moderator variables were found to be significant as an explanation of the variability in effect sizes. As for the correlation between EE and sex, the only significant substantive moderator was marital status (p = .022). Significant methodological moderators were sample size (p < .001), design (p = .032) and sampling method (p = .018). The only significant extrinsic moderator was location (p = .016) (see Tables 1 and 2).

Table 1. Simple weighted regression analyses of significant moderator variables on the r index for sex in Emotional Exhaustion.

Moderator variables	k	b	Q_R	Q_E	R^2
Sample size	31	0.000	29.99***	27.95	.90
Marital status	14	0.003	6.81*	20.77	.64

Note. k: number of studies; b: unstandardized regression coefficient; Q_R: statistical test of between group effects; Q_E: statistical test of homogeneity of the effect size within each group; R^2 = Proportion of total between-study variance explained; *: p < .05; ***: p < .001.

Table 2. One-way analysis of variance of significant moderator variables on the effect size for sex in Emotional Exhaustion.

Moderator variable	k	r	95% C. I.	ANOVA results	R^2
Location				$Q_B(3)$ = 4.08*	.45
North America	14	-.056	[-.095, -. 017]	$Q_W(27)$ = 38.72	
Europe	14	-.006	[-.031, .020]		
Africa	1	-.191	[-.322, -.061]		
Australia	2	-.003	[-.082, .075]		
Sampling method				$Q_B(1)$ = 6.31*	.32
Probabilistic	9	-.068	[-.108, -.027]	$Q_W(29)$ = 46.02*	
Non probabilistic	22	-.009	[-.034, .016]		
Design				$Q_B(2)$ = 3.89*	.28
Surveys	7	-.092	[-.146, -.039]	$Q_B(28)$ = 45.81*	
Ex post facto	23	.014	[-.038, .010]	$Q_W(28)$ = 45.81*	
Quasi-Experimental	1	.004	[-.104, .113]		

Note. k: number of studies; r: mean effect size; Q_B: between-categories Q statistic; Q_W: within-categories Q statistic; R^2 = Proportion of total between-study variance explained; *: p < .05.

Regarding the correlation between D and age, two substantive moderators were significant: rank (p = .035) and the SD of professional experience (p = .014). In contrast, none of the methodological neither extrinsic moderators were found to be significant. In reference to the correlation between D and sex, the only statistically significant variable was the extrinsic moderator year (p = .023) (see Table 3).

In the correlation between PA and age, none of the moderator variables were statistically significant. In the correlation between PA and sex, the two significant moderator were the SD of professional experience (p = .033) and sample size (p < .001) (see Table 4).

Table 3. Simple weighted regression analyses of significant continuous moderator variables on the r index for age and sex in Depersonalisation.

Variable/ Moderator variable	k	b	Q_R	Q_E	R^2
Age					
Rank	5	0.003	13.35*	0.97	.99
SD of professional experience	6	0.078	17.59*	2.11	.99
Sex					
Year	14	0.007	6.02*	56.21***	.43

Note. k: number of studies; *b*: unstandardized regression coefficient; Q_R: statistical test of between group effects; Q_E: statistical test of homogeneity of the effect size within each group; R^2 = Proportion of total between-study variance explained; *: $p < .05$; $p < .001$.

Table 4. Simple weighted regression analyses of significant continuous moderator variables on the r index for sex in Personal Accomplishment.

Moderator variable	k	b	Q_R	Q_E	R^2
Sample size	21	-0.000	9.53**	46.65***	.42
SD professional experience	8	-0.056	7.267*	8.76	.71

Note. k: number of studies; *b*: unstandardized regression coefficient; Q_R: statistical test of between group effects; Q_E: statistical test of homogeneity of the effect size within each group; R^2 = Proportion of total between-study variance explained; *: $p < .05$, **: $p < .01$ ***: $p < .001$.

Finally, multiple regression analysis were used to obtain explanatory models of effect size variation in those relations between some of the burnout dimensions and the moderating variables that were statistically significant in the previous analysis (Sánchez-Meca & Botella, 2010). In order to test the effect of substantive variables on mean correlations controlling for methodological and extrinsic variables, a forward stepwise procedure was followed. Thus, methodological or extrinsic moderators were introduced into a first block, and the substantive moderators were then introduced into a second block. Differences among the methodological and the substantive blocks were tested trough analysis of variance. This analysis was performed only in those cases where the number of studies was sufficient to permit the application of statistical techniques.

A hierarchical regression model was thus obtained that predicted the variability of effect sizes in the correlation between EE and sex. In this case, the predictor variables were marital status and sample size. The model was significant [Q_M (2) = 16.57, $p < .001$, $R^2 = .99$, $k = 14$], yielding marital status a significant increment in the explained variance of the model ($F(1,11) = 5.51$, $p = .039$, $\Delta R^2 = .12$) . In the correlation between PA and sex, a model was also formulated. In this case, the predictor variables were standard deviation of professional experience and sample size. It was also significant [Q_M (2) = 15.79, $p = .007$, $R^2 = .99$], although the substantive variable did not reach the statistical significance.

Discussion

The main objective of this meta-analysis was to calculate the central tendency of the correlations between the three MBI dimensions and a set of socio-demographic variables that can potentially lead to the development of burnout syndrome in police officers. The results obtained in our study showed that younger police officers were slightly more prone to depersonalization than older officers. Female officers were slightly more susceptible to emotional exhaustion. Officers in a sentimental relationship tended to feel more emotionally exhausted, but they had a greater sense of personal achievement. Finally, there were no significant differences between officers with more or less children.

Based on the results of this study, these four socio-demographic variables can be dismissed as risk factors for burnout syndrome in police officers since the mean effect sizes were small (Cohen, 1988). The generalization of these results depends on the statistical model used in the analysis. More specifically, in the case of marital status and number of children, the number of studies was too small to generalize the results. However, in the case of the age and sex, the results can be extended to the population since a random-effects model was used (Card, 2012).

The influence of different moderator variables was analyzed in age and sex variables because of medium level of heterogeneity of the correlations (Higgins & Thompson, 2002). The correlation between EE and sex was moderated by marital status, which became higher as the percentage of subjects with a partner increased. This result indicates that being in a relationship can protect male officers from emotional exhaustion. Nevertheless, in the case of female officers, it constitutes a risk factor (Maslach, Schaufeli & Leiter, 2001). As previously mentioned by other authors (Durán, Montalbán & Stangeland, 2006), working women are also usually responsible for household tasks and so this result reflects the evident difficulty of reconciling home and family obligations with those at the workplace.

Of the methodological moderators, sample size moderated the correlation between EE and sex. This means that the larger the sample size, the higher the correlation. In addition, this correlation was also moderated by the sampling method. More specifically, in those studies based on probability sampling, the correlations were negative and significant, whereas in those that used non-probability sampling, the correlations were non-significant. The location where the research was carried out was the only significant extrinsic moderator. The fact that only one study was performed in Africa (Wiese, 2002) produced the greatest difference in regards to the mean correlation. Of these variables, sample size and marital status were relevant to the multivariate analysis since they explained much of the variability of the effect sizes of the correlation between EE and sex.

The correlation between D and age was moderated by the rank of police officers and the standard deviation of professional experience. In this sense, the correlation became higher as the percentage of officers of the lowest rank increased. This result is in consonance with the idea that novice police officers are exposed to a wide range of potential stressors (Backteman-Erlanson et al., 2012). In the case of SD of professional experience, the correlation became stronger as the variability increased.

The correlation between D and sex was moderated only by the extrinsic moderator year of article publication. This

correlation was stronger as the articles were published more recently. Hence, it is more likely to find higher correlation among D and sex in articles published recently than in past years.

Finally, the moderators of the correlation between PA and sex were the standard deviation of professional experience and sample size. In this case, as the variability in professional experience and sample size decreased, the correlation was higher.

The analysis of moderators shows that marital status and police rank may have an indirect impact on the appearance of the burnout syndrome. Accordingly, they can act as moderators of the correlations between sex and emotional exhaustion, in the first case, and between age and depersonalization, in the second case. In other words, being in a relationship and belonging to the lowest rank may contribute in different ways to the development of the burnout symptoms, depending on sex and age. This risk profile is similar to that found in other research studies (Adebayo et al., 2008).

Moreover, the correlations between MBI dimensions and age and sex can vary depending on methodological variables such as sample size, sampling method, research design, variability of variables, and location where the study were conducted. These results confirm those found in other studies, which indicate that with the MBI, different conclusions can be obtained, depending on these methodological variables (e.g., Aguayo, Vargas, De la Fuente & Lozano 2011; Vargas, Cañadas, Aguayo, Fernández & De la Fuente, 2014).

Our research has also led to a series of reflections on the nature and difficulties that can arise in meta-analytical research. Firstly, certain limitations should be taken into account when interpreting the results of this study. On the one hand, the results pertaining to the correlation between MBI dimensions and marital status and number of children were obtained with a fixed-effects model and thus cannot be generalized. On the other hand, some of the variables included in the analysis of moderators only appeared in a few of the studies. For this reason, the results of the moderator analyses with a small number of studies should be regarded as tentative, pending the appearance of new publications with more information on the topic. This is especially important to consider in relation to some variables, such as work type, shift, and rank that may lead to different burnout levels depending on the degree of danger which police officers have to face.

Secondly, in this field, there is a certain scarcity of usable data. Despite the number of studies that focus on socio-demographic variables in relation to burnout syndrome, all too often, these studies do not include any descriptive statistical data. This makes it impossible to calculate the effect size of the correlation between socio-demographic variables and burnout dimensions. For example, it was found that over half of the studies in our meta-analysis lacked this type of information. Unfortunately, this perpetuates the reigning confusion concerning socio-demographic variables and their possible status as risk factors of burnout syndrome.

An interesting question would be whether researchers and journal editors could work together to promote the inclusion of this type of data. Although the analysis of publication bias indicated that this is not a serious threat to the validity of the results of our study, a wider access to statistical information would have greatly facilitated and enhanced the results of our research. In this sense, there are several tools (e.g. websites created by educational institutions, research groups, and authors) that disseminate information and which are not subject to the restrictions of space in scientific journals.

Thirdly, when performing a meta-analysis on burnout syndrome, there are certain methodological moderators (e.g., sample size, sampling method, research design, variability of scores) that, against all logic, seem to be the source of heterogeneity in this area and which could also be those that are responsible for prolonging the ongoing controversy regarding the results in this field. It would be desirable to pay greater attention to those methodological aspects that tend to generate "noise" when studying relevant effect sizes.

Finally, sex and particularly age do not appear to be risk factors for burnout syndrome in police officers. Possibly, the nature of police work and the stressors that officers (especially those of the lowest rank) face in daily work cause that the socio-demographic factors be irrelevant to the development of burnout. In this sense, future research should explore the relations between burnout dimensions and work conditions, such as officer unit, rank, job seniority, professional experience, and shift type. It would be also necessary to analyze the differences in police officers from different countries since the stressors they have to face could vary substantially, although the scarcity of primary studies may be problematic.

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