

What's in a broken promissory obligation?

Developing and testing a multiple component form measure of psychological contract breach

Vincent Cassar

Birkbeck College, University of London, London, UK

Rob B. Briner

School of Management, University of Bath

Sandra C. Buttigieg

Aston Business School, Aston University, UK

Abstract

While the literature has suggested the possibility of breach being composed of multiple facets, no previous study has investigated this possibility empirically. This study examined the factor structure of typical component forms in order to develop a multiple component form measure of breach. Two studies were conducted. In study 1 (N=420) multi-item measures based on causal indicators representing promissory obligations were developed for the five potential component forms (delay, magnitude, type/form, inequity and reciprocal imbalance). Exploratory factor analysis showed that the five components loaded onto one higher order factor, namely psychological contract breach suggesting that breach is composed of different aspects rather than *types* of breach. Confirmatory factor analysis provided further evidence for the proposed model. In addition, the model achieved high construct reliability and showed good construct, convergent, discriminant and predictive validity. Study 2 data (N=189), used to validate study 1 results, compared the multiple-component measure with an established multiple item measure of breach (rather than a single item as in study 1) and also tested for discriminant validity with an established multiple item measure of violation. Findings replicated those in study 1. The findings have important implications for considering alternative, more comprehensive and elaborate ways of assessing breach.

Keywords:

Psychological contract breach; violation; multiple component forms; measures of breach; psychometric properties

Introduction

Psychological contract breach, defined as instances when employees perceive their organization to have failed to meet its reciprocal contractual obligations (Morrison and Robinson 1997; Robinson, Kraatz and Rousseau 1994; Robinson and Rousseau 1994; Rousseau 1995), is a powerful means to understand and explain the employment relationship (Conway and Briner 2005, 2009). To this effect, Sparrow and Cooper (2003) argue that psychological contracts shape the employment relationship especially when organizations are going through rapid transformations due to globalised market pressures and impacts highly on the strategic role of HRM.

Yet many questions about the psychological contract still warrant further investigation (c.f. Conway and Briner 2005, 2009; Rousseau 2010 for reviews) and studies highlighting the central importance of breach and the correlations of breach to salient organizations and individual outcomes continue to be published (e.g. Cassar and Briner 2011; Chen, Tsui and Zhong 2008; Conway, Guest and Trenberth 2011; Glibkowski and Bravo 2007; Montes and Irving 2008; Montes and Zweig 2009; Orvis, Dudley and Cortina 2008; Raja, Johns and Ntalianis 2004; Rigotti 2009; Zhao, Wayne, Glibkowski and Bravo 2007).

Although these studies have advanced our understanding of breach in various ways, they have not investigated the components of breach which is necessary in order to enable us to have a more complete conceptualization and hence measurement of

breach. Conway and Briner (2009) suggest that there is more than one way how to break a psychological contract and while the literature (e.g. Coyle-Shapiro 2002; Morrison and Robinson 1997; Shore and Tetrick 1994; Turnley and Feldman 1999a) hints at a potential number of these, they have never been actually investigated empirically. Moreover, breach has been typically measured along a single continuum ranging from no or low levels of breach to high levels of breach (Rousseau 2010). However, Cassar and Briner (2005), based on a qualitative interview study proposed the following features of breach in terms of the participants' understanding of "not fulfilling promissory obligations": delay, magnitude, type/form, inequity and exchange imbalance.

The current study goes a step further and aims to examine the possible structure underlying potential component forms contributing to the phenomenon of breach. Identifying the empirical structure of the component forms that represent breach improves construct clarity (Suddaby, 2010) and contributes towards a more comprehensive measure of breach. This is one substantive contribution of this study.

Different component forms of breach

Cassar and Briner (2005) define and explain the identified component forms as follows: *Delay* represents the time lag between the expected fulfillment of the promise and actual point of delivery. Just as delayed repayment provides a basis for continuing exchange and necessitates trust (Rousseau and Parks 1993), very long

delays may become more likely to be interpreted as a breach since trust also determines when a delivery is perceivably expected. Psychological contracts, like schemas, are characterized by a sense of duration (Shore and Tetrick 1994) and, for this reason, possess information not only about the content but also about the timing of delivery, which can trigger their change (Rousseau 2001). As Coyle-Shapiro (2002) correctly notes: "Perceived employer obligations define the parameters of the relationship and signal...the organization's future intent..." (p. 931). These parameters thus include temporal boundaries. Turnley and Feldman (1999a) found that breach characterized by delay also featured amongst the list of discrepancies.

The second component form, *magnitude*, refers to breach that occurs when what is delivered is less than what was promised. Shore and Tetrick (1994) note that the magnitude of a discrepancy will influence employees' reactions. Similarly, Turnley and Feldman (1999b) argue that magnitude may be considered as a characteristic of contract breach. Indeed, some studies do employ a measure of magnitude in their assessments of breach (e.g. Turnley and Feldman 1999a).

The third, *form/type*, first identified by Cassar and Briner (2005), suggests that what is delivered is of a different form from what has been promised. It is plausible that promises may still be perceived as delivered even though not in the manner they were expected (e.g. being provided with training in-house instead of being sent abroad as originally promised). Conway and Briner (2009) compare this component form to Pavlou and Geffen's (2005) buyer-seller online relationship and refer to *product misrepresentation* as referring to items delivered as differing from the one described in advertisement.

The fourth component form, *inequity*, is a situation of breach where the employee believes that what they are receiving is less than or different from what others in similar positions are getting. Equity theory (Adams, 1965) in exchange behaviors suggests that people compare their input-to-output ratio with a comparison other (Pritchard 1969). Being treated better or less well compared to others is part of a broader social comparison process wherein individuals try to make sense about the fairness embedded in the relationship with the organization (Lamertz 2002). In fact, some (e.g. Guest 1998; Herriot and Pemberton 1995) include 'fairness' as a dimension of the psychological contract in this sense. Hence, while inequity is less severe than contract breach, Rousseau (1989) affirms that it is "inappropriate to draw a sharp distinction between models of equity and the psychological contract", adding that "a blurring of the distinction between the two occurs when inequity arises in the context of a relationship" (p. 127). This is because when inequity arises in the context of a relationship, treating one party in a discriminatory manner is also likely to be followed by adverse reactions akin to those found in severe breach. For example, a study by Van Yperen, Hogendoorn and Geurts (1996) showed that perceived inequity (i.e. a sense of mistreatment in comparison to similar others) in the context of an employment relationship, leads to higher probability of people intending to leave or to engage in withdrawal behaviors.

Fifth, and finally, *exchange (or reciprocal) imbalance* refers to situations where the employee perceives that they are giving far more to the organization than they are getting back in return. For example, Morrison and Robinson (1997) and others (e.g. Coyle-Shapiro 2002) suggest that breach in itself does not lead to

violation unless "the employee perceives that he or she has made contributions that have not been reciprocated as promised" (p. 248). Some studies (e.g. Shore and Barksdale 1998) do indicate that greater degrees of reciprocal imbalance are more likely to have an influence on salient organizational variables while other studies suggest that employees engage in behaviors that help to restore balance of reciprocity (e.g. Herriot, Manning and Kidd 1997). Findings indicate that when employees recognize an imbalance between their benefits and investments, feelings of resentment are very likely (e.g. Geurts, Schaufeli and Rutte 1999). Table 1 presents all five component forms and their respective definitions.

Insert Table 1 here

Aims of the studies

A legitimate question to ask is whether these component forms are conceptually independent? Qualitative studies seem to indicate (e.g. Cassar & Briner 2005) that they should be considered as component forms or aspects of breach but not types of breach. In other words, breach events may be characterized by more than one component form co-existing with another suggesting inter-relatedness. Participants

will generally describe breach episodes as constituting several features such as being paid *less* compared to *other* workers (magnitude and inequity).

While magnitude, delay, type/form, inequity and exchange imbalance provide us with potential component forms underlying the breach phenomenon, we know little if, and how, they relate empirically towards a more comprehensive conceptualization and measure of breach. We are therefore interested to explore the possibility of exploring the empirical structure underlying indicators of breach in order to suggest a more holistic measure. A more comprehensive measure may have a synergistic effect such that it may report better and more consistent correlations with outcomes than any of the individual component forms by themselves or a measure that assesses only a portion of the characteristics of breach.

The following two studies attempt to empirically investigate how psychological contract breach is operationalized in terms of these five component forms. While the two organizations in this study represent different sectors, both shared very similar aspects: firstly, all participants were full-timers at the time of study; secondly, work obligatory terms were common to both organizations and across the various job grade levels; and thirdly, both organizations were unionized. Based on classical psychometric theory, psychological contract breach will be treated as the underlying theoretical construct in a latent model which Law, Wong and Mobley (1998) define as “a higher-level construct that underlies its dimensions [whereby] the dimensions are simply different forms manifested by the construct” (p. 743). We propose that delay, magnitude, type/form, inequity and reciprocal imbalance are parallel

measures that assess psychological contract breach. The conceptualization of the psychological contract in these studies is based on Rousseau and Tijoriwala's (1998) definition as being "a composite or bundle of obligations" (p. 687). Rousseau (2010) explicitly suggests that "obligations are preferred over expectations and promises in assessing a psychological contract's content" (p. 210). Hence breach was conceptually defined as a situation when the bundle of obligations was perceived *not* to have been fulfilled.

Study 1

Method

Participants

Questionnaires were distributed to all 620 employees working in an Advanced Manufacturing automobile switch-component parts plant via trade union representatives. Employees were asked to return their questionnaires in pre-provided sealed envelopes to the various trade union representatives. At the time of the study the plant had no pending or on-going industrial disputes. 420 returned the filled-in questionnaire (67.7 per cent response rate) of which 53.6 per cent were males. The average age of the sample was 28 years (SD = 9.0) ranging between 18 and 59 years. The average tenure of the sample was 5 years (SD = 5.5), ranging between 18 months and 28 years.

Measures and Procedures

A list of relevant employer obligations was drawn up based on internal company documentation. Four employer representatives in managerial grades evaluated this list to check whether the items could reasonably be considered to be part of the exchange relationship (i.e. employment deal) between employer and employee and also to identify if any other contractual obligations were missing from the list. In a second stage, thirteen employees taking part in the pilot study were also asked to cross-check the list. The final list contained six employer obligations: support at work, salary, adequate working arrangements, opportunity for career advancement, employment benefits and incentives, and training. This procedure of choosing which terms to consider in the list is very similar to that employed by Rousseau (1990) and it inevitably takes some account of the context of the study in the process (c.f. Rousseau and Schalk 2000). Terms were not classified as either 'transactional' or 'relational' but were computed as a global score (c.f. Coyle-Shapiro and Kessler 2002).

Each set of six employer obligations was preceded by a question denoting each of the five component forms of contract breach. Each component form measure was calculated by adding the single item score of each term. All composite scores for all the five components were worded such that higher scores indicated a higher degree of perceived breach characterized by that particular component form. The component form measures were as follows:

Component form - delay: The six obligatory term measure was preceded by the question: "To what extent would you state that, in general, the following obligations and commitments are not being delivered when they are due?" Each term was scored on a five point scale ranging from *1=always delivered on time* to *5=never delivered on time*.

Component form - magnitude: The measure in this case was preceded by: "To what extent would you state that, in general, the following obligations and commitments are less than the amount that you expect?" The scale ranged from *1=exactly the amount I expect* to *5=a great deal less than I would expect*.

Component form - type: The question preceding the items of this component form read: "To what extent would you state that, in general, the following obligations and commitments are of a more inferior type or form than you expect to get?" The scale ranged from *1=exactly the type or form I expect* to *5=not at all the type or form I expect*.

Component form - inequity: This characteristic was assessed by asking participants to reflect on the following question: "To what extent would you state that, in general, you are being treated less well than others who are at your same level on the following obligations and commitments?" The scale ranged from *1=treated exactly the same as others* to *5=treated much less well than others*.

Component form – exchange (reciprocal) imbalance: This property was assessed by asking participants: "Given what you contribute, in general, to what extent do you consider the following inducements to adequately match and balance

your contributions?" It ranged from 1=*This is adequate enough considering what I contribute to the organization* to 5=*This is much less than adequate enough considering what I contribute to the organization*.

At this initial stage, items for each of the five scales of delay, magnitude, inequity, type/form, and exchange imbalance were considered as *causal indicator scales*. These consist of items, which separately do not manifest the same underlying construct, but when summed up constitute the construct (Bollen and Lennox 1991) and for which coefficient alpha is not an appropriate index of reliability. Causal indicator scales characterize a set of distinct causes which are not interchangeable as each indicator (item) captures a specific aspect of the construct's domain. In addition, there are no specific expectations about patterns or magnitude of the correlations between the indicators (Diamantopolous and Siguaw 2006; Diamantopolous and Winklhofer 2001). Causal indicator scales have been used previously in the development of a number of measures including the physical symptoms inventory (Spector and Jex 1998) and the development of the counterproductive work behavior checklist (Spector et al., 2006). Consistent with the rationale and methodological approach adopted in these previous studies, we combined responses for each component in relation to the six obligatory terms of support at work, salary, adequate working arrangements, opportunity for career advancement, employment benefits, and training (in line with this study's definition of psychological contract breach), thereby yielding a total score for each of the five scales: delay, magnitude, inequity, type/form, and exchange imbalance. Once this

was done, we then considered the five constructs as manifest variables in structural equation modeling adopting a reflective model. This theoretical understanding of the nature of the items compelled us to treat the item set per component as a simple combination of employment terms, which are conceptually united by that component form (in other words delay on training and delay on salary, for instance, are arbitrarily combined because they indicate 'delay' even though 'training' and 'salary' are in no way expected or assumed to be related) (c.f. Bollen and Bauldry 2011). Therefore, we thought it inappropriate to consider all single items as manifest variables and instead allocated sets of items to their pertinent component form in the beginning of the analysis.

In the second stage, analyses were conducted by splitting the sample into two: exploratory factor analysis was carried out on the first half of the sample, whereas confirmatory factor analysis was used to confirm the structure on the second half of the sample. Furthermore, it was postulated that if this measure should be a reflection of 'breach', it should show similar relations to outcomes as when using more familiar measures of breach and should be theoretically different from the outcomes. Therefore, by evaluating its relationship to two other closely associated variables, namely intention to leave and organizational satisfaction, we assessed discriminant and predictive validity of this composite measure of psychological contract breach.

In terms of intention to leave, for Rousseau (1989), trust is a fundamental and underlying assumption of any psychological contract. Trust may be defined as

one's propensity to execute reciprocal organizational inducements (Creed and Miles 1996). Because all exchange behaviours occur over time, parties have to trust each other hoping that the consequences of the deal will be of bilateral benefit (Fichman 2003). In the occurrence of breach, however, the employment relation suffers because the trust is not only broken but also seen to be too expensive and extensive to repair (Lewicki and Bunker 1996). Because of this, an individual may increase the probabilities of withdrawing as one loses faith in the benefits of staying in the relationship (Robinson and Rousseau 1994). For this reason, we propose that an association exists between contract breach and intention to leave (e.g. Bunderson 2001; Guzzo, Noonan and Elron 1994; Robinson 1996; Robinson and Rousseau 1994; Turnley and Feldman 2000). The three-item measure by Cammann et al. (1971 as cited in Cook, Hepworth, Wall and Warr 1981) was used to assess intention to turnover. One of the items was converted from a question to a statement and an example item included: "I often think about leaving". Cronbach's alpha equaled .88. A five-response Likert scale was used and a composite measure was derived such that a higher score reflects a greater intention to leave.

Moreover, the word *organization* rather than *job* satisfaction was preferred because psychological contracts are exchange beliefs between the employee and the organization. Hence, personal reactions to breach are directed at the organization and not at the job *per se*. Most studies have employed job satisfaction but Robinson and Rousseau (1994) employed both work and organization satisfaction. This study used the same three items as in the Robinson and Rousseau (1994) study but re-

worded items containing 'work' to 'organization'. The three-item measure was originally composed of two sub-scales. The first sub-scale consisted of two items from Robinson and Rousseau (1994). One of the original items focused on one's job. This was re-directed towards the 'organization'. Thus, "I am satisfied with my job" was changed to "I feel a sense of personal satisfaction at [name of company]". The second sub-scale consisted of the GM Faces Scale (Kunin, 1955 as cited in Robinson and Rousseau 1994), previously used in Rousseau's psychological contract inventory (1998). This item read, "Overall, how satisfied are you at [name of company]", followed by five faces showing different degrees of happiness. The first sub-scale was assessed on a five-point Likert scale and, in the second, respondents were asked to circle the face they identified with most. Due to the high inter-correlation between the two sub-scales ($r=.70$, $p<.01$) both sub-scales were added with higher scores reflecting more organizational satisfaction. Alpha for the final scale reached .87. Previous cross-sectional (e.g., Turnley and Feldman 2000) and longitudinal (e.g. Bunderson 2001; Robinson 1995; Robinson and Rousseau 1994) studies have consistently found a negative correlation between contract breach and satisfaction.

Finally, the single item for contract breach developed by Robinson and Rousseau (1994) was also included. Participants were asked to give an overall rating about the extent the organisation fulfilled its obligations and commitments. Thus participants were asked: "Overall, is [name of company] fulfilling the obligations and commitments it owes you?" on a scale ranging from *1=not at all* to *5=to a great extent*. This measure was reversed scored such that a higher score reflected more perceived contract breach. This single item was included to assess the validity of the

current emerging measure of the multiple component measure of breach. Although an alpha estimate is not possible for a single item, previous studies using this same item have indicated an average test-retest reliability coefficient of .80 (Robinson, Kraatz and Rousseau 1994). In addition a split-half reliability estimate equalled .82 in this particular sample.

Results

As Table 2 shows, all five component forms were correlated with coefficients varying between .50 and .73, suggesting inter-relatedness. .

Insert Table 2 here

The main sample was then randomly split into two halves for cross-validation (Cudeck and Browne 1983), whereby exploratory factor analysis was conducted using N_1 and confirmatory factor analysis was conducted on N_2 . There were no statistically significant differences between the two subsamples for the distribution of age, gender, and tenure, as well as of the five causal indicator-formed scales.

The five manifest variables of psychological contract breach were then subjected to an exploratory factor analysis using Maximum Likelihood Analysis (MLA) on half of the randomly selected data set. Inspection of the correlation matrix revealed that

the coefficients were all above .3. The Kaiser-Meyer-Okin value was .83, exceeding the recommended value of .60 (Pallant 2005) and Bartlett's Test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix. Maximum Likelihood analysis revealed the presence of one factor with an eigenvalue exceeding one, and explaining 68.63% of the variance. Inspection of the Scree plot also revealed a strong single factor. There was therefore no need to proceed to rotation.

The replicability of the uni-factor structure from analyses in the first sub-sample was examined by a series of confirmatory factor analyses on the second sub-sample using AMOS 16.0. Table 3 presents fit indices from the confirmatory factor analyses for each of the models evaluated in the second sub-sample.

Insert Table 3 here

In this CFA, four models were tested. Model 1 is the model as identified by the exploratory factor analysis while model 4 includes two covariances, one between the error terms for delay and magnitude and the second covariance included error terms between inequity and exchange imbalance.

Although a value of .90 was originally considered a value for a good model fit, Hu and Bentler (1999) advised a revised cut-off point close to .95. Model 1 did not achieve good model fit statistics for χ^2/df , and for RMSEA (Bentler 1990). The recommended range for the ratio χ^2/df is between two and five (Arbuckle 1996) and less than three (Schreiber, Nora, Stage, Barlow and King 2006). In contrast to the fit-indices above, the drawback of this index is its dependency on sample size. However for model 1, despite the fact that all the indices did not achieve model fit, SRMR shows a good model fit (.041 which is less than .08 according to Hue and Bentler, 1999). This is in line with the findings by Marsh, Hau and Wen (2004) where “for the complex [data] structures misspecified models were either not acceptable or borderline acceptable for all fit indices other than SRMR, but clearly acceptable according to population estimates for the SRMR” (p. 330). Model 1 was compared with three other models following the computation of modification indices that identify two correlated errors. The data met the assumptions of maximum likelihood estimation. Only models 2 and 3 met the χ^2/df criterion of <3.0 . Only model 4 met the rule of acceptable model fit of $<.08$ for RMSEA although the upper limit of 90% CI is $>.80$. However, a good model fit based on the index SRMR was achieved for models 2, 3 and 4. Indeed, SRMR for model 4 reached .02 which further confirms that model 4 is the preferred model. For the parsimony fit indices, which are sensitive to model size, model 1 had the best fit; however model 4 was weaker because it is the most complex. The Bayes Information Criterion (BIC), and the Akaike Information Criterion (AIC), which are good for model comparison, were best for Model 4, since they achieved the smallest values in this model (Schreiber et al. 2006). The improvement of model fit was then tested by calculating the differences

in χ^2 values in relation to degrees of freedom (Table 3) for each model. The test indicated a significant model improvement for model 4, which fit the data best. Notwithstanding, after taking into consideration the fit indices, model 4 still appeared to be the one with the best fit. Additionally, model 4 showed two covariances between the error terms as shown in Figure 1.

Insert Figure 1

The initial analysis revealed that the items are conceptually linked to the component form, having treated the items as causal indicator scales. One may also argue however that the items may be treated as effector indicator scales suggesting that the component items are clustered around the single global measure rather than through their respective separate component forms. This possibility was also evaluated. The standardized regression weights (path coefficients) were high, suggestive of multicollinearity, meaning that the component variable items are close to being identical and therefore the best representation is one that characterizes breach constituted of five related components.

The construct reliability of the multiple component form measure of psychological contract breach

Hair et al. (2006) proposed the use of construct reliability (CR) in conjunction with structural equation modeling models, rather than the traditional coefficient alpha. Construct reliability is calculated from the squared sum of standardized factor

loadings (λ_i) for each construct and the sum of the error variance terms for a construct (δ_i). Construct reliability for this measure of psychological contract breach was .89, and therefore above the recommended value of .70 (Nunnally and Bernstein 1994).

Validity of the multiple component measure of contract breach – Study 1

In study 1, construct, convergent, discriminant, and predictive validity were assessed.

The rules of thumb for construct validity, as stated by Hair et al. (2006), were strictly adhered to and included: a) standardized loading estimates of .50 or higher, and ideally .70 or higher; b) average variance extracted (VE) of .50 or greater to suggest adequate convergent validity; and, c) a construct reliability of .70 or higher to indicate adequate convergence or internal consistency. These were achieved for this measure of psychological contract breach. Construct validity was also achieved through acceptable model fit statistics in confirmatory factor analysis.

Convergent validity was investigated by correlating the multiple-component psychological contract breach measure with the single item of contract breach (Robinson and Rousseau 1994). The results indicated a correlation coefficient of .51 ($p < .001$). These findings confirmed that the multiple-component measure of contract breach obtained in this study correlated with a more standard measure of contract breach.

Discriminant validity was assessed by CFA in three ways. First, the differences in χ^2 values in relation to degrees of freedom were statistically significant between model 4 and models 1, 2 and 3. Second, discriminant validity also means that manifest variables should represent only one latent construct as indeed was shown in this case in both exploratory and confirmatory factor analysis. Furthermore, the multiple component form measure of psychological contract breach was assessed for discriminant validity by carrying out exploratory factor analysis with oblique rotation (Conway and Huffcutt, 2003) on the full sample, with items measuring organizational satisfaction, intention to leave, and psychological contract breach. High discriminant validity would be indicated if the factor structure clearly differentiates *psychological contract breach* from other associated, but independent, constructs. Results indicated that differential validity is supported because this study's construct of psychological contract breach is distinct from the two other organizational constructs (Table 4).

Insert Table 4 here

In addition, according to Hair et al. (2006), for discriminant validity, the average variance extracted (AVE) of each construct should be greater than their shared variance. For psychological contract breach AVE was .65; for intention to leave .70; and for organizational satisfaction .73. The shared variance between psychological

contract breach and intention to leave was .23 and between psychological contract breach and organizational satisfaction was .15. Therefore, discriminant validity is achieved between the three constructs suggesting that this measure of breach is independent of other related constructs.

The predictive validity of the multiple-component measure of contract breach as compared to the single item was determined by examining their separate relationships with the two outcomes (intention to leave and organizational satisfaction) (Figure 2). This was achieved by fixing the path from the single item measure of breach and the multi-component measure of breach to zero. Both the multiple component measure and the single item breach measure predicted significantly both intention to leave ($\beta=.37, .70$ respectively, $p<.001$) and satisfaction ($\beta=-.27, -.63$ respectively, $p<.001$) achieving model fit ($\chi^2 / df = 4.68$; CFI = .94; TLI = .92; RMSEA = 0.09), suggesting that the multi-component measure has good predictive validity just as the more commonly used breach measure.

Insert Figure 2

Moreover, the added variance of the multiple component measure over and above the single item measure was tested in a 2-step regression equation (incremental validity). After entering the multiple component measure of breach, change in adjusted ΔR^2 was .02 ($p<.001$) in the case of organizational satisfaction and .12

($p < .001$) in the case of intention to leave. The multiple component measure predicted significantly ($p < .001$) both organizational satisfaction ($\beta = -.18$) and intention to leave ($\beta = .390$) even with the single item measure of breach in the regression equation.

Study 2

Study 1 supported the notion that psychological contract breach may be considered to be constituted of several components. We also demonstrated that this more elaborate measure of breach correlated with other more popularly used measures of breach albeit a single item and also correlated with salient outcomes. The purpose of Study 2 is to re-validate the results obtained in Study 1, hence providing further evidence of its generalizability. However, unlike Study 1, Study 2 relates the multiple-component measure with a multi-item measure of breach (rather than a single item) and evaluates its correlation with an established measure of violation given that breach and violation are related but not synonymous (Morrison and Robinson 1997).

Method

Sample and procedure

Participants in study 2 were 189 employees from an international retail-bank branch and represented a response rate of 78.8 per cent. The census study was part of an internal HR exercise commissioned to one of the researchers. Questionnaires were

distributed to all clerical grade employees (N=240) who in turn were given one working week to return their responses in a pre-provided envelope and deposit them in a special container labelled 'Employee Survey Return Box'. Employees, of which 43 per cent were male, worked as cashiers and supervisors of which 91 (48.1 per cent) were males. The average age of the sample was 26 years (SD=6.2) ranging between 19 and 42 years. The average tenure of the sample was 3 years (SD=2.4 years), ranging between 9 months and 4 years. While this sample may look heterogeneous, employees in different grades were in actual fact covered by the same contractual agreement in terms of employment obligations and inducements with the Bank. One of the researchers ensured that the terms included in the agreement for Sample 1 were also present for Sample 2 to ensure continuity from one study to the next. As in study 1, data were collected by means of a questionnaire, which was both anonymous and confidential.

Measures

Measures of the component forms were the same as in study 1. However, we were restricted by the host organization to measure only organizational satisfaction. On the other hand, we included multiple-item measures for breach and violation. As in study 1, we did not calculate Cronbach's alpha for the causal indicator scales (c.f. Hair et al. 2006) but the squared sum of standardized factor loadings equaled .90 and therefore above the recommended value of .70 (Nunnally and Bernstein 1994). Cronbach's alpha for organizational satisfaction equaled .73.

The other measures for study 2 included a multiple item measure for breach and violation which was adopted to assess predictive validity of the multiple-component measure compared to the multiple-item measure of breach. While violation was not included in the structural model, measures of breach are good predictors of violation (Rousseau, 2010). By including this measure, the new measure's clarity and coherence could be ascertained (Suddaby, 2010). Both measures of breach (5-items) and violation (4-items) come from Robinson and Morrison (2000). One example item of the breach measure is "I have not received everything promised to me in exchange for my contributions". Cronbach's alpha equalled .86. An example item of violation is "I feel a great deal of anger toward my organization". Cronbach's alpha equalled .92. Both measures were scored using a five-point scale from *1=strongly disagree* to *5=strongly agree*.

Results

As with study 1, all five component forms were highly correlated (Table 5).

Insert Table 5 here

Correlations varied between .49 and .82 suggesting a high degree of inter-relatedness between the component forms. The confirmatory factor analysis of the multiple component measure of breach yielded a very similar model as in study 1 replicating

the factor structure as a uni-factor model with two covariances explaining the model fit better (Table 6).

Insert Table 6 here

As in study 1, adding the two covariances between exchange imbalance and inequity, and delay and magnitude resulted in a better model fit. SRMR was best for model 2 (.012 compared to .049 for model 1). As with study 1, the possibility of the separate items collapsing on the global score was tested. As in study 1, an effector scale model was not supported.

Validity of the multiple component measure of contract breach

Study 2 also explored the measure's convergent, discriminant, and predictive validity. Convergent validity was investigated by correlating the multiple-component psychological contract breach measure with the multiple item contract breach measure. The results indicated a correlation coefficient of .60 ($p < .001$). Convergent validity was also measured in study 2 by assessing the predictive power of the multiple-component measure with a measure of psychological contract violation compared to the multiple-item breach measure. Compared to the null model (no prediction), the predictive model showed the best fit ($\Delta \chi^2 (df) = 1998.22(33)$, $p < .001$) and the fit indices for the predictive model were adequate ($\chi^2 / df = 2.38$; CFI = .93; TLI = .95; RMSEA = .09). Violation was both predicted by the multiple item measure

of breach ($\beta = .48, p < .001$) and the multiple component measure of breach ($\beta = .34, p < .001$).

In addition, discriminant validity was assessed in study 2 by carrying out exploratory factor analysis with oblique rotation (Conway and Huffcutt, 2003) on the full sample with items measuring organizational satisfaction. Results indicated that differential validity is supported because this study's construct of psychological contract breach is distinct from organizational satisfaction replicating the same pattern as in Study 1 (Table 7). The results indicate the two constructs to be clearly orthogonal.

Insert Table 7 here

Moreover, the discriminant validity was measured through the average variance extracted (AVE) (Hair et al. 2006). In study 2, the multiple-component psychological contract breach AVE was .64 and for organizational satisfaction .85. The shared variance between psychological contract breach and organizational satisfaction was .13. Thus, as in study 1, discriminant validity was achieved validating the same pattern of results attained in study 1.

Finally, the predictive validity of the multiple-component measure of contract breach was again determined by examining its relationship with organizational

satisfaction and, this time, comparing the extent of this relationship with the multiple-item measure of breach, after fixing the pathway between the two measures of breach to zero (Figure 3). Once again, both the multiple item measure of breach and the multi-component measure of breach predicted satisfaction significantly ($\beta=-.43$, $\beta=-.39$, $p<.001$) respectively despite achieving moderate model fit ($\chi^2 / df = 3.29$; CFI = .91; TLI = .87; RMSEA = .11) possibly due to sample size.

Insert Figure 3 here

Also, as in study 1, the added variance of the multiple component breach measure was tested over and above the multiple item measure in a 2-step regression equation. Change in adjusted R^2 was .06 ($p<.001$). The multiple component measure predicted significantly ($p<.001$) organizational satisfaction ($\beta= -.25$) even with the multiple item measure of breach in the regression equation.

Discussion

This study set out to investigate empirically the structure of various component forms of psychological contract breach. It started off with the premise that the literature review has noted several aspects that reflect breach but no quantitative analysis has been conducted to date to explore the relationship between the various facets in relation to the broader construct of psychological contract breach. This

study has proposed a more comprehensive measure of contract breach, which proved to have strong reliability and validity.

The contributions of this study to psychological contract breach are four: First, these analyses have provided some empirical evidence to suggest that breach is a phenomenon that can be better described through the different component forms. This said, it is possible that while component forms are related, they must not necessarily occur all at once (e.g. Cassar & Briner 2005). A breach episode could be characterized by an obligation being delivered late without generating inequity, for instance; Second, it has presented a more comprehensive, refined and conceptually elaborate measure of breach which is predictive of salient outcomes. It is true that the single item provided higher effect sizes with outcomes. However this is not uncommon. Diamantopoulos, Sarstedt, Fuchs, Wilczynski and Kaiser (2012) argue that using single-item measures may at times out-perform more multiple-item measures but single-item measures can be quite variable across constructs. Their lack of finesse and specificity may induce high-variability and be subject to state-dependence effects (de Jong, Lehmann and Netzer, 2012). Moreover, Wanous, Reichers and Hudy (1997) specify that single-items can be more robust than multiple-item measures but their use should be limited when either the research question implies their use or when situational constraints limit the use of broader scales; Third, it has noted that these component forms are potential facets (not types) of the same construct (i.e. breach); fourth, this current investigation opens new avenues of research in the process of breach and breach-violation processes. Therefore it would still be interesting to see whether component forms differ in their

relationship with different outcomes while still assessing breach as a compound index; fifth, this multiple-component measurement model of psychological contract breach appeared to be distinct from other constructs like satisfaction and intention to leave even though they are related.

Of particular interest is the breach component type/form. Two points merit discussion: first, this component form highlights the fact that breach is not always necessarily the opposite of fulfillment. Rousseau (2010) has remarked that most studies of breach use a continuous measure from fulfillment to unfulfillment and notes that “the construct breach is by definition and in most measures simply fulfillment in reverse” (p. 212) which is not the case. An employee may report that training was provided (fulfilled in *this* sense) but was not up to standard (not fulfilled in *this* sense). A second point that emerges from this component form of breach has to do with the cognitive basis of psychological contracting. Rousseau (1995; 2001) has written at length how psychological contracts are embedded in cognitive processes and how employees rely upon such frameworks to represent and makes sense of their employment relationship. Changes in the contract may alter the parameters of the expected return and revises one’s understanding of the employment relationship. Hence the breach component form type/form may represent a specific instance of what happens when the returns do not match the new expectations: the ‘act of breach’ does not result in a break in the psychological contract but to a revision of the parameters underlying the employment relationship. Indeed, recent theoretical considerations of contracting show that different contractual frames (e.g. prevention versus promotional framing) may

explain different behavioral and emotional outcomes (c.f. Weber and Mayer 2011). Moreover, episodes characterized by not getting what was promised or being treated unfairly may lead to more significant drifts and harsher revisions of the employment relationship culminating in a stronger relationship between reported breach and perceptions of violation. Hence by including aspects of this in measures of breach may present a more realistic gauge of the breach experience.

Both studies also indicated that magnitude / delay on the one hand and inequity / reciprocal imbalance on the other, overlap suggesting that these component pairs share some commonality. Hence, a plausible explanation is required. In the case of magnitude/delay, it is apparent that failing to deliver an obligation encompasses both quantity and actual delivery on time. This is a case of “too little, too late”. An employee, who is promised adequate training opportunities on the job, will experience a breach because that promise has not been delivered (magnitude) on time (delay). Because trust in the employment relationship necessitates both how much and when an obligation is fulfilled (c.f. Coyle-Shapiro 2002; Robinson 1996; Rousseau and Parks 1993), it makes sense for delay and magnitude to covary. Stated differently, magnitude and delay component forms imply trust, which is the result of cyclical reciprocal behaviors.

With regard to inequity/reciprocal imbalance, the central feature underlying this characteristic is exchange, a central tenet of psychological contracts. Hence, it comes as little surprise to note that they share a significant degree of covariance. Both aspects convey the aspect of ‘fairness’ and perceptions of unfairness are likely to give rise to negative reactions akin to breach if such unfairness arises in an

employment relationship (Rousseau 1989) which is in turn based on a strong sense of reciprocity (Blau 1964; Gouldner 1960; Greenberg 1980). In addition, Adams' (1965) critical work on equity theory cites inequity (injustice) as affecting the quality of the social exchange in human transactions. He argues that "It may be noted that in a vast array of social relations reciprocity is a functional element of the relationship...the infinitive 'to reciprcate' is commonly used to denote an obligation to give someone equal, positively valent outcomes in returns for outcomes received" (p. 274). It is therefore probable that the underlying perceived input to output calculations of equity in comparing oneself to others is a determinant of exchange balance. Employees who perceive others as being better rewarded are likely to associate this as a form of injustice from the part of the organization and therefore accounts for the association. This complex evaluative process enhances one's judgment of how well one is fairly treated and breach is likely to give rise to these evaluative judgments.

Implications and future research

The present findings have implications for psychological contract breach research. The first implication is that breach may not be completely assessed by a single item or a series of items that all focus on one aspect of breach like, for instance, magnitude. Rather, breach is a construct that reflects different aspects of the act of breach and hence should be more comprehensively and elaborately operationalized. In addition, researchers should also realize that the relationship between breach and outcomes must be investigated in its entirety and therefore include the five

component forms in measures. Or put differently, current measures of breach are not exhaustive or broad enough to capture the essence of the breach construct.

A more elaborate breach measure may benefit several research avenues. Four will be mentioned here. Firstly, concerns the way people make sense of breach. Very few studies have been conducted and that of Lester, Kickul and Bergmann (2007) is one of them. Their study reveals that social accounts of breach vary as a function of the inferential cause of breach. Perhaps one could take this further and investigate the reasons underlying inferences as a function of breach component forms. A breach measure characterized by all component forms must surely have more emotional impact on an employee than a breach arising out of any single component form. Rousseau (2010) notes that failure to deliver on psychological contract obligations may not always result in contract breach and suggests that this is due to how people interpret discrepancies. Noting the attributes constituting the discrepancy may provide a step forward to understand this process a little better. Secondly, it is possible that single acts of breach may not be necessarily characterized by all component forms at the same time. This may provide an opportunity to investigate further the differential effects of the individual component forms on specific outcomes. The bivariate correlations in this study do indicate different coefficient effect levels with the outcomes employed in these studies and therefore we urge further work in this direction. Such findings may also have strong practical implications; Thirdly, one could investigate the different emotional reactions elicited following a breach and whether typical emotions are a function of the different component forms underlying breach. For instance, anger

may be elicited after people realize that their promises have not been met but frustration may be elicited in instances where the return was not as expected. Both instances are breach experiences but the elicited emotions are quite different. Hence a multiple component model may gauge better when and how different emotions are elicited in the process of breach, perhaps depending on the intensity of a component form inherent in the act of breach over that of other components. The final avenue concerns the impact of component forms in the relationship between breach and outcomes in instances where employees have a good relationship with their organization (c.f. Bal, Chiaburu and Jansen 2009). In the so-called buffering model, Rousseau (2010) notes that employees with a high-quality relationship with their organization react less intensely to contract breaches than employees with lower quality relationships, while the intensifying model suggests the opposite. Rousseau (2010) states clearly that “the reasons for the inconsistency in findings regarding buffering and intensifying effects remain unclear” (p. 203). While studies have suggested individual differences as a cause for such pattern differences, taking into account the nature of the breach may also be another plausible explanation. Employees with a high-quality relationship with their organization may react less intensely if the breach corresponds to a type/form episode as their degree of tolerance is bigger (buffering mode). However, in the case of inequity, they may react more intensely as their sense of trust and respect for the organization is severely jeopardized (intensifying model) (see e.g. Weber and Mayer 2011). Therefore, if measures of breach can contain within the different facets of breach, one may be able to infer better reasons for certain outcomes.

Limitations

It is important to consider the limitations of this investigation. One potential limitation is the extent to which this measure is generalizable in other employment settings since both sets of data were derived from a traditional employment scenario with full-timers only. In atypical work scenarios (e.g. seasonal employment, temporary work, etc) some of these component forms may not be 'realistic' enough (c.f. Parks, Kidder and Gallagher 1998). It is difficult for a tele-worker to note whether his/her organization is treating him/her well compared to others as opportunities for observation are minimized. Moreover, such a measure and conceptualization of breach may not be adequate in situations of idiosyncratic deals (I-deals) (c.f. Anand, Vidyarthi, Liden and Rousseau 2010; Rousseau, Ho and Greenberg 2006). Therefore, it is important to keep in mind the employment of such a measure in its proper context although researchers may consider beforehand plausible component forms in specific employment arrangements. Another limitation is concerned with the fact that items representing different promissory obligations (causal indicator scales) were bundled together in accordance to the definition chosen for psychological contract in this case. However, in essence, employment terms can have different 'weighting' in the eyes of the beholder as studies incorporating saliency show (Coyle-Shapiro and Kessler 1998; Conway and Briner 2002). With regards to the empirical structure of the models, one criticism may be directed at the less-than-perfect fit of the predictive power of the multiple-component measure of breach on outcomes such as not achieving the

recommended RMSEA cut-off point, which could well be due to sample size. On the other hand, our analysis was guided both by interpreting models first from a theoretical perspective and on the guidelines provided by several SEM authors (e.g. Marsh et al., 2004; Chen, Curran, Bollen, Kirby and Paxton 2008) who state that data structure (simple vs. complex), the particular index, and sample size are important factors that influence the complicated interaction between acceptability or unacceptability of the misspecified models. Indeed, the authors argue that broad generalizations may be unwarranted. Finally, we assumed on specific grounds that items denoting delay, magnitude, etc. were causal indicator scales. Nevertheless, we remain open to counter-arguments suggesting that our auxiliary theory at the first stage of analysis should be reflective rather than formative leading our assumptions to cause a Type II error (Diamantopolous and Siguaw 2006). However, till that eventuality, we remain confident in our choice of method. At the same time, we do acknowledge the emerging literature on the pros and cons related to formative measures. For example, Edwards (2011) highlights the potential difficulties that may arise from using formative measures and hence results of the formative measures in this study are potentially subject to such short-comings. We mitigated these potential short-comings by adopting a reflective approach in the second stage of analysis as recommended by Edwards (2011).

Conclusion

The principal aim of this paper was to test the empirical structure of a number of psychological contract breach component forms. These have previously been hinted

in the literature and supported by qualitative studies. Both studies, collectively, set out to investigate whether, and how, psychological contract breach can be represented by several component forms underlying breach. Based on earlier studies and reviews, the current investigation explored five component forms. The results showed that breach is in essence a *single* construct, but possibly assessed through *five component forms* and aspects, rather than through merely asking employees to rate the extent or degree of unfulfillment or broken promises. Future measures of breach that reflect these component forms may generate more robust measures of breach and be more sensitive to fluctuations with outcomes. In addition, a multiple component model of breach can provide a more solid base on which to understand better the breach-violation process, thereby providing assistance in explaining areas that are often still neglected like for example attribution research of breach. We hope these findings serve as a stimulus for further work that attempts to increase our understanding of what aspects of breach are likely to turn into violation and have significant impact on salient outcomes like satisfaction, commitment, well-being and performance.

One should be reminded that such a study should be understood within the broader domain of psychological contracts, psychological contracting and employment relations. This includes appreciating the framework within which to examine the realities of workers in the context of their employment relation and exchange relationship with their employer (Coyle-Shapiro and Conway, 2004; Guest, Isaksson and De Witte, 2010), especially when it comes to understanding the more refined instances of breach. As Rousseau (2010) nicely puts it: “In the face of an

unknowable future, psychological contract theory and research illuminate ways in which workers and employers can better understand and manage the challenges they face” (p. 215).

Acknowledgement: The authors would like to thank Jeremy Dawson (Reader in Health Management, Institute of Work Psychology, Sheffield University Management School) for his support and guidance with the study’s statistical analyses.

References

Adams, J. S. (1965), ‘Inequity in social exchange’, in *Advances in Experimental Social Psychology* (vol. 2) ed. L. Berkowitz, New York: Academic Press, pp. 267-299.

Anand, S., Vidyarthi, P. R., Liden, R. C., and Rousseau, D. M. (2010), ‘Good citizens in poor-quality relationships: Idiosyncratic deals as a substitute for relationship quality’, *Academy of Management Journal*, 53, 970-988.

Arbuckle, J. L. (2008), *AMOS 16.0 User's Guide*, Chicago: Small Waters Corporation.

Arbuckle, J. L. (1996), 'Full information estimation in the presence of incomplete data', in *Advanced structural equation modeling: Issues and techniques*, eds. G. A. Marcoulides, and R. E. Schumacker, New Jersey: Lawrence Erlbaum Associates, Publishers, pp. 243-277.

Bal, P. M., Chiaburu, D. S., and Jansen, P. G. W. (2009, August), 'Social exchange as mechanisms between psychological contract breach and work performance', Paper presented at the Annual Meeting of the Academy of Management, Chicago.

Bentler, P. M. (1990), 'Comparative fit indexes in structural models', *Psychological Bulletin*, 107, 238-246.

Blau, P. M. (1964), *Exchange and power in social life*, London: John Wiley & Sons.

Bollen, K. and Bauldry, S. (2011), 'Three C's in measurement models: Causal indicators, composite indicators and covariates', *Psychological Methods*, 16, 265-284.

Bollen, K. and Lennox, R. (1991), 'Conventional wisdom on measurement: A structural equation perspective', *Psychological Bulletin*, 110, 305-314.

Bunderson, J. S. (2001), 'How work ideologies shape the psychological contract of professional employees: Doctors' responses to perceived breach', *Journal of Organizational Behavior*, 22, 717-742.

Cassar, V. and Briner, R. B. (2005), 'Psychological contract 'breach': A multiple component perspective to an over-researched construct?', *Revista de Psicologia Social*, 20, 125-136.

Cassar, V. and Briner, R. B. (2011), 'The relationship between psychological contract breach and organizational commitment: Exchange imbalance as a moderator of the mediating role of violation', *Journal of Vocational Behavior*, 78, 283-289.

Chen, F., Curran, P. J., Bollen, K. A., Kirby, J. and Paxton, P. (2008), 'An empirical evaluation of the use of fixed cut-off points in RMSEA test statistic in structural equation models', *Sociol Method Res*, 36, 462-494.

Chen, X. Z., Tsui, A. S. and Zhong, L. (2008), 'Reactions to psychological contract breach: A dual perspective', *Journal of Organizational Behavior*, 29, 527-548.

Conway, J. M. and Huffcutt, A. I. (2003), 'A review and evaluation of exploratory factor analysis practices in organizational research', *Organizational Research Methods*, 6, 147-168.

Conway, N. and Briner, R. B. (2002), 'A daily diary study of affective responses to psychological contract breach and exceeded promises', *Journal of Organizational Behavior*, 23, 287-302.

Conway, N. and Briner, R. B. (2005), *Understanding psychological contracts at work: A critical evaluation of theory and research*, Oxford: Oxford University Press.

Conway, N., and Briner, R. B. (2009), 'Fifty years of psychological contract research: What do we know and what are the main challenges?', in *International Review of Industrial and Organizational Psychology*, eds. G. P. Hodgkinson, and J. K. Ford, Chichester: Wiley & Sons, pp. 71–130.

Conway, N., Guest, D., and Trenberth, L. (2011), 'Testing the differential effects of changes in psychological contract breach and fulfillment', *Journal of Vocational Behavior*, 79, 267-276.

Cook, J. D., Hepworth, S. J., Wall, T. D., and Warr, P. B. (1981), *The experience of work: A compendium and review of 249 measures and their use*, London: Academic Press.

Coyle-Shapiro, J. (2002), 'A psychological contract perspective on organizational citizenship behavior', *Journal of Organizational Behavior*, 23, 927-946.

Coyle-Shapiro, J. and Kessler, I. (1998), 'The psychological contract in the UK public sector: Employer and employee obligations and contract fulfillment', in *Academy of Management Best Paper Proceedings*, ed. S. J. Havlovic, NPS, pp. 1-7.

Coyle-Shapiro, J. and Kessler, I. (2000), 'Consequences of the psychological contract for the employment relationship: A large scale survey', *Journal of Management Studies*, 37, 903-930.

Coyle-Shapiro, J. and Conway, N. (2004), 'The employment relationship through the lens of social exchange', in *The Employment relationship: Examining psychological and contextual perspectives*, eds. J. Coyle-Shapiro, L. M. Shore, M. Susan Taylor and L. E. Tetrick, Oxford: Oxford University Press, pp. 5-28.

Creed, W. E. D. and Miles, R. E. (1996), 'Trust in organizations: A conceptual framework linking organizational forms, managerial philosophies and the opportunity costs of control', in *Trust in Organizations: Frontiers of theory and research*, eds. R. M. Kramer and T. R. Tyler, Thousand Oaks: Sage, pp. 16-38.

Cudeck, R., and Browne, M. W. (1983), 'Cross-validation of covariance structures', *Multivariate Behavioral Research*, 18, 147-167.

de Jong, M. G., Lehmann, D. R., and Netzer, O. (2012), 'State-dependence effects in surveys', *Marketing Science*, 31, 838-854.

Diamantopoulos, A. and Siguaaw, J. A. (2006), 'Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration', *British Journal of Management*, 17, 263-282.

Diamantopoulos, A. and Winklhofer, H. (2001), 'Index construction with formative indicators: An alternative to scale development', *Journal of Marketing Research*, 37, 269-277.

Diamantopoulos, A., Sarsdedt, M., Fuchs, C., Kaiser, S., and Wilczynski, P. (2012), 'Guidelines for choosing between multi-item and single-item scales for construct

measurement: A predictive validity perspective', *Journal of the Academy of Marketing Science*, 40, 434-449.

Edwards, J. R. (2011), 'The fallacy of formative measurement', *Organizational Research Methods*, 14, 370-388.

Fichman, M. (2003), 'Straining towards trust: some constraints on studying trust in organizations', *Journal of Organizational Behavior*, 24, 133-157.

Geurts, S. A., Schaufeli, W. B. and Rutte, C. G. (1999), 'Absenteeism, turnover intention and inequity in the employment relationship', *Work and Stress*, 13, 253-267.

Greenberg, M. S. (1980), 'A theory of indebtedness', in *Social Exchange: Advances in theory and research*, eds. K. J. Gergen, M. S. Greenberg, and R. H. Willis, New York: Plenum Press, pp. 3-26.

Gouldner, A. W. (1960), 'The norm of reciprocity: A preliminary statement', *American Sociological Review*, 25, 161-178.

Guest, D. E. (1998), 'Is the psychological contract worth taking seriously?', *Journal of Organizational Behavior*, 19, 649-664.

Guest, D. E., Isakkson, K. and De Witte, H. (2010), 'Introduction', in *Employment Contracts, Psychological Contracts and Employee Well-Being: An international study*, eds. D. E. Guest, K. Isakkson and H. de Witte, Oxford: Oxford University Press, pp. 1-24.

Guzzo, R. A., Noonan, K. A. and Elron, E. (1994), 'Expatriate managers and the psychological contract', *Journal of Applied Psychology*, 79, 617-626.

Hair, J. F. Jr., Black, W. C., Babin, B. J., Anderson, R. E., and Tatham, R. L. (2006), *Multivariate Data Analysis (6th ed.)*, New Jersey: Pearson Prentice Hall .

Herriot, P., Manning, W. E. G. and Kidd, J. M. (1997), 'The content of the psychological contract', *British Journal of Management*, 8, 151-162.

Herriot, P. and Pemberton, C. (1995), *New deals*, Chichester: John Wiley & Sons.

Hu, L., and Bentler, P. (1999), 'Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives', *Structural Equation Modeling*, 6, 1-55.

Lamertz, K. (2002), 'The social construction of fairness: Social influence and sense making in organizations', *Journal of Organizational Behavior*, 23, 19-37.

Law, K. S., Wong, C. and Mobley, W. H. (1998), 'Toward a taxonomy of multidimensional constructs', *Academy of Management Review*, 23, 741-755.

Lester, S. W., Kickul, J. R. and Bergmann, T. J. (2007), 'Managing employee perceptions of the psychological contract over time: the role of employer social accounts and contract fulfillment', *Journal of Organizational Behavior*, 28, 191-208.

Lewicki, R. J. and Bunker, B. B. (1996), 'Developing and maintaining trust in work relationships', in *Trust in Organizations: Frontiers of theory and research*, eds. R. M. Kramer and T. R. Tyler, (Eds.), Thousand Oaks: Sage, pp. 114-139.

Marsh, H. W., Hau, K. and Wen, Z. (2004), 'In search of golden rules: Comment on hypothesis testing approaches to setting cutoff values for fit indexes and dangers in

overgeneralizing Hu and Bentler's (1999) findings', *Structural Equation Modeling*, 11, 320-341.

Montes, S. D. and Irving, P. G. (2008), 'Disentangling the effects of promised and delivered inducements: Relational and transactional contract elements and the mediating role of trust', *Journal of Applied Psychology*, 93, 1367-1381.

Montes, S. D. and Zweig, D. (2009), 'Do Promises Matter? An Exploration of the Role of Promises in Psychological Contract Breach', *Journal of Applied Psychology*, 94, 1243-1260.

Morrison, E. W. and Robinson, S. L. (1997), 'When employees feel betrayed: A model of how psychological contract violation develops', *Academy of Management Review*, 22, 226-256.

Nunnally, J. C., and Bernstein, I. H. (1994), *Psychometric Theory (3rd ed.)*, New York: McGraw-Hill Inc.

Orvis, K. A., Dudley, N. M. and Cortina, J. M. (2009), 'Conscientiousness and reactions to psychological contract breach: A longitudinal field study', *Journal of Applied Psychology*, 93, 1183-1193.

Pallant, J. (2005), *SPSS Survival Manual – a step by step guide to data analysis using SPSS*, Crows Nest: Allen & Unwin .

Parks, J. M., Kidder, D. L. and Gallagher, D. G. (1998), 'Fitting square pegs into round holes: Mapping the domain of contingent work arrangements onto the psychological contract', *Journal of Organizational Behavior*, 19, 697-730.

Pavlou, P. A. and Gefen, D. (2005), 'Psychological contract violation in online marketplace: antecedents, consequences, and moderating role', *Information Systems Research*, 16, 327-399.

Pritchard, R. D. (1969), 'Equity theory: A review and critique', *Organizational Behavior and Human Performance*, 4, 176-211.

Raja, U., Johns, G. and Ntalianis, F. (2004), 'The impact of personality on psychological contracts', *Academy of Management Journal*, 47, 350-367.

Rigotti, T. (2009), 'Enough is enough? Threshold models for the relationship between psychological contract breach and job-related attitudes' *European Journal of Work and Organizational Psychology*, 18, 442-463.

Robinson, S. L. (1995), 'Violation of psychological contracts: Impact on employee attitudes', in *Changing Employment Relations: Behavioral and social perspectives*, eds. L. E. Tetrick and J. Barling, Washington, DC: APA, pp. 91-108.

Robinson, S. L. (1996), 'Trust and breach of the psychological contract', *Administrative Science Quarterly*, 41, 574-599.

Robinson, S. L., Kraatz, M. and Rousseau, D. M. (1994), 'Changing obligations and the psychological contract: A longitudinal study', *Academy of Management Journal*, 37, 137-152.

Robinson, S. L. and Rousseau, D. M. (1994), 'Violating the psychological contract: Not the exception but the norm', *Journal of Organizational Behavior*, 15, 245-259.

Rousseau, D. M. (1989), 'Psychological and implied contracts in organizations', *Employee Responsibilities and Rights Journal*, 2, 121-139.

Rousseau, D. M. (1990), 'New hire perceptions of their own and their employer's obligations: A study of psychological contracts', *Journal of Organizational Behavior*, 11, 389-400.

Rousseau, D. M. (1995), *Psychological contracts in organizations*, Thousand Oaks: Sage.

Rousseau, D. M. (1998), *Psychological Contract Inventory. Centre for changing employment relationship*, Pittsburgh: Carnegie Mellon University.

Rousseau, D. M. (2001), 'Schema, promise and mutuality: The building blocks of the psychological contract', *Journal of Occupational and Organizational Psychology*, 74, 511-541.

Rousseau, D. M. (2010), 'The individual-organization relationship: The psychological contract', in *APA Handbook of Industrial and Organizational Psychology*, ed. S. Zedeck, Washington: APA, pp. 191-220.

Rousseau, D. M., Ho, V. T. and Greenberg, J. (2006), 'I-deals: idiosyncratic terms in employment relationships', *Academy of Management Review*, 31, 977-994.

Rousseau, D. M. and Parks, J. M. (1993), 'The contracts of individuals and organizations', *Research in Organizational Behavior*, 15, 1-43.

Rousseau, D. M. and Schalk, R. (2000), *Psychological contracts in employment: Cross national perspectives*, Thousand Oaks: Sage.

Rousseau, D. M. and Tijoriwala, S. A. (1998), 'Assessing psychological contracts: Issues, alternatives and measures', *Journal of Organizational Behavior*, 19, 679-696.

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., and King, J. (2006), 'Reporting structural equation modeling and confirmatory factor analysis results: A review', *The Journal of Educational Research*, 99, 323-337.

Shore, L. M. and Barksdale, K. (1998), 'Examining degree of balance and level of obligation in the employment relationship: A social exchange approach', *Journal of Organizational Behavior*, 19, 731-744.

Shore, L. M. and Tetrick, L. E. (1994), 'The psychological contract as an explanatory framework in the employment relationship', in *Trends in Organizational Behavior*, eds. C. L. Cooper and D. M. Rousseau, Chichester: John Wiley & Sons, pp. 91-109.

Sparrow, P. R. and Cooper, C. L. (2003). *The employment relationship: Key challenges for HR*, Oxford: Butterworth Heinemann.

Spector, P. E. and Jex, S .M. (1998), 'Development of Four Self-Report Measures of Job Stressors and Strain: Interpersonal Conflict at Work Scale, Organizational Constraints Scale, Quantitative Workload Inventory, and Physical Symptoms Inventory', *Journal of Occupational Health Psychology*, 3, 356-367.

Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., and Kessler, S. (2006), 'The dimensionality of counterproductivity: Are all counterproductive behaviors created equal?', *Journal of Vocational Behavior*, 68, 446-460.

Suddaby, R. (2010), 'Editor's comments: Constrcut clarity in theories of management and organization', *Academy of Management Review*, 35 (3), 346-357.

Turnley W. H. and Feldman, D. C. (1999a), 'The impact of psychological contract violations on exit, voice, loyalty, and neglect', *Human Relations*, 52, 895-922.

Turnley, W. H. and Feldman, D. C. (1999b), 'A discrepancy model of psychological contract violations', *Human Resource Management Review*, 9, 367-386.

Turnley, W. H. and Feldman, D. C. (2000), 'Re-examining the effects of psychological contract violations: unmet expectations and job dissatisfaction as mediators', *Journal of Organizational Behavior*, 21, 25-42.

Van Yperen, N. W., Hagedoorn, M. and Geurts, S. A. E. (1996), 'Intent to leave and absenteeism as reactions to perceived inequity: The role of psychological and social constraints', *Journal of Occupational and Organizational Psychology*, 69, 367-372.

Wanous, J. P., Reichers, A., and Hudy, M. J. (1997), 'Overall job satisfaction: How good are single-item measures?', *Journal of Applied Psychology*, 82, 247-252.

Weber, L. and Mayer, K. J. (2011), 'Designing effective contracts: Exploring the influence of framing and expectations', *Academy of Management Review*, 36, 53-75.

Zhao, H., Wayne, S. J., Glibkowski, B. C. and Bravo, J. (2007), 'The impact of psychological contract breach on work-related outcomes: A meta analysis', *Personnel Psychology*, 60, 647-680.

Table 1. Psychological contract breach component forms and definitions

Component form	Definition
Delay	The time between the expected fulfilment of a promise and its actual delivery
Magnitude	The difference between the amount that was promised and what is actually received
Type/form	The difference between what was promised and what is actually delivered
Inequity	The belief that comparable others are receiving more than oneself
Exchange imbalance	The belief that what one gives to the organization is more than what one receives from the organization

Table 2. Correlation coefficients between study 1 variables

	Mean	SD	S	K	1	2	3	4	5	6	7	8
1. Delay	14.10	4.17	.300	-.279	--							
2. Magnitude	15.65	4.67	.237	-.333	.732*	--						
3. Form	13.04	5.48	.693	-.244	.590*	.721*	--					
4. Inequity	16.02	4.37	.172	.000	.496*	.538*	.576*	--				
5. Exch. imbal.	15.50	5.04	.323	-.095	.612*	.692*	.698*	.688*	--			
6. Org. Sat.	3.50	0.95	-.768	.074	-.315*	-.386*	-.357*	-.235*	-.347*	--		
7. Int. to leave	8.35	3.64	.268	.939	.428*	.427*	.398*	.322*	.421*	-.604*	--	
8. Breach (1 item)	3.33	0.98	-.638	-.258	.800*	.868*	.846*	.804*	.884*	-.387*	.480*	--

* $p < .01$; $N = 420$

S=Skewness; K=Kurtosis

Table 3: Fit indices from confirmatory factor analyses for each model

Model	χ^2	DF	χ^2/df	RMSEA (90%CI)	SRMR	CFI	TLI	PGFI	PCFI	BIC
Null Model	733.721	10	73.372	.586(.541, .612)		.000	.000	.238	.000	760.667
Model 1	33.029	5	6.606	.166(.111, .214)	.041	.961	.923	.313	.481	86.920
Model 2	11.982	4	2.996	.096(.036, .160)	.026	.989	.972	.261	.396	71.262
Model 3	16.113	4	4.028	.12(1.062, .175)	.042	.983	.958	.259	.393	38.732
Model 4	2.910	3	.970	.000(.000, .113)	.020	.994	.992	.199	.300	67.579

Model 1: model based on exploratory factor analysis; Model 2: Co-variance between error terms for delay and magnitude; Model 3: Co-variance for error terms between inequity and exchange/imbalance; Model 4: Figure 1 (both co-variances of models 2 and 3). Difference model 1 and null model: $\Delta \chi^2$ (df) = 700.69(5) ***; Difference models 2 and 1: $\Delta \chi^2$ (df) = 21.05 (1) ***; Difference models 4 and 2: $\Delta \chi^2$ (df) = 9.07 (1) **; Difference models 4 and 3: $\Delta \chi^2$ (df) = 13.20 (1) ***. ** $p < .005$; *** $p < .001$

Table 4. Pattern Matrix: Maximum Likelihood Analysis of Self-Report Data and Oblique Rotation

Items	Factor Loadings (Above .4)		
	PCB	OS	ITO
1. Delay: To what extent would you state that, in general, the following obligations and commitments are not being delivered when they are due?	.756		
2. Magnitude: To what extent would you state that, in general, the following obligations and commitments are less than the amount that you expect?	.826		
3. Type/Form: To what extent would you state that, in general, the following obligations and commitments are of a more inferior type or form than you expect to get?	.809		
4. Inequity: To what extent would you state that, in general, you are being treated less well than others who are at your same level on the following obligations and commitments?	.731		
5. Reciprocal imbalance: Given what you give in general to the organization, to what extent do you get back less than enough of the following obligations and commitments?	.845		
6. I feel a sense of personal satisfaction at [NAME OF COMPANY]		.881	
7. Working for [NAME OF COMPANY] is very satisfying to me		.945	
8. Overall, how satisfied are you at [NAME OF COMPANY]?		.616	
9. It is likely that I will actively look for a new job next year			.825
10. I often think about leaving			.729
11. I will probably look for a new job in the next year			.485

PCB= Psychological contract breach; OS=Organizational satisfaction; ITO=Intention to Leave Organization

Extraction Method: Maximum Likelihood. Rotation Method: Oblique with Kaiser Normalization. Rotation converged in 6 iterations.

Table 5. Correlation coefficients between study 2 variables

	Mean	SD	S	K	1	2	3	4	5	6	7	8
1. Delay	15.69	4.77	.149	-.586	--							
2. Magnitude	15.34	5.02	.278	-.509	.819*	--						
3. Form	16.42	4.51	.005	-.555	.665*	.783*	--					
4. Inequity	11.45	5.01	1.06	.532	.390*	.492*	.491*	--				
5. Exch. imbal.	14.24	5.16	.477	-.436	.625*	.747*	.832*	.592*	--			
6. Org. Sat.	9.65	1.76	-.407	.378	-.453*	-.492*	-.450*	-.276*	-.441*	--		
7. Violation	8.18	4.08	.966	.505	.477*	.431*	.393*	.268*	.409*	-.409*	--	
8. Breach (Multiple item)	12.11	4.16	.305	-.345	.616*	.631*	.557*	.370*	.588*	-.470*	.528*	--

* p<.01; N=189

S=Skewness; K=Kurtosis

Table 6. Fit indices from confirmatory factor analyses for multiple-component psychological contract breach model

	χ^2	<i>Df</i>	CFI	TLI Rho2	RMSEA (LO 90, HI 90)	SRMR	Chi-square/df
Null model	707.951	15			.496 (.465, .527)		47.197
One-factor measurement model ^a (without covariances)	71.882	27	.903	.710	.267 (.214, .323)	.049	14.376
One-factor measurement model ^b (with two covariances between error terms similar to study one's model)	2.431	26	1.00	1.003	.000 (.000, .114)	.012	.810

N=189; CFI- Comparative fit index; TLI= Tucker Lewis index; RMSEA = Root mean square error of approximation; df= Degrees of freedom.

¹ Difference one-factor measurement model ^a (without covariances) and null model: $\Delta \chi^2$ (df)= 636.069(12)***

² Difference between one-factor measurement model ^a (without covariances) and one-factor measurement model ^b (with two covariances between error terms): $\Delta \chi^2$ (df)=69.451(1)***

*** p<.001

Figure 1. Hypothesised structural equation model 4 of psychological contract breach as the latent construct with two co-variances between error terms and showing estimates of correlations between error terms, standardized regression weights, and squared multiple correlations.

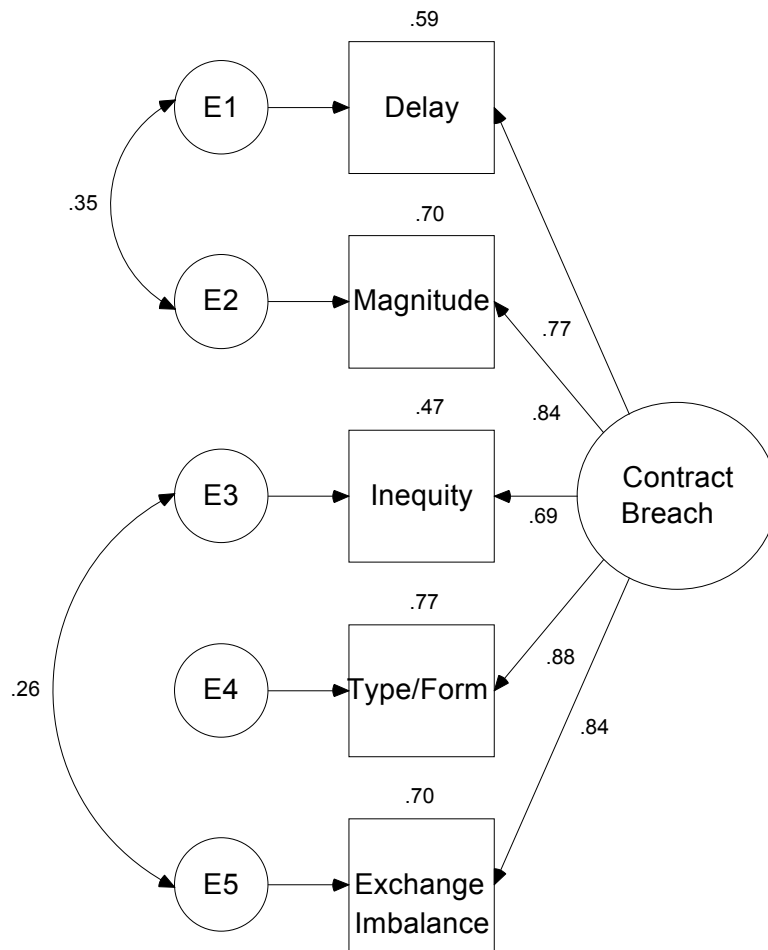
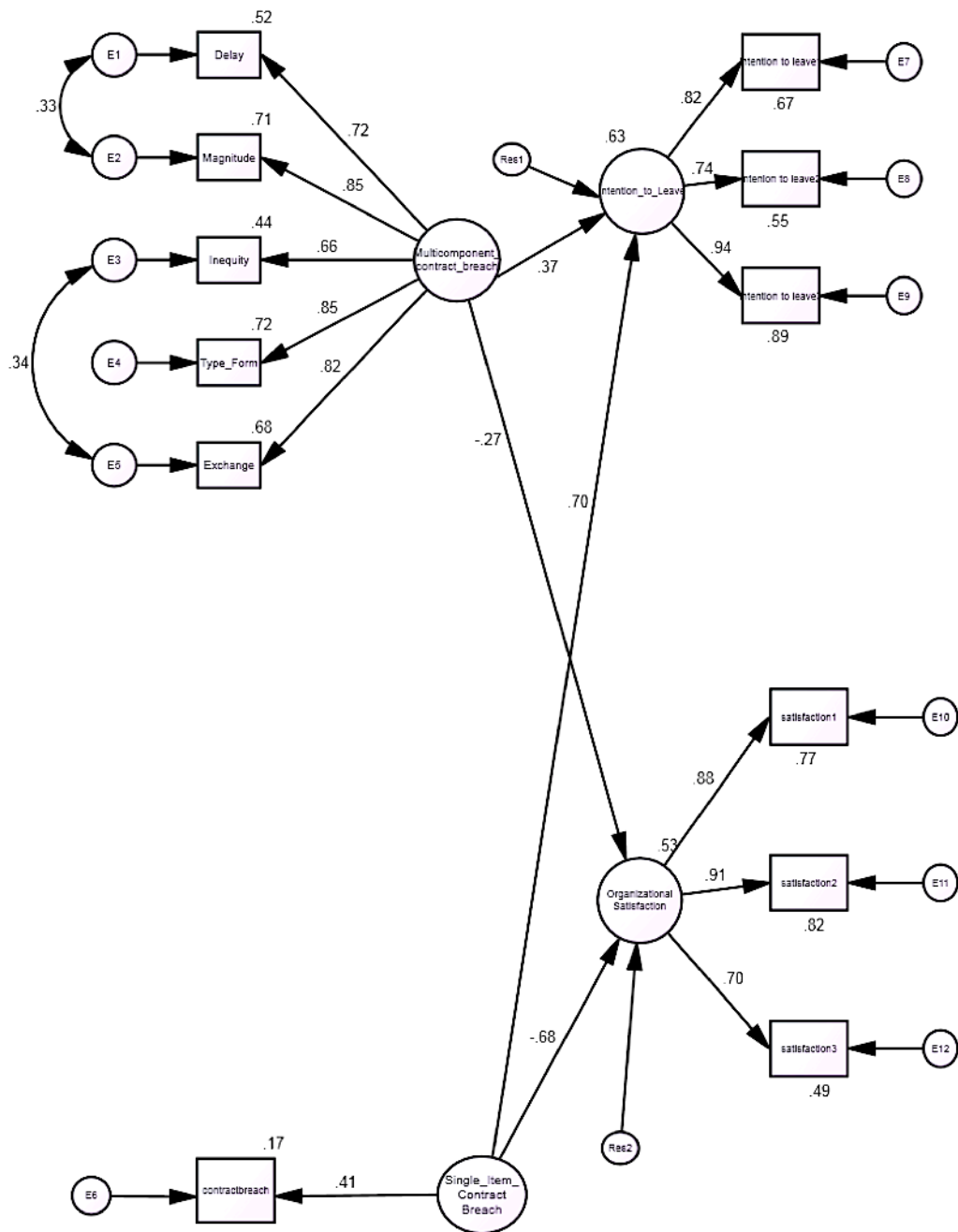
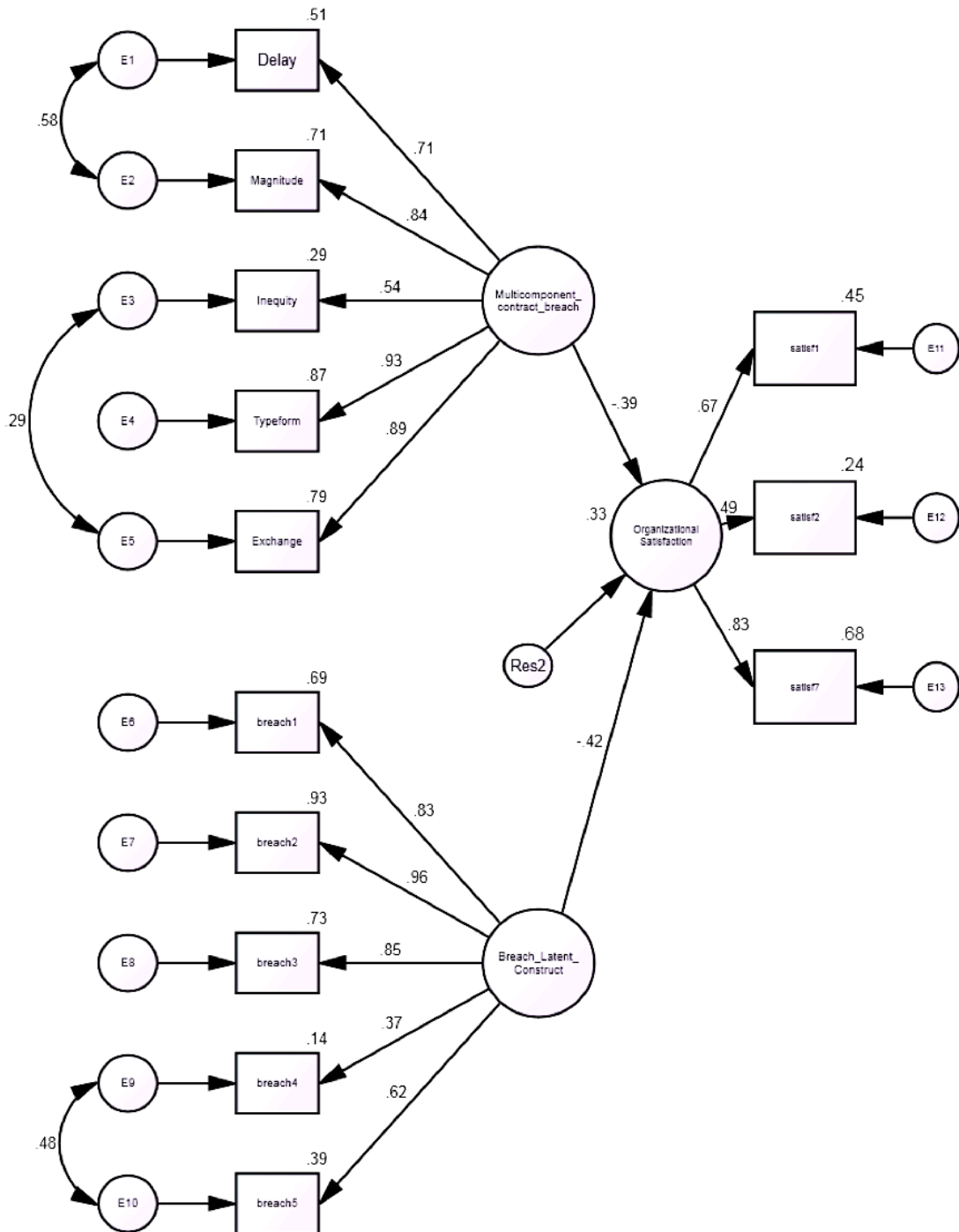


Figure 2. Relationships among psychological contract breach (single item), psychological contract breach (multi-component measure), and outcome variables



Path coefficients are all statistically significant at $p < .001$

Figure 3. Relationships among psychological contract breach (multiple items), psychological contract breach (multi-component measure), and organizational satisfaction



Path coefficients are all statistically significant at $p < .001$

Table 7. Pattern Matrix: Maximum Likelihood Analysis of Self-Report Data and Oblique Rotation

Items	Factor Loadings (Above .4)	
	PCB	OS
1. Delay: To what extent would you state that, in general, the following obligations and commitments are not being delivered when they are due?	.795	
2. Magnitude: To what extent would you state that, in general, the following obligations and commitments are less than the amount that you expect?	.895	
3. Type/Form: To what extent would you state that, in general, the following obligations and commitments are of a more inferior type or form than you expect to get?	.883	
4. Inequity: To what extent would you state that, in general, you are being treated less well than others who are at your same level on the following obligations and commitments?	.563	
5. Reciprocal imbalance: Given what you give in general to the organization, to what extent do you get back less than enough of the following obligations and commitments?	.861	
6. I feel a sense of personal satisfaction at [NAME OF COMPANY]		.584
7. Working for [NAME OF COMPANY] is very satisfying to me		.478
8. Overall, how satisfied are you at [NAME OF COMPANY]?		.477

PCB= Psychological contract breach; OS=Organizational satisfaction

Extraction Method: Maximum Likelihood. Rotation Method: Oblique with Kaiser Normalization. Rotation converged in 5 iterations