

Psychological contract breach and outcomes: Combining meta-analysis and structural equation models

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In this study, meta-analytic procedures were used to examine the relationships between psychological contract perceived breach and certain outcome variables, such as organizational commitment, job satisfaction and organizational citizenship behaviours (OCB). Our review of the literature generated 41 independent samples in which perceived breach was used as a predictor of these personal and organizational outcomes. A medium effect size (ES) for desirable outcomes (job satisfaction, organizational commitment, organizational trust, OCB and performance) was obtained ($r = -.35$). For undesirable outcomes (neglect in role duties and intention to leave), ES were also medium ($r = .31$). When comparing attitudinal (job satisfaction, organizational commitment, organizational trust) and behavioural outcomes (OCB, neglect in role duties and performance), a stronger ES was found for attitudinal ($r = -.24$) than for behavioural outcomes ($r = -.11$). Potential moderator variables were examined, and it was found that they explained only a percentage of variability of primary studies. Structural equation analysis of the pooled meta-analytical correlation matrix indicated that the relationships of perceived breach with satisfaction, OCB, intention to leave and performance are fully mediated by organizational trust and commitment. Results are discussed in order to suggest theoretical and empirical implications.

Ruptura de contrato psicológico: combinando meta-análisis y modelos de ecuaciones estructurales.
En este estudio, los procedimientos meta-analíticos se usan para examinar las relaciones entre la percepción de ruptura de contrato psicológico y ciertas variables de resultados, como el compromiso organizacional, la satisfacción laboral y las conductas de ciudadanía organizacional (OCB). Nuestra revisión de la literatura generó 41 muestras independientes. Un tamaño del efecto (ES) medio se obtuvo para los resultados deseables (satisfacción laboral, compromiso organizacional, confianza en la organización, OCB y rendimiento ($r = -.35$). Para los resultados indeseables (negligencia en las tareas del puesto e intención de abandono), el ES fue también medio ($r = .31$). Cuando se comparan los resultados actitudinales (satisfacción, compromiso organizacional y confianza) y los conductuales (OCB, negligencia en las tareas y rendimiento), un ES más fuerte se encuentra para los actitudinales ($r = -.24$) que para los conductuales ($r = -.11$). El análisis de ecuaciones estructurales de la matriz conjunta de correlaciones meta-analítica indica que las relaciones de la ruptura de contrato con la satisfacción laboral, las conductas de ciudadanía, la intención de abandono y el rendimiento están totalmente mediadas por la confianza organizacional y el compromiso. Los resultados se discuten en orden a la sugerencia de implicaciones teóricas y aplicadas.

Psychological contract perceived breach (PCB) has become a prominent factor in the empirical research of organizational psychology, and has been used to predict a broad range of individual and organizational outcome variables. However, not all results are consistent, nor do they show relationships in the same direction, as there are important variations both in the size and in the sign of the relationships between PCB and the attitudes and behaviours of the people exposed to them.

The number of empirical studies attempting to evaluate the existence of PCB has increased steadily during the last few years. Nevertheless, no quantitative review has been conducted to assess the strength and generalizability of these relationships. Our research attempts to fill this gap using meta-analytic techniques to summarize the relationships between PCB and important outcome variables.

The absence of previous meta-analyses is not the only reason for concern. There is the additional issue of the overall evaluation of the effect size (ES) of PCB. This issue has not been dealt with in the literature. Moreover, based on the fruitful results of meta-analysis obtained in many research domains (Topa, Depolo, & Morales, 2007), it can be beneficial to use meta-analytic techniques and SEM (Structural equation modelling) in testing causal models, such as some authors suggested (Viswesvaran & Ones, 1995; Cheung & Chan, 2005). In this study, meta-analytic

structural equation modelling, involving the techniques of synthesizing correlation matrices and fitting SEM will be used in order to arrive at a more complex model involving all the relationships included in primary studies. We hope that this review will provide suggestions for future empirical research, specifically, in matters regarding the influence of the methodological characteristics of the studies on results.

Perceived breach and outcome variables

Psychological contract was initially defined as a set of a person's individual beliefs regarding the reciprocal obligations and benefits established in an exchange relationship (Rousseau, 1995). The key concept within psychological contract theory is perceived contract breach or PCB. PCB is a subjective experience referring to perception by one of the parties to the contract that the other has failed to adequately fulfil promised obligations (Robinson, 1996). It is based on an evaluation by one of the parties in the exchange relationship regarding what the other party had promised and what was ultimately received. It is important to point out that it goes well beyond a mere breach of expected rewards. In fact, its influence extends to the more general beliefs held by the person with respect to the organization and determines his/her trust in his/her employer and the perceived justice in the employment relationship.

Empirical studies succeeded in showing that PCB plays a crucial role in the field of employment relations and that it exerts a negative influence on employee's attitudes and behaviours. Among the most frequently used outcomes are: job satisfaction and organizational commitment (Coyle-Shapiro & Kessler, 2002; Guglielmi, 2003; Mc Donald & Makin, 2000; Porter, Pearce, Tripoli, & Kristi, 1998; Cassar 2001; Lester, Turnley, Bloodgood, & Bolino, 2002, Topa & Morales, 2005a, 2005b, 2005c; Topa, Palací, & Morales, 2004), intention to leave and OCB (Lester & Kickul, 2000; Coyle-Shapiro, 2002), and job performance (Bunderson, 2001). Some studies additionally explored the role of organizational trust (Robinson, 1996; Gracia, Silla, Peiró, & Fortes-Ferreira, 2006).

Greatest discrepancies appeared in the relationship between PCB and these outcomes, specifically performance. These relationships varied dramatically as a function of the kind of breach, dimensions of PCB taken into account and participants' hierarchical level.

Exploring consequences from PCB, several authors have considered three employee's courses of action, namely, exit, voice and neglect. Again, not all the findings confirm the theoretical expectations, since the relationships varied as a function of PCB dimensions (Turnley & Feldman, 1999, 2000; Kickul & Lester, 2001).

Given the complex nature of PCB, the most likely factors affecting estimations will have to do with specific characteristics of the employment relationship. There is accumulating evidence that demographic variables affect the coding of information during the construction of the psychological contract (Rousseau, 1995; Turnley & Feldman, 1999). Furthermore, similar discrepancies between promises and fulfilment would be differently interpreted as a function of the employee's age group, older workers being more concerned about job security and younger ones about training and development. The perception of breach may differ according to occupational categories. Some authors (Hallier &

James, 1997) have pointed out managers will tend to perceive both breach and fulfilment differently from workers not involved in managerial occupations. Moreover, the psychological contract develops gradually over the process of organizational socialization, explaining why one of its key features is the *time frame*. Conway and Briner (2002) acknowledge the importance of the duration of the employment relationship (limited/short term or open ended/long term) and advance theoretical reasons for the differences in psychological contracts among part-time and full-time employees, finding that the latter show greater positive affection and job satisfaction.

Regarding type of company, we must say that there is scarce research on PCB in the public sector, perhaps because the public sector has often been regarded as stable and unaffected by change, and as a job-protected environment in which rigid formal structures have frequently served to keep the organization safe from more modern Human Resource Management practices (Cassar, 2001). The current meta-analytic study will attempt to determine the extent to which these assumptions are valid, asking specifically whether company characteristics or terms of contract can influence the relationship between PCB and outcome variables.

It seems likely that relationships between PCB and criterion variables will differ significantly according to the quality of the studies included. To summarize, the analysis of the available evidence also reveals that the relationship between PCB and outcomes, far from being consistent, varies as a function of the sample and occupational characteristics. Regarding our SEM analysis, and since attitudes would be more proximal to PCB than behavior, we hypothesize that relationships between PCB and outcomes will be mediated by organizational trust and organizational commitment.

In summary, the results reviewed up to this point seem to justify the conclusion that important discrepancies exist concerning the relationship between PCB and attitudes and behaviour, and that such discrepancies deserve a closer scrutiny. A first set of hypotheses, based on the literature review, will serve to guide our efforts in the pursuit of this goal.

- 1) There will be a negative relationship of PCB with employee attitudes (e. g.: job satisfaction, organizational commitment and trust), and a positive one with intention to leave.
- 2) There will be a negative relationship of PCB with desirable employees' behaviours (e.g.: OCB, job performance) and a positive one with undesirable ones (e.g.: neglect in role duties).
- 3) There will a stronger relationship of PCB with attitudes than with behaviours.

Our second set of hypotheses regarding moderator variables, are presented below:

- 4) A public sector employment, entailing often greater job security than a private one, will generate greater ES in OCB, neglect and performance of public employees (as compared to private ones).
- 5) Contingent employment is assumed to entail a more transactional relationship, therefore the lowest impact of PCB on attitudes (e. g.: commitment, satisfaction and trust) will be found for contingent employees.

6) Managers, by virtue of their higher qualification and knowledge, will show stronger effect of PCB on both attitudes and behaviours.

Our hypotheses are synthesized in figure 1.

Method

Database

To locate the relevant studies we carried out: a) computer searches (PsycINFO, Academic Search Premier, Business Source Premier, Dissertation Abstracts and EconLite) with keywords «psychological contract breach», «psychological contract violation», «perceived breach»; b) descendent searches and c) informal e-mail enquiry to other researchers in the target area. We tried to locate studies written in English, Spanish, French and Italian languages, which were conducted between 1995 and 2005.

To be included in the meta-analysis, studies needed to fulfil three criteria:

- 1) To include at least one measure of PCB.
- 2) To include at least one measure of attitudinal or behavioural outcome variables.
- 3) To provide sufficient information to allow the calculation of the ES.

Our search yielded 38 studies (41 independent samples, 109 ES) with 23378 participants.

Coding

Three higher order moderator variables were examined. *Substantive variables* included: age, gender (percentage of male in the sample), organizational tenure, type of work contract, occupation and type of company. *Methodological variables* included type of study (longitudinal vs. cross-sectional), data collection procedure, sample size, reliability of PCB (Cronbach's alpha) and quality of the studies, coded with an *ad hoc* scale created as suggested (Wortman, 1994).¹ The later characteristic has been operationalized taking into account the most common features of the studies in this area (i. e.: random sample, standardized questionnaires, exploratory and confirmatory factorial analysis) according to Wortman (1994). *Extrinsic variables* included whether or not the study was published, year of publication, and origin of the sample.

A reliability study for coding was carried out, in which two researchers codified independently a sample of studies. They reached an agreement level of $r = .87$ (Pearson correlation). Minor disagreements were solved by consensus (Lipsey & Wilson, 2001).

Selection and calculation of the ES

The ES in this meta-analysis was r (Pearson correlation coefficient), adjusted as a function of the reliability of PCB. Most (78%) of the studies included in our meta-analysis contained internal consistency measurements for PCB. In seven individual studies the reliability of this variable was lacking, and it was replaced by the overall mean reliability ($\alpha = .75$). The parallel

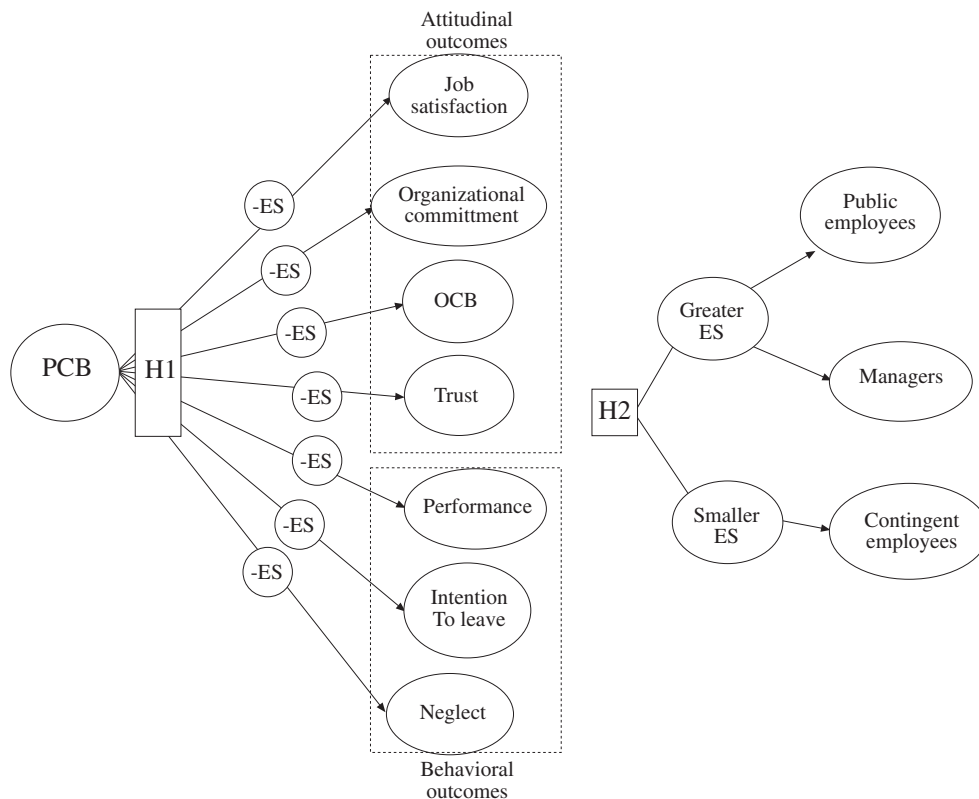


Figure 1. Proposed model of hypotheses

adjustment of the outcome measures was not possible, since their reliability was not reported in most studies. A single ES was considered per study, with two exceptions, in which the ES corresponded to different samples (Lester et al., 2002; Guglielmi, 2003). Homogeneity analyses were carried out with *Q* statistics. Finally we analyzed the influence of moderator variables using a categorical model (ANOVA analogous) and weighted regression analysis (fixed effects model) with the macros for SPSS 11 (Lipsey & Wilson, 2001). Our decision has been based on the fact that fixed-effects models are reasonable in meta-analytic SEM when categorical moderators would be used to classify the correlation matrices into homogeneous subgroups. Such as Cheung and Chang stated, it is possible that a model could fit well in all individual studies while the parameter estimates may actually differ across studies (2005, 61). Moreover, the statistical development of random effects in SEM is still limited (Cheung and Chan, 2005).

Regarding publication bias, Fail- safe N values are provided in Table 2. We submit, therefore, that our meta-analyses are free of publication bias. They include unpublished research and achieve fail- safe N values, which would be difficult to obtain given the scarcity of published empirical studies about PCB.

SEM analyses

To test a more complex model including all the variables, we performed a path analysis using the approach proposed by Viswesvaran and Ones (1995). It was conducted using the uncorrected pooled matrix correlation (maximum likelihood estimation). The harmonic mean of the sample size comprising each entry of the correlation matrix (N= 185) was used. Constructs were treated as single-item indicators in specifying our structural models.

Results

Descriptive analysis of the studies

The primary studies were conducted between 1995 and 2005 on USA samples (57.5 per cent), European, (mainly Italian and

Spanish samples, 26 %) and South eastern Asiatic samples (15 %), representing public (27.5 %) and private organizations (54.1 %). Employees' categories were managerial (25 %), non – managerial (38%) and 37% presented a mixture of occupational categories. Data were collected by mail (31%), survey at workplace (59.8%) and via Internet (9.2%). Mean age of the sample was 35.28 (S.D.: 5.27) and mean organizational tenure was 7.09 (S.D.: 4.26). Table I provides detailed information.

Average ES

Overall average ES are presented in table 2. In our first set of global analyses a medium ES for desirable outcomes (job satisfaction, organizational commitment, organizational trust, OCB and performance) was obtained. For undesirable outcomes (neglect in role duties and intention to leave), both ES were also medium. In the second set of analyses comparing attitudinal (job satisfaction, organizational commitment, organizational trust) and behavioural outcomes (OCB, neglect in role duties and performance), a stronger ES was found for attitudinal than for behavioural outcomes.

Potential moderator variables

The *Q* test was significant for all sets of analyses showing clear heterogeneity of ES. The Analogous to the ANOVA tests the ability of a categorical variable to explain the excess effect size variability. This procedure partitions the total variability into the portion explained by the categorical variable (Q_B) and the residual or remaining portion (Q_W), such as Lipsey and Wilson explained (2001).

Applying ANOVA analogous analysis on OCB, Q_B was significant for the analyses with type of contract, occupational categories and type of company. On organizational commitment, analyses considering origin of the sample revealed significant Q_B , while those regarding work contract, occupational categories and type of company, did not.

On job satisfaction, Q_B was significant for analyses taking into account type of contract, occupational categories, type of company and origin of the samples.

On job performance, Q_B was statistically significant for analyses regarding type of contract and origin of the sample, since when types of company or occupational categories are taken into account did not.

Regarding organizational trust, type of employment contract takes into account the overall variability, while in analyses regarding type of company, occupational categories and origin of the sample, Q_W still reaches a statistically significant value.

On intention to leave, we found significant Q_B regarding type of contract, occupational categories and type of company. Regarding neglect in role duties, categorical models regarding occupational categories and type of company seem to take overall variability into account, but results of this analysis are weak and should be interpreted with caution.

Weighted regression analysis

A weighted regression analysis showed that the R-square value was larger for the analysis on attitudinal outcomes ($R^2= .18$) than for behavioural ones ($R^2= .08$), and for undesirable outcomes ($R^2=$

Table 1
Sample characteristics: percentages

Variable	Categories	Percentage
Work contract	Unspecified	63.9%
	Permanent	30.6%
	Temporary	5.6%
Occupational categories	Managers	25%
	No managers	38%
	Mixed	37%
Type of company	Public	27.5%
	Private	54.1%
	Unspecified	7.3%
Collection data procedure	Mail	31%
	Survey at workplace	59.8%
	Internet	9.2%
Origin of sample	North America	57.5%
	Europe	26.4%
	South-east Asia	15.1%

Table 2
Average weighted ES and C.I. of each meta-analysis

Outcomes	k	N total	r (1)	S.D. r(1)	r (2)	S.D. r(2)	95% C.I.		Q (d.f.)	Fail Safe N
							Li	Ls		
Desirable outcomes	89	13299	-.32	.22	-.35	.31	-.37	-.34	1408,18 (88)**	32
Undesirable outcomes	20	5243	.28	.13	.31	.23	.29	.34	274.31(19)**	9
Attitudinal outcomes	70	13600	-.21	.42	-.24	.48	-.26	-.22	2568.66(69)**	41
Behavioural outcomes	39	9778	-.10	.28	-.11	.31	-.13	-.09	788,89(38)**	31
OCB	17	4542	-.29	.19	-.32	.23	-.35	-.29	187.63 (16)**	27
Organizational commitment	19	2984	-.36	.26	-.40	.29	-.43	-.36	213.58 (18)**	16
Job satisfaction	23	4395	-.38	.28	-.43	.33	-.45	-.40	393.42 (22)**	40
Performance	16	3061	-.07	.18	-.08	.20	-.12	-.04	105.00 (15)**	18
Organizational trust	16	2591	-.46	.23	-.51	.29	-.55	-.48	173.66 (15)**	31
Intention to leave	15	4085	.30	.24	.33	.27	.30	.36	246.95 (14)**	6
Neglect	7	2521	.21	.16	.26	.12	.22	.30	30.34 (6)**	4

k= number of correlations. (1) weighted uncorrected (2) weighted corrected ***p*<.001

Table 3
Corrected ES for outcome variables and categories

Variables	Work contract			Occupational categories			Type of company			Origin of sample		
	Unspecified	Non - contingent	Contingent	Managers	Non managers	Mixed	Public	Private	Unspecified	North America	Europe	South-east Asia
OCB	QB= 33.06 (2)** QW= 154.56 (14) **			QB= 52.27 (2) ** QW= 135.34 (14) **			QB= 76.56 (2) ** QW= 111.05 (13) **			QB= 15.59 (2) QW= 165.90(13)**		
	-.36	-.13	-.41	-.38	-.38	-.12	-.34	-.16	-.33	-.34	-.31	-.12
Organizational commitment	QB= .03 (2) QW= 211.53 (15) **			QB= 3.18 (2) QW= 208.37 (15) **			QB= 8.80 (2) QW= 202.74 (15) **			QB= 36.19 (2) ** QW= 178.84 (15) **		
	-.45	-.40	-.41	-.36	-.42	-.42	-.42	-.36	-.55	-.50	-.25	-.38
Job satisfaction	QB= 22.08 (2) ** QW= 370.55 (19) **			QB= 17.21 (2)** QW= 375.42 (19) **			QB= 37.01 (2) ** QW= 356.40 (19) **			QB= 94.59 (2) * QW= 298.83 (19) **		
	-.47	-.31	-.46	-.45	-.48	-.34	-.35	-.38	-.53	-.48	-.32	-.03
Job performance	QB= 9.59 (2) ** QW= 95.42 (13) **			QB= 3.79 (2) QW= 101.22 (13)**			QB= 5.87 (2)* QW= 99.14 (13) **			QB= 21.00 (2) ** QW= 82.78 (12)**		
	-.13	-.04	.13	-.14	-.09	-.04	-.18	-.06	-.04	-.11	.11	.25
Organizational Trust	QB= 49.30 (2)** QW= 124.36 (13)			QB= 105.71 (2) ** QW= 67.96 (13) **			QB= 3.86 (2) QW= 169.80 (13) **			QB= 19.97 (2) ** QW= 153.69 (13) **		
	-.59	-.35	-.60	-.28	-.60	-.67	-.49	-.53	-.60	-.52	-.59	-.39
Intention to leave	QB= 2.77 (1) * QW= 243.75 (12) **			QB= 14.92 (2)** QW= 231.61 (11) **			QB= 72.44 (2)* QW= 174.08 (11) **			QB= 73.17 (2) QW=171.36(10)**		
	.35	.28		.34	.38	.21	.25	.29	.43	.40	.33	.02
Neglect				QB= 16.96 (2)** QW= 13.38 (4)			QB= 20.59 (2) ** QW= 9.75 (4) *					
				.20	.25	.49	.63	.24	.39			

***p*<.001; **p*<.05

.60) than for desirable ones ($R^2 = .04$). In all of those analyses, both Q_R and Q_E were significant, as showed Table IV.

Quality of studies has a stronger β value for undesirable, desirable, attitudinal and behavioural outcomes. In the meta-analysis of OCB, the variance explained by the continuous model was .29, and the best predictors were tenure and gender. Regarding organizational commitment, a sizeable amount of variance is left unexplained by the model. Tenure was again the best predictor ($\beta = .36$).

As regards job satisfaction, including tenure, age, gender and studies' quality, R^2 was to .24. When the outcome was perceived performance, the R^2 of the continuous variables was 15 per cent. Sample gender composition was the only significant predictor in this model. In the trust meta-analysis, continuous models explain a large percentage of variance (59%). Finally, in the meta-analysis of intention to leave, quality, gender and age explained a large amount of the variance (85 per cent), although the Q_E was still significant.

SEM analyses

Meta-analytic structural equation modelling, which involves the techniques of synthesizing correlation matrices and fitting SEM, is usually done by applying meta-analytic techniques on a series of correlation matrices to create a pooled correlation matrix, which can then be analyzed using SEM, such suggested Viswesvaran and Ones (1995). However, these procedures have received some criticisms by Becker (1992) and more recently by Cheung and Chan (2005). Despite some problems, the major advantage of the univariate approaches is their ease of application in applied contexts. Moreover, based on their findings, Cheung and Chan (2005, 59) stated that the pooled correlation matrices were generally unbiased, and that the Type I error for homogeneity testing were also well controlled for the univariate approaches. Based on these recommendations, we used Viswesvaran and Ones procedure to test the effects of PCB on outcomes, estimating a series of structural models and comparing them by examining the model fit statistics. The analysis of the modification indexes allowed us to improve the model fit to the data. In order to determine whether the relationships PCB – outcome variables were mediated by trust and commitment, an initial model was

estimated (figure 2). The model did not fit the data reasonably well, as indicated by both the CFI and the RMSEA values [χ^2 (d.f.)= 73.96 (16) $p < .001$, $\chi^2/d.f. = 4.62$, GFI= .91, AGFI= .80, CFI= .88, RMSEA= .14]. The examination of the modification indexes led us to include additional paths linking trust and commitment (a in), neglect with job satisfaction (b), job satisfaction with performance (c) and job satisfaction with intention to leave (d). These changes improved the model fit to the data [χ^2 (d.f.)= 18.93 (12) $p < .10$, $\chi^2/d.f. = 1.58$, GFI= .98, AGFI= .93, CFI= .99, RMSEA= .05]. Standardized estimates for the final model are presented in Figure 3, showing that the percentage of variance accounted for criterion variables is acceptable, except in the case of neglect in role duties.

Discussion

In our overall meta-analyses on relationships PCB – outcome variables, we found that all the relationships follow the expected directions and achieve a large or medium ES, providing global support to our hypothesis. Briefly stated, the impact of breach on attitudinal outcomes seems to be stronger than the impact on behavioural outcomes. Why was it so? One possible reason is that attitudes seem to be more proximal to PCB than behaviours. Along this line, Rousseau (1995) has described breach involving feelings of betrayal and deeper psychological distress, whereby the victim experiences anger, resentment, a sense of injustice and wrongful harm. Other reason is that the relationship between PCB and behavior would be mediated by behavioral intentions, such as Theory of Planned Behavior suggested. In this sense, these indirect relationships would be weaker than those direct, which link PCB and attitudinal outcome variables.

Another related factor is the issue of visibility. It is up to employees to decide the way to express their disappointment with the fulfilment of the promises made by their employers. In other words, not all the available expressions are equally visible for the employer, so we can expect a greatest impact of breach on more subtle outcomes (attitudes), and a lesser impact on blatant outcomes (behaviours).

Considering in more detail the ES obtained in the analyses of each criterion variable, an increase of ES from OCB to performance could be observed, including a medium level ES for neglect. Each category consists of behaviours that differ in how obligatory they are within the employment relationship. Typically, an employment agreement demands from the employee a certain level of performance, besides, the absence of negligent behaviours is taken for granted. However, loyalty, participation and other OCB, by no means can be taken for granted. Then, the more obligatory a behaviour, the less likely it will show breach impact. It should be noticed; however, that this process can be moderated by the type of company in which the working activity is carried out (Cassar, 2001). Thus future research on behavioural consequences of breach should examine these relationships in more detail in order to elucidate the different processes through which breach affects various work outcomes.

Regarding the second set of hypotheses, they were only partially confirmed. In fact, in the meta-analyses on OCB, neglect and performance, the greatest ES appeared in public companies, which confirmed our fourth hypothesis. These ES may be due to the fact that there is little tolerance in private companies for decreases in performance, while in public companies, especially

Table 4
Multiple regressions weighted on outcomes

Outcomes	Q_R (d.f.)	Q_E (d.f.)	R^2
Desirable outcomes	43.79 (4)**	965.37 (58)**	.04
Undesirable outcomes	156.39 (4)**	105.48 (10)**	.60
Attitudinal outcomes	321.11 (4)**	1447.62 (39)**	.18
Behavioral outcomes	35.23 (4)**	385.71 (24)**	.08
Organizational citizenship behaviour	50.02 (4)**	120.92 (9)**	.29
Organizational commitment	11.78(4)*	120.14(7)**	.09
Job satisfaction	42.88 (4)**	133.35 (8)**	.24
Perceived performance	14.56 (4)	85.85 (9)	.15
Organizational trust	97.56(4)**	66.76(6)**	.59
Intention to leave	201.53 (4)**	34.19 (4)	.85

** $p < .001$; * $p < .05$

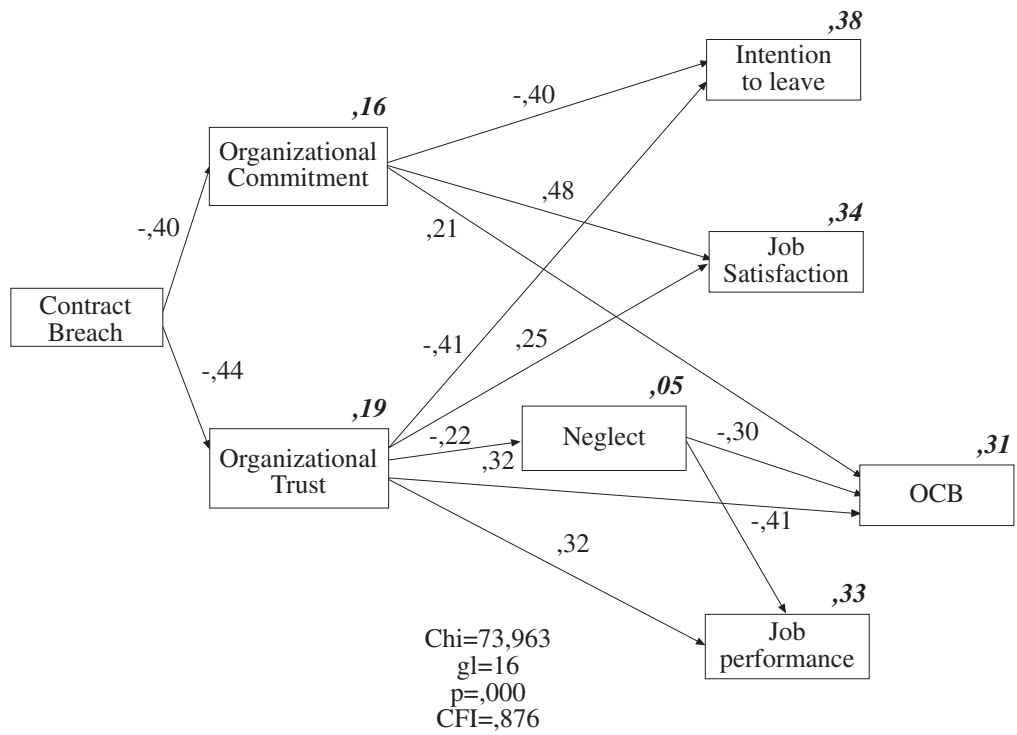


Figure 2. Proposed model of relationships between PCB and outcomes

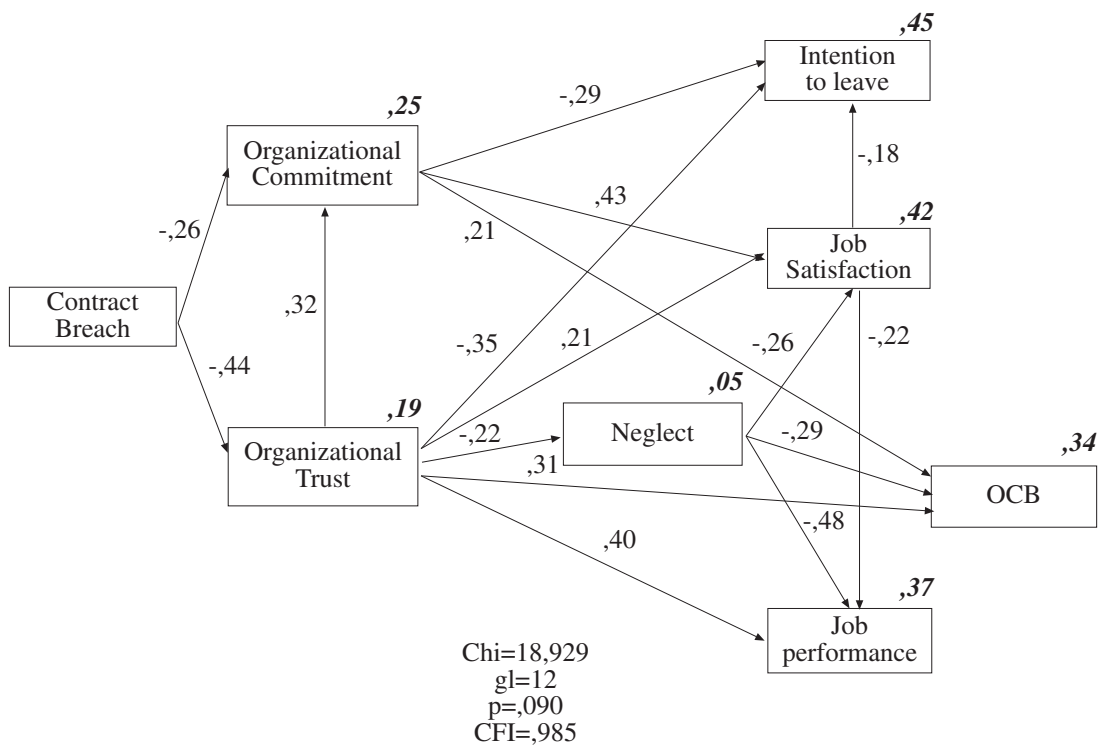


Figure 3. Standardized estimates in final structural model relating PCB and outcomes

when the employee is a civil servant; decrease in performance is not necessarily followed by dismissal. This corroborates Cassar's observations (2001). The situation of those who have an indefinite contract or who are civil servants explains why they are not prepared to give up their working status easily, even if they perceive that some promises have not been appropriately fulfilled. As a proof of this, public employees reflected the lowest impact of breach on intention to quit, showing that they are less likely to quit than private employees.

Considering the type of employment contract, we can affirm that our hypothesis failed to obtain support from the data. Overall, results were unclear, but the greatest ES for contingent employees have been reached in meta-analyses on OCB, job satisfaction and trust. In this case, results might be due to the fact that, with respect to PCB, permanent employees can weigh up other benefits derived from the employment relationship which the temporary worker does not have (Coyle – Shapiro & Kessler, 2002). These findings would be connected with the fact that, in the regression analyses, organizational tenure has the strongest standardized regression coefficient on all most of the outcomes, as it will be commented later.

The analyses carried out by occupational categories allow concluding that our hypothesis has been only partially confirmed by the data. We found the strongest ES for managers in the relationships between breach and intention to leave, job satisfaction and performance while the lowest appeared in the relationships between breach and trust and breach and commitment. These results are in line with the suggestion made by Flood, Turner, Ramamoorthy, and Pearson (2001) that managers have a greater range when choosing an employer. Thus, if managers have more employment alternatives, they would be more concerned with the possibility of imbalance in the exchange relationship, and their threshold for perceiving a PCB could be lower. To sum up, they could be more apt to show the impact of breach on outcomes. A more detailed investigation of the relationships between perceived breach and outcomes, with a special attention to the influence of social contract governing each work environment, is highly needed.

The influence of sample origin on the outcomes was unclear. Since Rousseau (1995) have pointed out the link between psychological contract features and cultural values, we would expect significant differences regarding the impact of perceived breach on work outcomes as a function of sample origin. The unpredicted results seem to suggest that further research will be necessary comparing the effects of perceived breach on outcomes among different countries.

Some regression results are worth emphasizing. First, in the overall regression analyses, quality of studies was the better predictor of results. Second, in the regression analyses we founded that the more organizational tenure, the lesser impact of perceived breach on OCB. On the contrary, the less organizational tenure, the more impact of breach on commitment, trust and satisfaction. On the contrary, the lower the study quality and the lower the sample percentage of males, the more impact of breach on intention to leave. Finally, we found that the more percentage of males in the sample, the more impact of perceived breach on performance.

Lastly, applying path analysis to the pooled meta-analytic correlation matrix allowed us to find support for our hypothesis. The results also showed that the relationships between breach and intention to leave, satisfaction, OCB and performance were

mediated by trust and organizational commitment. It is worth mentioning that only a reduced number of studies have explored the mediating effects of related variables (such as justice dimensions or trust) on the relationship between breach and outcomes (Robinson, 1996) and that in no study organizational commitment entered as a mediating variable. Our model supports the suggestion that attitudes were more proximal to PCB than behaviours. Perhaps, employees in an unstable labour market are generally required to keep their behavioural reactions to perceived breach under control, but their attitudinal responses may remain free of that control. In this sense, we would encourage future researchers to explore more deeply the role of other mediator variables in the relationship between breach and outcomes, probably, the only efficient explanation of why some perceptions of breach are associated with strong emotional reactions, whereas others, apparently more serious, are not seem by subjects as a violation of their contract (Rousseau, 1995; Turnley & Feldman, 1999).

Based on the general findings of this review, we can point out that the psychological contract appears to be a wide and comprehensive theoretical model which can take into account a considerable set of personal and organizational relevant outcomes. Furthermore, we can demonstrate meta-analytically the impact of perceived breach on the increase of negative outcomes and on the decrease of desirable ones, providing stronger support for the predicted effects than the results of unique studies. Nevertheless, the taking into account of the idiosyncratic character and contextual influences shaping the psychological contract in different cultures, countries and/or places could improve our understanding of the processes involved in breach and their consequences. The neglect of the context, together with the lack of attention to the specific features of each employment market, may lead to misunderstand the development processes of the phenomena in many environments and situations such as those of civil servants or small and medium European companies, for instance. In a related vein, some researchers are trying to consider if characteristics of a specific labour market (i.e. Denmark) affect general patterns of employees' psychological contracts— with a «collective» labour market yielding more «collective» psychological contracts. Results suggest that the exclusive focus on individual employees and employers in studying the psychological contract should be de-emphasized in Denmark (and perhaps throughout continental Europe), and that structures (including centralized negotiation between employee and employer organizations, agreements and legislation) rather than individual agents play a central role in defining psychological contracts.

Limitations and suggestions for future research

Turning now to the limitations of this study, we want to recognise, in the first place, that the relative large number of included outcomes, together with the relatively small number of studies that fit the criterion for some analyses, limit the range of factors that might affect the relationships between PCB and outcomes. As studies in this research area continue to increase, it would be important for future research to investigate additional factors that may affect these relationships.

Related to this issue is the fact that some outcomes have received little attention in empirical studies. Therefore, the number of studies included in some analyses was very little. So, it is

important for future research to examine a broad range of attitudinal and behavioural outcomes in order to gain a comprehensive understanding of the effects of perceived breach in organizations.

A third limitation is that this meta-analysis includes primary studies falling into the «unspecified» category as regard contract type. The confusion within this category is caused by the difficulty to distinguish among different types of working situations.

Some concerns on availability of meta-analytical results have been made and we will refer those that would affect our conclusions. On the one hand, primary studies sometimes have authors in common, which implies a certain threat to the independence. On the other hand, another limitation of these studies stems from the fact that predictor and criterion variables have been measured in the original studies with different instruments, jeopardizing the comparability of definitive results. A standardization of the measures of breach of psychological contract and other organizational and individual outcomes seems very advisable.

Finally, the use of the pooled correlation matrix as the input for adjusting a SEM assumes that the correlation matrices employed are homogeneous. However, this is not the case, as many of the

joint estimates yield significant Q values, so it would be considered threatening for our conclusions. Combining meta-analytic procedures with SEM proved to be a difficult task, given the large quantity of missing data in the pooled correlation matrix. To avoid this problem in the future, primary studies should report the correlation matrix of all variables. Furthermore, it would be advisable, as Turnley and Feldman (2000) have already indicated, to broaden the samples on which the primary studies are carried out. Currently they are often limited to managers in the process of permanent training.

The above limitations notwithstanding, we believe this paper makes an important contribution to the PCB literature. It summarizes the most relevant results that empirical studies have reached so far, and shows which additional theoretical and methodological developments are needed in this area. We hope that the results of our review will encourage additional research into how individuals and groups react to unfulfilled contract promises.

Note

¹ Code – book available from authors.

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(Studies signed with * were included into the meta-analysis)

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