

Examining the Self-regulative nature of psychological contracts
: A two-point study of Japanese Pharmaceutical Company

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Abstract;

This study focuses on employee's self-regulative actions concerning gaps between the level of their expectation and employer's fulfillment. A two-wave survey was conducted involving 2,514 Japanese employees in a large pharmaceutical company. Polynomial regression analysis and response surface methodology were performed to analyze the existence and effects of self-regulative actions. The results show that employees compare a level of fulfillment with a level of expectation and perform self-regulative reactions to address discrepancies. Additionally, employees with initial three years in employment are more likely to engage in self-regulative action. Our results revealed the existence of self-regulative nature of psychological contracts as well as the moderating effects of tenure.

Keywords Psychological contract, Self-regulation, Two-wave study, Polynomial regression analysis, response surface,

According to Abegglen's "The Japanese Factory", in Japanese companies it is generally accepted that an employee makes a career-long commitment to his employer upon entrance to a company, and it is expected that the employer will not discharge the employee (Abegglen, 1958). Abegglen (1958) called this mutual expectation "lifetime commitment." In Japan, important mutual expectations such as "lifetime commitment (p. 11)" are preserved without written/verbal contracts. And more, mutual expectations have historically been safeguarded at a cost to each party.

Although such mutual expectations have historically been stable, there are discrepancies in the mutual expectations of today's Japanese companies. For example, in a large-scale survey of Japanese companies (Japan Institute for Labor Policy & Training, 2008), it was found that there are several discrepancies between employees' expectations toward their employer and the employer's beliefs about those expectations. For example, many employees expect "high pay" (67.3%), "support from my boss" (47.4%), and "adequate allocation" (42.3%) from their employer. However, they did not think that their employer fulfills all of these expectations. In the surveyed sample, relatively few employees responded that their employer provided the following items: "high pay" (5.0%), "support from my boss" (17.6%), and "adequate allocation" was (12.2%).

What do employees do in this situation? In this paper, we examine employees' responses toward the differences in mutual expectations from the perspective of psychological contracts. Some previous studies regard employees not only as passive one affected by their environment but as active agents that take subjective reaction (Bandura, 1989). This means that employees are motivated to take action to decrease the gap between their expectations and the current state of affairs when they recognize inconsistencies. Recently, many organizational behavior studies have focused on these actions; they are called self-regulation studies (Adams, 1965; Brief & Hollenbeck, 1985; Frayne, 1991; Frayne & Geringer, 2000; Latham & Budworth, 2006; Lyons, 2008). However, there have been few self-regulation studies of the cognitive gaps in employment relationship. We will investigate employees' self-regulative actions concerning gaps between the level of employee's expectations and the level of employers' fulfillment.

Theoretical background and hypotheses

Psychological contract defined

Rousseau defined psychological contracts as "an individual belief regarding the terms and conditions of a reciprocal exchange agreement between the focal person and another party" (1989, p. 123). Rousseau did not view psychological contracts as involving the perspectives of two interconnected parties. Instead, she conceived of them as an individual-level, subjective phenomenon. In other words, agreement in psychological contracts "exists in the eye of the beholder" (Rousseau, 1989, p. 123). This holds true irrespective of whether or not the contract is legal/written or unwritten. All types of promises are deemed

psychological contracts. In other words, a psychological contract can be an employee's feeling of obligation/expectation¹ to make particular contributions in exchange for particular benefits (Schalk & Roe, 2007). As Rousseau (1995) said, once a psychological contract is established at a certain point in time, there seems to be a mental model that provides cues to employees with regard to the types of events they can expect and how they should interpret them.

In previous studies, the components of psychological contracts are often classified into theoretically and statistically meaningful typologies (Conway & Briner, 2002; Robinson et al., 1994). Transactional contracts involve highly specific exchanges that are narrow in scope and take place over a finite period. Relational contracts, in contrast, are broader, more ambiguous, and open-ended, and they occur over a long term.

Most studies that came after Rousseau (1989) focused on breaches of psychological contracts (Conway & Briner, 2002; Conway & Briner, 2005; Coyle-Shapiro, 2002; Hattori, 2010; Robinson et al., 1994; Zhao et al., 2007). Psychological contract breach is a subjective experience, referring to one's perception that another has failed to adequately fulfill the promised expectations of the psychological contract (Rousseau, 1989). Therefore, contract breach involves perceived discrepancies between the levels of expectation and fulfillment. Given that psychological contract breach affects the feelings, attitudes, and behavior of employee, it is not surprising that almost all psychological contract studies following Rousseau (1989) have focused on this issue (Conway & Briner, 2005). Existing research in the West (Conway & Briner, 2002) and Japan (Hattori, 2010) has posited that breaches of contract by employers have occurred frequently. Moreover, these studies demonstrated that these breaches are associated with serious negative outcomes such as reduced affective commitment, trust, and satisfaction (Zhao et al., 2007).

The important point, however, is that although psychological contracts can be frequently breached and result in employees' negative attitudes, the contracts themselves still exist and work in many cases. In case of a discrepancy between expectation and fulfillment, employees still believe that a contract still exists and do not abandon it.

Schein (1978), who was a pioneer in this area, said that in order to continue a career in organization,

¹ In defining and operationalizing psychological contracts, some researchers strictly distinguish between terms such as "expectation," "obligation," and "promise" and state that psychological contracts are not perceived expectations but obligations (Rousseau, 1995) or promises (Conway & Briner, 2005). However, we take the position that distinguishing between the terms expectation, obligation, and promise is not so important (Thomas & Anderson, 1998). Employees in their initial years in an organization tend to have unrealistic expectations toward their employer (Wanous, 1976). Such expectations, indeed, are objectively naïve, because they have not been reconciled with the employers'. According to Rousseau (1989), psychological contracts are subjective. So in the case where an employee thinks that an agreement exists, a psychological contract does exist. We use the terms expectation, obligation, and promise interchangeably.

we need to build fine-tuned psychological contracts. To build fine-tuned psychological contracts and maintain their relationship, employees and employers need to uninterruptedly readjust their expectations of one another. In doing so, the subjective validity of the party is established. In any case, continual adjustments between employees and employers will be made throughout a long career.

Although we know great deal about the effects of contract breach on employees' attitudes, we know little about its effect on an employee's perception of the psychological contract itself (Conway and Briner, 2005). Although the findings of previous studies are important and useful, they have overlooked the dynamic nature of psychological contracts (Conway and Briner, 2005; Schalk and Roe, 2007).

Self-regulative change of psychological contracts

In order to explain the way psychological contracts change as a result of employer's breach/fulfillment, we rely on self-regulation theory (Bandura, 1989, 1991; Zimmerman & Schunk, 2001). Self-regulation is defined as "an effort by an individual to control his or her behavior (Frayne, 1991)." Previous studies have shown that self-regulation processes consist of three phases: (1) self-observation, (2) self-evaluation, and (3) self-reaction (Kanfer & Hagerman, 1987). In the self-observation phase, people observe their own actual states. In the self-evaluation phase, they compare the states with the desired states. In case of significant discrepancy between them, people are motivated to take several corrective actions that decrease the discrepancy (self-reaction phase). The reason why people perform corrective action is that a discrepancy between actual state and desired state means the existence of cognitive dissonance (Festinger, 1957).

In employment relations, the desired state is equal to the employee's expectation for an employer, and actual state is the employer's level of fulfillment. Employees observe the employer's fulfillment at first (self-observation), and compare the level of fulfillment with their level of expectation (self-evaluation). And finally, In case they feel some discrepancy between the level of expectation and fulfillment, they will be motivated to take several corrective actions that decrease these discrepancies (self-reaction). Previous studies of psychological contracts had been investigated "self-observation" and "self-evaluation" phases, and ignored the "self-reaction phase" and its effects (Conway & Briner, 2005). Taking insights into "self-reaction phase", we can explain dynamic nature of psychological contracts as Schein (1978) suggested.

Self-reactive action has domain specific nature. Each domain has its feature and self-regulation theories are developed to fit each research domains (Zimmerman & Schunk, 2001). For example, Adams (1965) suggested general pattern of self-reactive actions to keep equity. And some previous studies in work setting showed self-reactive action to maintain employee's motivation (Brief & Hollenbeck, 1985; Frayne, 1991; Frayne & Geringer, 2000; Latham & Budworth, 2006). As to psychological contracts, the information that employees obtain from observing their employer's fulfillment may alter their idea about

how they can expect toward the employer (Salancik & Pfeffer, 1978; Schalk & Roe, 2007). Accordingly, the following are hypothesized;

Hypothesis 1;

If there is a discrepancy between the level of an employer's fulfillment and an employee's expectation, the employee will take self-regulative, in more detail, he / she change the level of expectations.

The effect of tenure

According to Katz (1980), during an employee's initial years in an organization, they are primary concerned with establishing and clarifying their own identity within the new organization. In this initial career stage, employees try to adapt by tailoring their expectations of the employer and their expected behavior from the employer to fit the new environment by seeking information about the organization (Ashford, 1986). Similarly, Thomas & Anderson (1998) found that new recruits heightened their expectations regarding job security, social and leisure time, effects on their family, and accommodation within the first eight weeks of employment. More importantly, their perceived level of expectation was closer to that of senior employees over time. Furthermore, employee's expectations during their initial years are often unrealistic. Socialization theorists found that recruits' expectations concerning their jobs and the organization are inflated prior to becoming employed as a result of typical recruiting practices (Louis, 1980). These inflated expectations often result in a high rate of turnover. Therefore, their expectations must be adjusted to the reality of the organization (Wanous, 1976). As discussed above, an employee's utilization of self-regulative corrective actions will be quite active during the first few years at an organization.

Hypothesis 2; Being initial few years in organization will impact on the relationship between employer's fulfillment and employee's expectation, such that the relationship will be stronger for initial few years at an organization compared to those on others.

Methods

Sample and data collection procedure

The sample population used in this study consisted of 6,380 employees from a large Japanese pharmaceutical company. We conducted a two-wave web-based survey. On July 18, 2008 (t1), we surveyed all of the employees of the company. A total of 3,789 (response rate of 59.4%) employees responded to the first questionnaire. On July 28, 2009 (t2), we conducted another survey in the same way.

A total of 3,926 (response rate of 61.3%) employees responded to the second questionnaire. The 2,514 (39.2%) respondents who responded to both questionnaires provide the sample for this study. At t1, the average participant age at the time of the study was 39.81 years (S.D.=8.716), their average tenure was 12.46 years (S.D.=9.14), and the percentage of women was 17%².

Measures of key constructs

Level of Expectations. At t1 and t2, we measured the employee's expectations of their employer. We used the Japanese version of the psychological contract scale developed by Hattori (2010). This scale uses 24 items related to an employee's expectations of their employer (as perceived by the employee). The participants were asked to indicate the extent to which their employer was expected to provide them with a set of items. They were asked to indicate their response using a five-point Likert-type scale, ranging from "1. not at all" to "5. to a great extent" for each item.

The result of our exploratory factor analysis using the principal factor method of promax rotation is reproduced in Table 1 (below)³. Two factors emerged from these items, which replicated many existing research findings from the West (e.g. Conway & Briner, 2005). The first factor included items such as "good career prospects" and "good work atmosphere." These patterns were consistent with the Rousseau (1995)'s notion that employment can be characterized by relational issues involving the creation and maintenance of the relationship between an employee and employer; in other words, a "relational contract" (cronbach's alpha = 0.89). The second factor included items such as "performance-based pay," and "high pay." Because these items reflect high extrinsic inducements (Rousseau 1995), the second factor was defined as a "transactional contract." (cronbach's alpha = 0.83).

Level of fulfillment by employer. In t1 and t2, we measured the employer's fulfillment. For each item (same as expectations), participants were asked to indicate the extent to which their employers actually fulfilled. Participants were asked to respond to each item using a five-point Likert-scale, ranging from "1. not at all fulfilled" to "5. totally fulfilled." A high score indicated high perceived fulfillment, and a low score indicated little or no fulfillment.

² It may probable that respondents who only completed the survey at t1 differ from those respondents who completed both t1 and t2. So, we conducted ANOVAs with respect to demographic variables (sex, tenure, age, job functions, and rank) to identify whether our data are subject to any sort of non-response bias. As a result, response bias did not exist.

³ As Conway & Briner (2005) suggest although the distinction between transactional and relational contract may be theoretically reasonable, there is also evidence that this distinction is suspect. They also say that there may be many types or dimensions of psychological contracts, because it may depend strongly on the context. Thus, in this paper, we conducted an exploratory factor analysis rather than confirmatory factor analysis to investigate the factor structure in this company although the measure is already developed and has been validated by Hattori (2010).

Table 1:
Result of Factor Analysis for Organization's Obligations

Items	Factor	
	Relational contract	Transactional contract
Good career prospects	0.87	-0.05
Participation in career-related decision making	0.85	-0.02
Support with personal problems	0.81	0.01
Development of marketable skills	0.80	-0.02
Job assignments based on my experience	0.74	0.10
Good work atmosphere	0.70	0.12
Benefits for my family	0.69	0.07
Participative decision making	0.66	0.15
Adequate job support	0.65	0.23
Adequate opportunity for OJT	0.60	0.29
Frequency of feedback	0.59	0.14
Flexibility in working hours	0.58	0.05
Interesting work	0.55	0.30
Provision of adequate training	0.50	0.31
Significant task for society	0.50	0.33
Adequate job status	0.48	0.23
Adequate allocation	-0.03	0.89
Adequate difficulty of work	-0.02	0.85
Performance-based pay	-0.03	0.83
Meaningful tasks for me	0.19	0.68
High pay	0.18	0.63
Career development	0.28	0.47
	Eigenvalue	
	12.36	11.10

1: Factor correlation is 0.83.

Career related variables. We measured other demographic and career-related variables such as employees' sex (0=female; 1=male), job change experience (0=no; 1=yes), whether they were a manager (0=no; 1=yes), job function, and tenure. For job functions, organizational records were used to code the respondents' job functions into binary codes. We coded two functions: medical representative (*MR_d*) and research and development (*RandD_d*). For the MR dummy (RandD), the MR (RandD) represents one,

and others represent zero.

Data analyses

We tested hypotheses using polynomial regression analysis and response surface methodology (Edwards, 1994; Lambert, Edwards, and Cable, 2003). Using these methods, we can circumvent the several problems associated with the use of different score (Edwards, 1994). Hypotheses were tested with regression analyses in which the dependent variable was level of expectations t2.

In step 1 of regression analysis we partialled out the effects of various factors that we believed be related to the level of expectation. In step 2 we regressed level of expectation t1 and fulfillment t2 and on the higher order terms (i.e. squared expectation t1 and fulfillment t2 terms and their interaction) in step3.

To test hypotheses, we used values from the regression analyses to plot the response surfaces (Edwards, 1994; Lambert, Edwards, and Cable, 2003) and analyzed these surfaces. To illustrate the interpretation of response surfaces, consider the relations shown in Figure 1. For figure 1, the vertical axis represents dependent variable i.e. level of expectation t2 and the two horizontal axes represent level of expectation t1 and fulfillment t2. The comparison of expectation t1 and fulfillment level t2 is captured by the two-dimensional space on the floor. Zone A represents that both expectation t1 and fulfillment t2 are low and zone D represents that both expectation t1 and fulfillment t2 are high, in other words, discrepancies are relatively small. Then, zone B and C represents that discrepancies between expectation t1 and fulfillment t2 are relatively large.

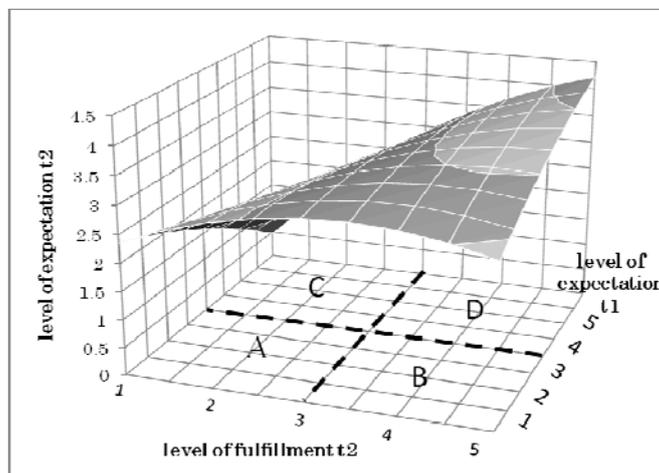


Figure 1. Response surface methodology

Results

The means, standard deviations, and correlations among of the study variables are presented in Table 2. Expectation t1 and fulfillment t2 variables were positively correlated with expectation t2.

Polynomial regression and response surface: Hypothesis 1

The results of the polynomial regression analysis are shown in Table 3. In step 1 the control variables explained 3% of the variance in expectation t2 (both relational and transactional contract). In step 2 expectation and fulfillment accounted for an additional 43% of the variance in expectation (relational contracts) and 42% of the variance in expectation (transactional contract). In step 3 higher order terms did explain a significant amount of incremental variance in expectation t2. Using the regression coefficients, we examined the shape of the three dimensional surface. As shown in Figure 2a and 2b, in case there were not discrepancies between the level of expectation t1 and fulfillment t2 (i.e. both expectation t1 and fulfillment t2 are high/low), the level of expectations t2 did not change. In case there was positive discrepancy between expectation t1 and fulfillment t2 (i.e. level of expectation t1 was low, but fulfillment t2 was high), the level of expectation t2 did increase. Interestingly, in case there was negative discrepancy between expectation t1 and fulfillment t2 (i.e. level of expectation t1 was high, but fulfillment t2 was low), the level of expectation t2 was still high. This means that hypothesis 1a was partially supported.

Table 2: Descriptive statistics for Variables

	Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
1	Sex dummy	.90	.30	1										
2	Tenure	15.06	8.63	.08***	1									
3	Job change dummy	.17	.38	.02	-.26***	1								
4	MR dummy	.64	.48	.11***	.04**	.17***	1							
5	R and D dummy	.20	.40	-.05**	-.11***	-.11***	-.68***	1						
6	Manager dummy	.38	.48	.19***	.60***	-.06**	.01	-.05**	1					
7	Expectation(relational) t1	3.79	.80	.08***	-.025	.01	.08***	-.07**	.04**	1				
8	Expectation(Transactional) t1	3.86	.84	.08***	-.04*	-.00	.06**	-.05**	.04*	.83***	1			
9	Fulfillment(Relational) t2	3.34	.65	.04*	.03	.03	.13***	-.07***	.11***	.32***	.30***	1		
10	Fulfillment(Transactional) t2	3.43	.73	.20	.01	-.00	.08***	-.05**	.13***	.32***	.32***	.80***	1	
11	Expectation(Relational) t2	3.34	.65	.05**	.00	.01	.12***	-.1***	.08***	.55***	.5***	.56***	.50***	1
12	Expectation(Transactional) t2	3.43	.77	.07**	-.06**	-.01	.1***	-.08***	.06**	.52***	.52***	.50***	.58***	.84***

*** p< .01, ** p< .05, * p< .10

Table3: Hierarchical regression analysis

	Expectation t2 (Revision)				
	a. Relational contract		b. Transactional contract		
Step 1					
Sex dummy	-.01		.04	**	
Tenure	-.1	***	-.18	***	
Job change dummy	-.04	*	-.07	**	
MR dummy	.11	***	.09	**	
R and D dummy	-.03		-.04		
Manager dummy	.13	***	.15	***	
	R ²	.03	***	.03	***
Step 2					
Expectation t1	.41	***	.36	***	
Fulfillment t2	.42	***	.45	***	
	Δ R ²	.43	***	.42	***
Step 3					
Expectation t1 × Fulfillment t2	-1.13	***	-1.1	***	
(Expectation t1) ²	.90	***	.66	***	
(Fulfillment t1) ²	.14		.42	***	
	Δ R ²	.03	***	.02	***
	F value	209.23		205.61	

Note. Values are standardized regression coefficients.

*** p< .01, ** p< .05, * p< .10

Figure 2a. Response surface predicting level of expectation t2 from expected and fulfilled relational contract

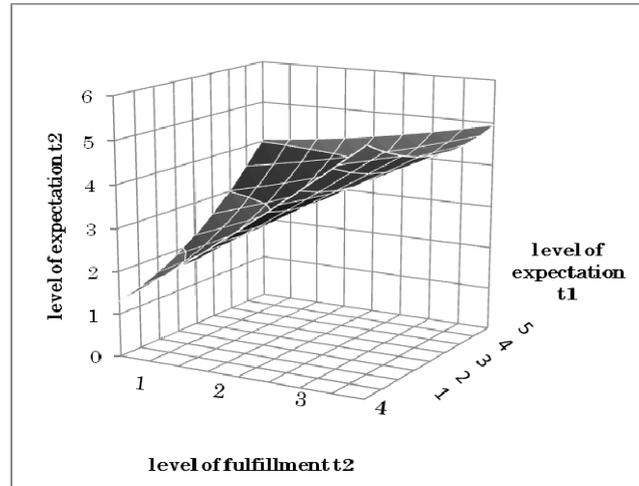
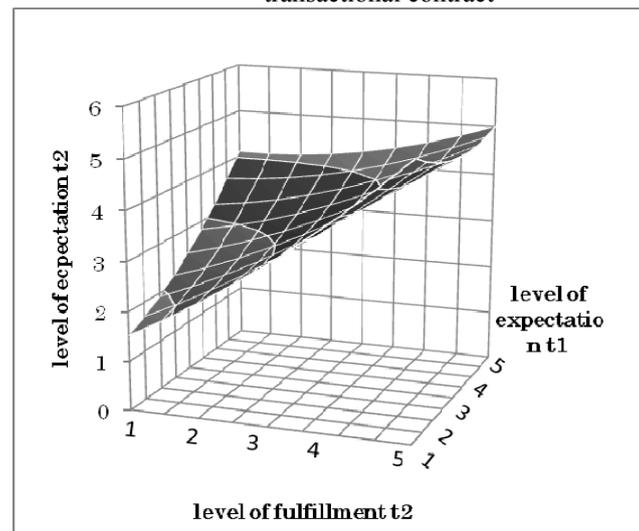


Figure 2b. Response surface predicting level of expectation t2 from expected and fulfilled transactional contract



Polynomial regression and response surface with initial three year samples: Hypothesis 2

To test the hypothesis 2, we picked out samples with initial three years in employment and conducted the foregoing analysis. The results of the polynomial regression analysis are shown in Table 3. In step 1 the control variables explained 13% of the variance in relational contract expectation t2 and 10% if the variance in transactional contract expectation t2. In step 2 expectation and fulfillment accounted for an additional 48% of the variance in expectation (relational contracts) and 52% of the variance in expectation (transactional contract). In step 3 higher order terms did explain a significant amount of incremental variance in expectation t2. Just same as foregoing analysis, we examined the shape of the three dimensional surface using the regression coefficients. As shown in Figure 3a and 3b, in case there were not discrepancies between the level of expectation t1 and fulfillment t2 (i.e. both expectation t1 and fulfillment t2 are high/low), the level of expectations t2 did not change. Then, in case there was positive

discrepancy between expectation t1 and fulfillment t2 (i.e. level of expectation t1 was low, but fulfillment t2 was high), the level of expectation t2 did increase. Similarly, in case negative discrepancy between expectation t1 and fulfillment t2 (i.e. level of expectation t1 was high, but fulfillment t2 was low), the level of expectation t2 was low. This means that hypothesis 2 was strongly supported.

Table4: Hierarchical regression analysis: Initial three years sample

	Expectation t2 (Revision)				Note.
	a. Relational contract		b. Transactional contract		
Step 1					
Sex dummy	-.38	***	-.08		
Tenure	.12		.16		
Job change dummy	-.04		.01		
MR dummy	-.42	***	-.28		
R and D dummy	-.36	*	-.24		
Manager dummy	-.14		-.19		
	R ²	.13	***	.10	***
Step 2					
Expectation t1	.24	**	.20	**	
Fulfillment t2	.64	***	.71	***	
	Δ R ²	.48	***	.52	***
Step 3					
Expectation t1 × Fulfillment t2	-.89		-.65		
(Expectation t1) ²	.45		.06		
(Fulfillment t1) ²	.35		.05		
	Δ R ²	.02	***	.10	***
	F value	10.21		10.58	

Values are standardized regression coefficients.
 *** p < .01, ** p < .05, * p < .10

Figure 3a. Response surface predicting level of expectation t2 from expected and fulfilled relational contract with initial three year samples

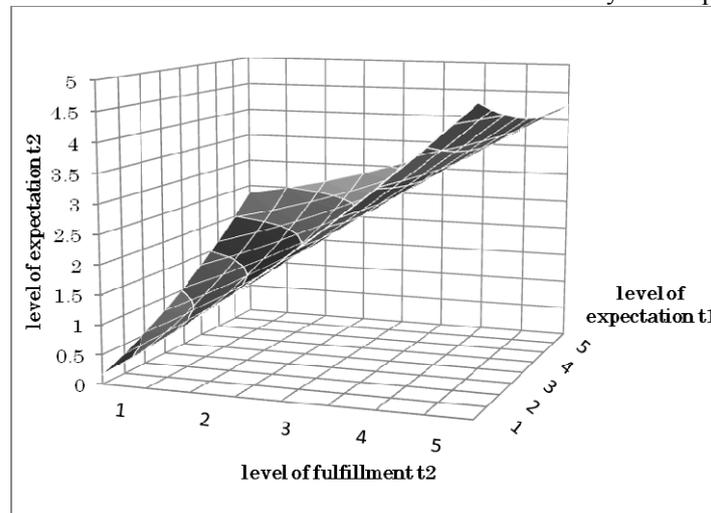
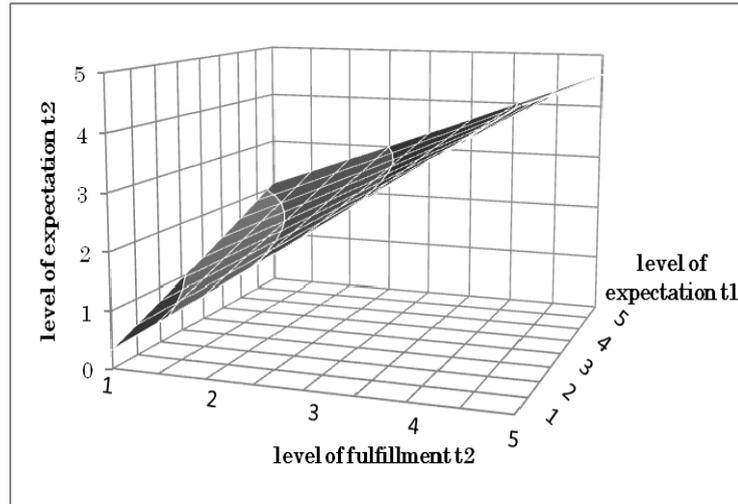


Figure 3b. Response surface predicting level of expectation t2 from expected and fulfilled transactional contract with initial three year samples



Discussion

The purpose of this paper was to investigate employee's self-regulative actions concerning gaps between the level of their expectation and employer's fulfillment. As discussed above, although existing studies mainly focused on the effects of contract fulfillment/breach on employees' attitudes and behavior, we know little about the dynamic self-regulative nature of psychological contracts. The important point is that although psychological contracts can be breached frequently and results in employees' negative attitudes, the contracts themselves still exist and continue to work in many cases. In this paper, we investigated the dynamic nature of psychological contract from the perspective of self-regulation.

Our findings show that employees compare a level of fulfillment with a level of expectation and perform self-regulative change of expectation level to decrease the discrepancy. However, the pattern of self-regulative change itself was different between employees with initial three years and others.

For, employees with initial three years, in case there was positive discrepancy between expectation t1 and fulfillment t2 (i.e. level of expectation t1 was low, but fulfillment t2 was high), the level of expectation t2 increase. And in case there was negative discrepancy between expectation t1 and fulfillment t2 (i.e. level of expectation t1 was high, but fulfillment t2 was low), the level of expectation t2 did decrease. In case, there was no discrepancies (i.e. both expectation t1 and fulfillment t2 are high/low), the level did not change. As discussed above, employees with initial few years are primary concerned with establishing and clarifying their own identity (Katz, 1980; Schein 1978). They try to adapt their organization by tuning their expectation to fit the new environment (Ashford, 1986). In addition, they try to make sure whether the organization really suitable for them. So, seeking information about their organization's fulfillment, employees devote themselves to conduct self-regulative actions and result in realistic expectation level (Wanous, 1976). Employees who failed to adjust their expectation might leave the organization.

For other employees, however, only positive discrepancies (i.e. level of expectation t1 was low, but fulfillment t2 was high) related to upward change of expectation. Interestingly, even in case negative discrepancies (i.e. level of expectation t1 was high, but fulfillment t2 was low), the level of expectations t2 was still high. This might be interpreted from the perspective of self-regulation and psychological distortion (Wells and Iyengar, 2005). In Japanese companies (also in our sample firm), employees are promoted and raised their salary according to length of service (seniority system) to some extent. And more, our sample company employs employees at a relatively high salary. So, it is objectively and subjectively difficult for long tenure employees to change their employer, because changing their job made them loose their future benefit (Lincoln & Kalleberg, 1990). For employees with long tenure, perception of negative gap (expectation > fulfillment) means the existence of cognitive dissonance ("I want to stay here, but my employer betrayed me"). Then, employees may achieve an integration of their internal state ("I want to stay here") and perceived external state ("My employer betrayed me") through a process of distortion (e.g. "My employer must trustworthy," "Breach of contract might be transient and trivial one," "So, I can expect my employer more and more,"). By consciously and unconsciously distorting their perception, employees may be able to decrease cognitive dissonance that may have

otherwise existed.

Our findings generally support the notion that employees who found discrepancy between their expectation and actual fulfillment by organization will feel uncomfortable, and surely conduct self-regulative corrective actions. This may suggest the reason why contracts itself are still exist and work in case many employers breached their contracts. Negative effect of employer's contract breach on employment relationship has been covered to some extent by employee's self-regulative action. And more, results suggest the salient role of career-related factors in predicting employee's response to breach. Especially, the results indicate that employees in their initial three years are more likely to engage in self-regulation.

Limitations and future research directions

The first limitation is our sample bias. Our survey respondents were employees in a large and stable company. We must conduct research with other sample populations to confirm the generalizability of our results. The second limitation is varieties of self-regulation. As Schalk & Roe (2007) said, employees have several options concerning self-regulative action. For example, they can choose option such as changing their own fulfillment level or leaving the employer. We need more scrutiny of the employee's choice of several self-regulative options. Finally, it is still not understood why employees with initial three year are more likely to engage in self-regulative actions. These limitations should be addressed in future research.

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