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Psychological Contract Breaches, Organizational Commitment, and Innovation-Related Behaviors: A Latent Growth Modeling Approach

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This study examined the relationships among psychological contract breaches, organizational commitment, and innovation-related behaviors (generating, spreading, implementing innovative ideas at work) over a 6-month period. Results indicate that the effects of psychological contract breaches on employees are not static. Specifically, perceptions of psychological contract breaches strengthened over time and were associated with decreased levels of affective commitment over time. Further, increased perceptions of psychological contract breaches were associated with decreases in innovation-related behaviors. We also found evidence that organizational commitment mediates the relationship between psychological contract breaches and innovation-related behaviors. These results highlight the importance of examining the nomological network of psychological contract breaches from a change perspective.

Keywords: psychological contract, organizational commitment, innovation, latent growth modeling

Employees hold expectations about what they owe their employers and about what their employers owe them in return (Rousseau, 1989, 1995). When these sets of expectations, or psychological contracts, are breached, there are adverse consequences for employees' attitudes and work behaviors (Johnson & O'Leary-Kelly, 2003; Morrison & Robinson, 1997; Robinson, 1996; Robinson, Kraatz, & Rousseau, 1994; Shore & Barksdale, 1998).

Although there are certainly exceptions, a majority of the studies examining psychological contract breaches have been cross-sectional in nature (e.g., Gakovic & Tetrick, 2003; Restubog, Bordia, & Tang, 2006). Even longitudinal studies in this area seldom address how quickly or how steeply the quality of breached employment relationships declines. Such an approach requires researchers to track intraindividual changes in psychological contract breaches and to relate those changes to other intraindividual changes in job attitudes and behaviors. To address this gap in the research, the goal of this study was to examine how changes in perceptions of psychological contract breaches relate to affective commitment (AC) and innovation-related behaviors (IRBs) over time.

Although previous research has suggested that breaches of psychological contracts are negatively related to AC (e.g., Bellou, 2008; Z. X. Chen, Tsui, & Zhong, 2008; Flood, Turner, Ramamoorthy, &

Pearson, 2001; Suazo, 2009), these studies have focused only on bivariate relationships. They have not examined whether perceptions of breaches and AC change over time, whether these changes are in the same or opposite direction, and whether these changes occur at the same speed.

In addition, there has been little research conducted on the relationship between psychological contract breaches and IRBs (i.e., the degree to which employees generate, spread, and implement innovative ideas). Researchers have previously examined how psychological contract breaches impact employee productivity (Zhao, Wayne, Glibkowski, & Bravo, 2007). Beyond influencing productivity, though, psychological contract breaches may also impact how adaptable and proactive employees are at work (Griffin, Neal, & Parker, 2007). To date, these other components of employee performance have been largely neglected in the psychological contract literature. To fill this void, we focused on IRB, a core form of proactive behavior identified by Parker, Williams, and Turner (2006), as a long-term correlate of psychological contract breaches.

Theoretical Background

Our general framework appears in Figure 1. It suggests that both the initial status of and longitudinal changes in psychological contract breaches, AC, and IRBs are likely to be correlated.

Psychological Contract Breaches and AC

Two theories, in particular, have informed our understanding of the relationship between an employee and his or her employer (Coyle-Shapiro & Shore, 2007). In formalizing social exchange

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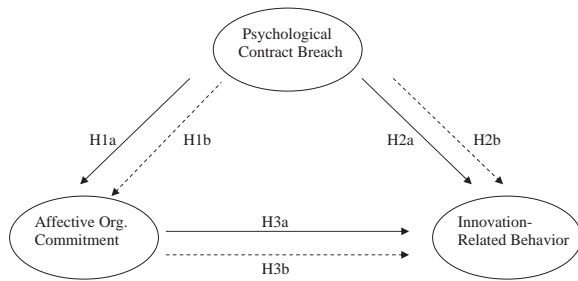


Figure 1. The proposed model. Solid lines indicate initial status, and dashed lines indicate rate of change. H = hypothesis; Org. = Organizational.

theory, Blau (1964) suggested that individuals who perceive that they are valued are likely to reciprocate with trust and emotional engagement in their exchanges with others. In putting forth their inducement–contribution model, March and Simon (1958) suggested that organizations offer inducements to employees to join and stay, while employees make contributions to organizational effectiveness through high levels of job performance. Together, these two theories suggest that individuals are more likely to feel psychologically attached to their employers and reciprocate with positive behaviors when they feel valued and respected.

When employees perceive that their organizations have breached their psychological contracts by failing to fulfill their promises, they may reduce their AC, that is, the emotional attachment they feel toward their firms (Meyer, Allen, & Smith, 1993). First, when employers fail to fulfill their promises, employees are likely to experience negative emotions, such as anger, disappointment, and frustration (Johnson & O’Leary-Kelly, 2003), which directly reduce AC. Second, perceptions of breaches may increase employees’ distrust in their employers and dissolve their emotional bonds with them (Robinson, 1996). In two recent meta-analyses, researchers found that, across cumulative studies, psychological contract breach was negatively associated with AC (Cantisano, Morales Domínguez, & Depolo, 2008; Zhao et al., 2007).

Despite the cumulative empirical evidence on the relationship between psychological contract breaches and AC at any point in time, it is still unclear whether changes in perceptions of psychological contract breaches are associated with changes in AC. As a result, we do not have much empirical evidence on whether the consequences of psychological contract breaches strengthen, weaken, or remain stable over time, nor whether these changes intensify as psychological contract breaches heighten over time. It is reasonable to believe, though, that when perceptions of psychological contract breaches heighten over time, AC is likely to decrease over time. For instance, Pugh, Skarlicki, and Passell (2003) found that psychological contract breaches with previous employers contributed to employees’ cynicism about new and future employment relationships. Pugh et al.’s work, then, suggests that employees’ affective bonding with their employers is impacted by their previous experiences with psychological contract breaches. Thus, we expect that psychological contract breaches will be related to AC not only in the short run but in the long run, too.

Hypothesis 1a: The higher the initial status of the psychological contract breach, the lower the initial status of AC will be.

Hypothesis 1b: The greater the increase in perceptions of psychological contract breaches, the greater the decline in AC will be over time.

Psychological Contract Breaches and IRBs

Proactive behaviors broadly refer to taking the initiative in improving the current workplace (Crant, 2000). Proactive behavior is not the same as in-role or extrarole behavior. The distinction between in-role and extrarole largely rests on whether specific tasks are required. On the other hand, individuals can display proactivity in neither, one, or both of these categories of work tasks (Frese & Fay, 2001).

Parker et al. (2006) identified two kinds of proactive behaviors at work: proactive idea implementation and proactive problem solving. We focus on proactive idea implementation here for both theoretical and practical reasons. First, research has suggested that IRBs are increasingly important for improving organizational productivity (Anderson, De Dreu, & Nijstad, 2004; Baer & Frese, 2003; de Jong & de Ruyter, 2004). Second, studying proactive problem solving requires researchers to identify the specific kinds of problems that employees face in each work context ahead of time (Parker et al., 2006). Because the current study design involves employees from multiple occupations, identifying context-specific problems would be less feasible.

Proactive idea implementation goes beyond merely coming up with creative ideas by oneself but involves (a) sharing ideas with colleagues and spreading the innovation throughout the organization and (b) working to implement those innovations themselves or helping others do so as well (Axtell et al., 2000). Together, these IRBs help contribute to the innovative capacity of the organization as a whole (Baer & Frese, 2003; Frese, Teng, & Wijnen, 1999).

Because psychological contract breaches can evoke negative responses from employees (Morrison & Robinson, 1997), and because reluctance to innovate on the organization’s behalf can be conceptualized as a form of negative reciprocation, employees who perceive serious psychological contract breaches are likely to respond with fewer IRBs, both immediately after the breach and as time passes. For instance, researchers have found that perceptions of psychological contract breaches promote higher levels of employee neglect (Lemire & Rouillard, 2005; Turnley & Feldman, 1999), whereby employees stand by and allow work conditions to deteriorate (Rusbult, Farrell, Rogers, & Mainous, 1988). Also, in a 2-year longitudinal study, Robinson et al. (1994) observed that employees who perceived that their employers had failed to fulfill their obligations at Time 1 reported lower levels of felt obligations 2 years later. This research, too, suggests that psychological contract breaches heighten passivity and lower proactivity in the workplace, both in the short run and over the long haul.

Hypothesis 2a: The higher the initial status of the psychological contract breach, the lower the initial status of IRB will be.

Hypothesis 2b: The greater the increase in perceptions of psychological contract breaches, the greater the decline in IRB will be over time.

AC and IRBs

Workers with low AC are likely to perform only those minimum behaviors required for continued employment (Riketta, 2002).

Cross-sectional empirical studies also provide indirect evidence for expecting a positive relationship between AC and proactive behavior at work. For instance, Rank, Carsten, Unger, and Spector (2007) found that AC positively predicted proactive customer service behavior. Morrison and Phelps (1999) found that employees who experienced a greater sense of felt responsibility (such as those who strongly identified with their employers) demonstrated more "taking charge" behavior at work. Particularly relevant to the study of IRBs, Iverson (1996) found that higher AC was associated with stronger support and acceptance for organizational change.

The above arguments can be further extended to support a "change" perspective in this study. As noted before, both social exchange theory and the inducement–contribution model emphasize reciprocity in employee–employer exchanges. Taking an increasingly passive (rather than proactive) view of one's job responsibilities is a likely response to decreasing AC and would help restore balance in the exchange relationship. Bentein, Vandenberg, Vandenberghe, and Stinglhamber (2005), for example, observed that declines in AC were associated with increases in turnover intentions over time. Following the same logic, we expect that

Hypothesis 3a: The higher the initial status of AC, the higher the initial status of IRB will be.

Hypothesis 3b: The greater the decline in AC, the greater the decline in IRB will be over time.

Considering all these hypotheses together, this study proposes that AC partially mediates the effect of psychological contract breaches on IRBs. That is, as individuals' psychological contract breaches heighten over time, their IRBs are likely to decrease over time. We propose that this occurs not only because these employees intend to reciprocate negatively for the breaches they experienced but also because they have weakening affective attachment to their employers.

Method

Sample and Procedure

We hired a professional research organization to collect survey data from a national sample. At Time 1, surveys were sent to 4,100 individuals randomly selected from the research company's sample pool. We received 850 usable surveys back. Three months later, the Time 2 survey was sent to those 850 respondents who participated in the first survey. We received 442 usable surveys back. Finally, at the 6-month mark, the Time 3 survey was sent to the 442 respondents who participated in the first and second surveys. We received 329 usable surveys back. Thus, the ultimate response rate across the three time points is 8% ($21\% \times 52\% \times 74\%$). Forty-four individuals had changed jobs during this 6-month span. The effective sample size for the current study, therefore, was 285. We compared those who participated in all three surveys with those who dropped out without completing all three surveys. There were no significant differences on key psychological and demographic variables.

The average age of employee respondents was 37.7 years ($SD = 12.31$). Fifty-five percent of respondents were female. Average organizational tenure was 5.9 years; average job tenure was 4.2

years. Eighty percent of the sample had at least some college education, and 27% of the sample held managerial positions.

A wide range of occupations was represented in the final sample. Participants included customer service representatives and sales personnel (10%); bankers, consultants, and financial analysts (7%); accountants (4%); engineers (5%); doctors and nurses (7%); educators (6%); lawyers (4%); information technology specialists (6%); directors (11%); civil service workers (5%); administrative assistants (11%); drivers (3%); and manufacturing and construction laborers (8%).

Two researchers coded these occupations into high versus low job complexity. The process was guided by previous studies that also coded for job complexity (e.g., Avolio & Waldman, 1990; Salgado et al., 2003; Wood, Mento, & Locke, 1987). Interrater agreement was 94%. In situations in which there was disagreement, discussion was used to reach consensus. Forty-eight percent of the jobs were classified as high job complexity, and 52% were classified as low complexity.

Measures

Psychological contract breach was measured with Robinson and Morrison's (2000) five-item scale. The coefficient alpha was .97 at all three points in time. AC was measured with Meyer et al.'s (1993) six-item scale. The coefficient alpha was .94 at all three time points.

We created a new measure of IRB based on Parker et al.'s (2006) work. Even though Parker et al. used their measure in the manufacturing sector, the three groups of IRBs (generating, spreading, and implementing ideas) captured in their scale appear to have relevance to most industries.

The first scale item measured number of ideas generated. It asked respondents to indicate the number of new ideas they had come up with during the past 3 months about key workplace issues such as saving money and cutting costs, improving work quality, improving customer service, making a better product, and working together effectively. Response options were 0 (*no new ideas*), 1 (*1–2 new ideas*), 2 (*3–10 new ideas*), and 3 (*more than 10 new ideas*).

The second and third items measured spread of innovation. Specifically, for those individuals who had come up with at least one new idea, the second item asked whether they had put forward their idea to anyone else and, if so, to whom. Response options were 1 (*yes—to my colleagues*) and 2 (*yes—to a manager or supervisor*). Individuals who had not come up with at least one new idea were asked to check *no* (coded 0). Because spreading innovation to managers and supervisors might require more effort than mentioning ideas to coworkers, and because passing along innovations upward might have more widespread positive effects, we assigned the *to a manager or supervisor* response the higher score (i.e., 2). The third item asked respondents to indicate whether they had helped spread new ideas or solutions generated by coworkers or supervisors. Response options were 0 (*no*) and 1 (*yes*).

The fourth and fifth items measured implementation of ideas. Specifically, the fourth item asked respondents to indicate whether the ideas they generated themselves were implemented and by whom. Response options were 0 (*no*), 1 (*yes—by myself*), and 2 (*yes—by others*). Because getting others to implement one's idea requires more effort than implementing an idea by oneself, we

assign the *yes—by others* response the higher score (i.e., 2). The fifth item asked respondents to indicate whether they had implemented ideas generated by coworkers or supervisors. Response options were 0 (*no*) and 1 (*yes*).

Each of the above five items is ordinal in nature, with a higher score (or rank) reflecting more IRB. Together, these five items measure the extent to which employees generate, spread, and implement innovative ideas at work. An exploratory factor analysis with varimax rotation indicated that the five items loaded on the same factor at all three points in time. The extracted variance was 60% at Time 1, 65% at Time 2, and 68% at Time 3. The coefficient alpha was .81 at Time 1, .84 at Time 2, and .83 at Time 3. Self-reported measures of creativity or innovation are not uncommon in the organizational sciences (Axtell et al., 2000; Carmeli & Schaubroeck, 2007; Janssen, 2004; Shalley, Gilson, & Blum, 2009). Parker et al. (2006) also found that their newly created self-report measure converged with objective measures of proactive behavior in the workplace.

Latent Growth Modeling (LGM)

LGM assesses changes in levels of variables and examines how these changes are related to other constructs in a nomological network. Bollen and Curran (2006) distinguished between two types of LGM. *Unconditional* latent growth models do not include covariates that affect the trajectory of change. In using these models, researchers are able to examine the mean levels of variables measured at different time points and to determine whether there is sufficient variance in the vector of change to be accounted for by other constructs in the nomological network. In contrast, *conditional* latent growth models include covariates that may affect the trajectory of change. In using these models, researchers are able to examine the strength of the relationships of the covariates with the mean intercept and the mean slope.

A key step of LGM is specifying factor loadings for the latent intercept factor (representing the average initial status of individuals on a measure) and the slope factor (representing the rate of change over time) to other variables of interest. Here the loadings from the intercept factor to each of the three repeated measures are fixed to 1.0 so that the intercept factor equally influences all

repeated measures. The loadings from the slope factor to each of the three repeated measures are fixed to values of 0, 1, and 2 (or 0, -1, -2 for negative changes; Duncan, Duncan, & Strycker, 2006).

In this study, we adopted a second-order-factor LGM approach. Specifically, the second-order intercept factors of psychological contract breach, AC, and IRB were specified to be correlated. At the same time, the second-order slope factors of psychological contract breach, AC, and IRB were also specified to be correlated. In addition, the intercept and the slope for each of these three study variables were specified to be correlated. Next, each first-order latent factor was represented by its respective measurement items, and the error variances of those measurement items that were repeatedly used across time points were allowed to be correlated (Lance, Vandenberg, & Self, 2000). Readers are referred to several additional studies for more technical details associated with the use of LGM and for illustrations of its usage, including Bentein et al. (2005); Bollen and Curran (2006); Chan (1998); Chan, Ramey, Ramey, and Schmitt (2000); Duncan et al. (2006), and Lance et al. (2000).

Results

Confirmatory Factor Analysis

The correlations among the study variables are presented in Table 1. We first specified all the variables in a confirmatory factor analysis to examine whether the measurement models have acceptable model fit. These variables were specified as latent constructs represented by their respective measurement items in the analysis. The fit of the model was evaluated by various fit indices recommended by Hu and Bentler (1998): Tucker–Lewis index (TLI), Bollen's fit index (BL89), comparative fit index (CFI), root-mean-square error of approximation (RMSEA), and standardized root-mean-square residual (SRMR). To conclude that a model fits the data well, Hu and Bentler (1999) suggested that TLI, BL89, and CFI should be close to .95, RMSEA should be close to .06, and SRMR should be close to .08.

The overall measurement model has acceptable fit. The chi-square value was 2,200.77 ($df = 996$). TLI was .98, and both BL89

Table 1
Correlations Among Study Variables ($N = 285$)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Breach (T1)	—											
2. Breach (T2)	.77**	—										
3. Breach (T3)	.70**	.76**	—									
4. AC (T1)	-.60**	-.57**	-.50**	—								
5. AC (T2)	-.54**	-.63**	-.55**	.81**	—							
6. AC (T3)	-.48**	-.59**	-.63**	.78**	.82**	—						
7. IRB (T1)	-.10*	-.10*	-.09*	.22**	.13*	.19**	—					
8. IRB (T2)	-.09*	-.12*	-.09*	.31**	.27**	.28**	.74**	—				
9. IRB (T3)	.04	-.09*	-.10*	.18**	.16**	.25**	.68**	.74**	—			
10. Breach increase rate	-.39**	.04	.30**	.15**	.03	-.15	.02	.01	-.14*	—		
11. AC decrease rate	-.13	.01	.15*	.29**	-.06	-.33**	.07	.08	-.03	.29**	—	
12. IRB decrease rate	-.09	.01	.01	-.02	-.05	-.10*	.23**	-.12*	-.53**	.16**	.13*	—

Note. T = Time; AC = affective commitment; IRB = innovation-related behavior.

* $p < .05$. ** $p < .01$.

and CFI were .99. RMSEA was .05, and SRMR was .06. When we alternately constrained each pairwise factor correlation to unity, we found that, in each case, constraining the factor correlation significantly worsened model fit ($p < .01$), suggesting that psychological contract breach, AC, and IRB are empirically distinct.

In addition, we examined whether these scales demonstrated measurement invariance longitudinally (Vandenberg & Lance, 2000). On the basis of chi-square difference tests, we found that the scale items of psychological contract breach demonstrated full metric invariance. One item in the AC scale and one item in the IRB scale had significantly different factor loadings across time points. However, this partial metric invariance does not pose a major threat to the interpretation of our results. In theory, it is overly stringent to expect full metric invariance for all study variables in longitudinal research when the underlying assumption in undertaking such research is that there will be some changes in variables of interest over time (Pentz & Chou, 1994). Methodologically, Lance et al. (2000) proposed a reasonable remedy for the lack of full metric invariance, namely, allowing variant factor loadings to be freely estimated in the testing model while the invariant items are set to have equal factor loadings. Hence, the parameter estimates in the subsequent LGM analyses would control for the lack of full metric invariance at the first-order-factor level, which in turn defines true initial status and change at the second-order-factor level.

Unconditional LGM

We first examined whether there was sufficient variance in the vector of change to be accounted for by the LGM analysis. In the case of psychological contract breach, the slope factor mean was positive and significant ($p < .01$), suggesting that the mean level of psychological contract breach increased over time. The mean scale values at the three time points were 2.68, 2.72, and 2.81 (slope = 5%). In the case of AC and IRBs, the slope factor means were negative and significant ($p < .01$), suggesting that both AC and IRBs decreased over time. The mean scale values of AC at the three time points were 3.23, 3.19, and 3.14 (slope = -3%). The summed scale values of IRBs (averaged across individuals) at the three time points were 5.51, 4.97, and 4.67 (slope = -15%).

In addition, the intercept factor variances for all three study variables were statistically significant, indicating that there were individual differences in these three variables at Time 1. Similarly, the slope factor variances for all three study variables were statistically significant, revealing that there were individual differences in the rate of change in these three variables, too. Finally, the factor covariance between the intercept and the slope for psychological contract breach was significantly and negatively related, suggesting that respondents who had a higher mean level of psychological contract breach at Time 1 experienced smaller increases in perceived contract breaches over time. In contrast, we found that the factor covariance between the intercept and the slope for both AC and IRB were positively and significantly related, suggesting that respondents who had a higher mean level of AC or IRB at Time 1 experienced a greater decline in AC or IRB over time.

Conditional LGM

We found that the proposed model has acceptable fit. The chi-square value was 4,282.50 ($df = 1,048$). TLI, BL89, and CFI

were all .96, and SRMR was .08. These four indices, then, meet the criteria proposed by Hu and Bentler (1999). However, the RMSEA was only .10. As other methodologists have emphasized, though, it is inappropriate to rely on only one fit index to accept or reject a proposed model; instead a bundle of indices should be used (Bentler, 2007; Tanaka, 1993). In addition, other researchers have advised against strict adherence to a fixed target value for RMSEA in particular (Hayduk & Glaser, 2000; Steiger, 2000) because RMSEA relies heavily on such factors as complexity of model specification, degrees of freedom, and sample size (F. Chen, Curran, Bollen, Kirby, & Paxton, 2008). Therefore, because the other four indices indicated that the proposed model has acceptable fit, we then examined the parameter estimates contained in our model. Those estimates appear in Figure 2.

We found full support for both Hypotheses 1a and 1b. The initial status of psychological contract breach was significantly and negatively related to the initial status of AC ($\beta = -.64, p < .01$), whereas the intensity of increase in psychological contract breach was significantly and positively related to the intensity of decline in AC ($\beta = .54, p < .01$).

We found support for Hypothesis 2b but not for Hypothesis 2a. The initial status of psychological contract breach was unrelated to the initial status of IRB. On the other hand, the intensity of increase in psychological contract breach was positively related to the intensity of decline in IRB ($\beta = .15, p < .05$).

Both Hypotheses 3a and 3b were supported. The initial status of AC was positively related to the initial status of IRB as predicted ($\beta = .33, p < .01$), and the intensity of decline in AC was also positively related to the intensity of decline in IRB as predicted ($\beta = .16, p < .05$).

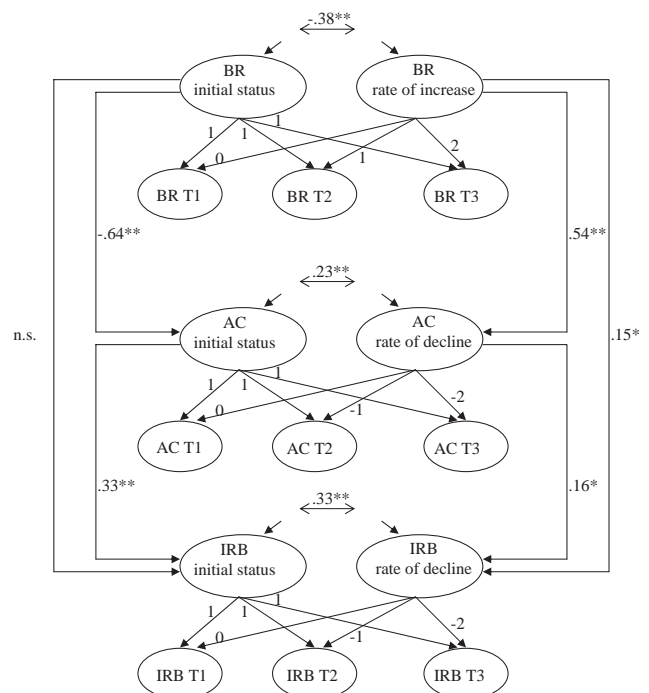


Figure 2. Standardized parameter estimates. BR = psychological contract breach; T = Time; AC = affective commitment; IRB = innovation-related behavior. * $p < .05$. ** $p < .01$.

Mediation Tests

To test the mediation effect of AC, we followed the procedures outlined by Iacobucci, Saldanha, and Deng (2007). We performed mediation tests separately for the initial status and change factors. As noted before, the initial status of psychological contract breach was negatively related to the initial status of AC, which in turn was positively related to the initial status of IRB. The initial status of breach, though, was not directly related to the initial status of IRB. Next, we computed Sobel's (1982) z statistic for the mediator of AC, which was -4.33 ($p < .01$), suggesting that this mediating effect was statistically different from zero. According to Iacobucci et al., these results suggest that the initial status of AC is a complete mediator of the effect of the initial status of psychological contract breach on the initial status of IRB.

On the other hand, we found that the increase in psychological contract breach was positively related to the decline in AC, which in turn was related to the decline in IRB. Increases in perceptions of psychological contract breaches also had a significant direct effect on declines in IRB. The z statistic for the mediator of decline in AC was 1.97 ($p < .05$). According to Iacobucci et al. (2007), these results suggest that the decline in AC is a partial mediator of the effect of an increase in psychological contract breach on the decline in IRB.

Additional Analyses

Three additional analyses were performed. First, to examine whether our assumption that the trajectory of change was in fact linear, we tested alternative models in which the trajectory of change associated with each of the three study variables was allowed to be freely estimated. On the basis of chi-square difference tests, we found that, in each case, the optimally estimated model was not significantly different from our original proposed model. This suggests that the assumption of linear change over time was reasonable.

Second, because the measurement scales of psychological contract breach and AC have high internal consistency ($>.90$), the possibility exists that there might be a problem of item redundancy (Boyle, 1991). Therefore, we reran the above analyses using shortened scales with the redundant items removed. We removed one item from the psychological contract breach scale and one item from the AC scale; each item had the highest correlations with the remaining items in its original scale. We observed that the pattern of significant versus nonsignificant results relating to our hypotheses remained the same. Thus, the results reported above do not appear to have been unduly affected by item redundancy in some of the measurement scales.

Third, we included job complexity as a control variable in the testing model to see whether this variable would affect our findings. We observed that when we specified job complexity to be related to the intercept and slope factor of psychological contract breach, AC, and IRB, the pattern of significant versus nonsignificant results reported earlier did not change. Further, job complexity was not related to any of the intercept and slope factors. These results suggest that job complexity affected neither the initial levels of the study variables nor their trajectories of change over time.

Discussion

In a recent review of the psychological contract breach literature, Zhao et al. (2007) proposed that the key mediating mechanism through which psychological contract breaches are associated with poor performance is the development of negative emotions and attitudes. That is, psychological contract breaches result in negative emotional responses from employees, who subsequently perform more poorly in the future. This mechanism has been the one most frequently studied in the psychological contracts literature.

The current study goes further to suggest that psychological contract breaches affect negative attitudes not only temporarily but also persistently over time. That is, perceptions of psychological contract breaches are associated with declines in job attitudes (e.g., AC) as time passes. Also, rather than focus on in-role and extrarole performance as correlates of psychological contract breaches, we examined IRBs instead. Because employees can decrease their engagement in both in-role and extrarole activities only so far before they are forced to leave, proactive behaviors such as IRBs may be equally appropriate indicators of lower employee contributions after psychological contracts have been breached.

This study contributes to the psychological contracts literature by illustrating a change approach that complements the current static approach. Both social exchange theory and the inducement-contribution model have emphasized the importance of reciprocity in exchange relationships. Much of the existing theory on psychological contracts is premised upon this reciprocity feature of employment relationships (Coyle-Shapiro & Shore, 2007). However, the interpretation and use of social exchange theory and the inducement-contribution model are limited by the assumption that employees respond (reciprocate) quickly and proportionately to psychological contract breaches. That is, when psychological contract breaches occur, employees quickly change their attitudes and behaviors to realign their contributions to their lowered inducements. However, as our findings show, reactions to psychological contract breaches are more dynamic and unfold over time. AC and IRB decline over time as perceptions of psychological contract breach strengthen over time. Thus, the present study highlights the importance of tracking the cascading effects of psychological contract breaches over time, especially when organizations fail to provide any effective remedies for those breaches.

The current study has some methodological constraints that might be addressed in future research. First, the overall response rate across the three time points was not high (8%), lowering our effective sample size. Second, even though we collected three waves of data over a 6-month period, our research design did not allow for causal inferences because psychological contract breaches, AC, and IRB were measured on all three surveys. Third, although our three waves of data allowed for the assessment of linear changes, we could not assess nonlinear changes over time without a fourth data collection. (Our LGM analyses, though, indicated that modeling linear trends for the three study variables was a reasonable assumption.) Fourth, although four of the five fit indices suggest acceptable fit, the RMSEA associated with the proposed model fell short of the cutoff criterion proposed by Hu and Bentler (1999).

In conclusion, then, we hope that future researchers will broaden existing theoretical and empirical perspectives on psychological

contract breaches to focus more on change—particularly the interplay of changes in the intensity of experienced breach, organizational commitment, and proactive behavior over time. For managers, we hope the present research highlights the importance of attending to psychological contract breaches as they occur so that employee performance and proactivity do not deteriorate further over time. As our results suggest, employees' reactions to psychological contract breaches worsen, rather than soften, as time passes.

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