

A comparative investigation of psychological contracts development in different career stages

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Abstract;

The purpose of this paper is to gain an understanding of psychological contract development by comparing new recruits and veterans. Despite the fundamental role of psychological contracts in employee attitudes and behaviors, there is little research concerning the development of psychological contracts. Although a few empirical efforts describe the early socialization period as a critical stage in the development of psychological contracts, no consistent pattern for new recruit perception of psychological contracts change over time has emerged. And more, there is no research concerning contract change in the post-socialization period. This study focused on the developing nature of psychological contracts as well as the development of contracts for veteran employees. A two-wave survey was conducted involving 2,514 Japanese employees in a large pharmaceutical company. In general, our results provide evidence for the determinants of contract change and its impact. However, the pattern of contract change itself differed between employees within their initial three years and those with a longer tenure.

Keywords;

Psychological contract, Tenure, Two-wave study, Polynomial regression analysis, Response surface,

Introduction

Employment relationships and relational issues are an increasingly important topic in management research in Japan context (Inagami and Whittaker, 2005). The psychological contract lies at the core of this issue (Morishima, 1996; Hattori, 2010). A psychological contract constitutes an “an individual belief regarding the terms and conditions of a reciprocal exchange agreement between the focal person and another party” (Rousseau, 1989, p. 123). It is fundamental in regulating the employee-employer relationship because it influences an employees’ effort on behalf of the employer (Rousseau, 1995; Lee, Liu, Rousseau, Hui, and Chen al., 2011) as well as their reactions to organizational change and an employer’s contract breach (Conway and Briner, 2005). In particular, many researchers conceive psychological contract breach as the most compelling linkage between the psychological contract and the employee’s attitudes and behaviors. One consistent finding in the body of such research is that psychological contract breaches conducted by the employer negatively impact the relationship between employee and employer (Zhao, Wayne, Glibkowski, and Bravo, 2007; Conway and Briner, 2009; Hattori, 2010).

Despite the fundamental role of the psychological contract in employee attitudes and behaviors, there is only limited research concerning the development of psychological contracts. Although a few empirical efforts do describe the early socialization period as a critical stage in the development of psychological contracts (Rousseau, 2001), there is no established pattern for the changing perception of psychological contracts for new recruits over time. Moreover, we can find no research concerning contract change in the post-socialization period. The purpose of this study, then, is to gain a better understanding of psychological contract development by comparing the new recruits and veterans.

Theoretical background

Developing psychological contracts

In psychological contract theory, the dynamics of a contract’s development arise from its functioning as a cognitive schema (Rousseau, 2001; Lee et al., 2011). A schema is a cognitive organization or a mental model of conceptually related elements (Rumelhart and Norman, 1978). Schemas gradually develop from past experience and subsequently guide the manner in which information is processed. Once individuals form a schema, they tend to maintain it and new information tends to be interpreted in light of the existing schema. One applies new information to an appropriate set of schemas and stores the newly created memory structures in long-term memory. Sometimes this process involves tuning or making a minor modification of the schema to bring them more into congruence with functional demands (Rumelhart and Norman, 1978). As Rousseau (2001) noted, “psychological contracts themselves can form schema” (p. 515). Once established, the psychological contract becomes the lens through which employees view their

employer's practices and policies.

At the time of hiring, new recruits are likely to have incomplete and limited information regarding the nature of the employment relationship. This is because employment schemas are acquired through prior socialization such as recruiting practices, societal, occupational, or related to previous employment (Louis, 1980; Rousseau, 2001). According to socialization theorists, these incomplete and unrealistic expectations often result in a high turnover rate. Therefore, new recruits' expectations must be adjusted to the realities of the organization (Wanous, 1976; De Vos and Freese, 2011). Once on the job, recruits try to acquire information through coworkers (Feldman, 1976), their immediate manager (Tekleab and Taylor, 2003), and socialization practices (Lee et al., 2011) to update their contract. The development of such complete and detailed psychological contracts requires considerable cognitive effort and devotion (Rousseau, 2001; De Vos, Buyens and Schalk, 2003). Once employees attain more complete contracts, they tend to reduce information gathering concerning the employment relationship (Ashford, 1986).

Psychological contract formation during socialization stage

As discussed above, psychological contract researchers consider the socialization period to be a crucial stage in the development of psychological contracts (De Vos et al., 2003; De Vos and Freese, 2011; Lee et al., 2011). To date, however, only a few studies have focused on the development of contracts during this period (Robinson, Kraatz, and Rousseau, 1994; Thomas and Anderson, 1998; De Vos et al., 2003; Lee et al., 2011).

For example, Robinson et al. (1994) surveyed MBA students prior to their graduation and again two years later. Over this two year period, employee's perceptions of employer obligations increased for three of the seven items examined (high pay, advancement, and merit pay), and decreased for one item (training). With regard to employee obligations, five of the seven items (minimum stay, transfer, notice, work overtime, and loyalty) decreased. Based on these findings, Robinson et al. concluded that the overall psychological contract shifted over time, with the employer's obligations increasing and the employee's obligations decreasing. They also found that the employer's failure to fulfill its obligations (psychological contract breach) were significantly associated with a decrease in some types of employee obligations.

Thomas and Anderson (1998) conducted research into changes in the psychological contract held by new recruits in the British Army. They found that in the initial six months new recruits' expectations of the Army increased on several items. More importantly, these changes were generally toward the norms of more experienced soldiers. In line with this work, De Vos et al. (2003) examined not the psychological contract changes themselves but factors associated with changes in new recruits' psychological contract development during the socialization process, using a four-wave longitudinal study among new recruits. Results showed that changes in the new recruits' perceptions of employer obligations were affected by (1) their own contribution and (2) inducements received from the employer. Accordingly, recruits' perceptions of employee obligations were also affected by (1) their own contributions and (2)

inducements received from the employer. More importantly, the relationship between the fulfillment of expectations and employee obligations was stronger during the early socialization stage than at any of the other stages.

In summary, empirical research to date describes the early socialization period as a critical stage in the development of psychological contracts, consistent with the established theoretical arguments (Rousseau, 2001). In this period, new recruits actively gather information from several sources to fine-tune their psychological contracts with respect to expectations for the employment relationship and what they need to provide in exchange. Moreover, research also consistently finds that an employer's fulfillment of obligations is significantly associated with increases in employee obligations. Yet, these studies also present some mixed findings. Specifically, there was no consistent pattern for changes in new recruits' perception of psychological contracts over time. In addition, as almost all of the extant research focuses on the development of new recruits' psychological contracts, we know little about the development of those for veterans.

Hypotheses

As organizational socialization theorists point out, new recruits often have unrealistic expectations (Schein, 1978; Louis, 1980). In this context, *unrealistic* means either higher or lower than the expectations of veteran employees. They actively gather and use several sources of information to fine-tune their initial expectations. As a result, recruits with inappropriately high expectations make downward corrective adjustments, while recruits with inappropriately low expectations make upward corrective adjustments. We could not find a consistent finding about contract development in collective level. This may explain why existing research concerning contract development in the socialization period presents mixed findings. Thus, it is important to investigate not the pattern of contract change itself but rather the determinants of contract change and the impact of such changes (Lee et al., 2011).

Although there may be several determinants concerning contract formation, we focus here on perception of employers' fulfillment. Here, fulfillments refer to the extent to which the employee deems the employer as having met its contract obligations (Robinson and Morrison, 2000). Current research indicates that judging an employer to have met its obligations leads employees to increase their positive attitudes and behaviors towards the employer (Zhao et al., 2007). Simultaneously, new recruits who perceive that the employer has fulfilled its obligations are likely to develop greater expectations of that employer. As new recruits' expectations are often unrealistic, their perception of employer fulfillment stands as an important source of information. This is consistent with the finding that the relationship between fulfilled perceptions and employee obligations was stronger during the early socialization stage than during the other stages (De Vos et al., 2011). Thus, we hypothesize the following:

Hypothesis 1: For employees with only a few years of employment, the employer's fulfillment of the

psychological contract will be associated with an increase in expectations toward the employer.

Psychological contract formation in other stages

As a result of active information gathering, employees working in an organization over a long period will develop stable and fine-tuned schemas (i.e. psychological contracts). Having a fine-tuned schema, employees' experiences in the organization are consistent with their beliefs (Rousseau, 2001). As research in schema change suggests, once a stable schema is formed, employees have more accurate schemas and are better able to apply their schemas to their circumstances (Rumelhart and Norman, 1978). These schemas provide a lens through which employees view employers attitudes and behaviors. Thus, employees with long tenure will evaluate an employer's fulfillment based on existing expectation levels¹.

This may be explained by self-regulation theory (Bandura, 1989, 1991; Zimmerman and Schunk, 2001). According to Frayne (1991), self-regulation is an effort by an individual to control his or her behavior. Previous studies have shown that self-regulation processes consist of three phases: (1) self-observation, (2) self-evaluation, and (3) self-reaction (Kanfer and Hagerman, 1987). In the self-observation phase, people observe their own actual states. In the self-evaluation phase, they compare those actual states with the desired states. In the case of a significant discrepancy between them, people are motivated to take several corrective actions that decrease the discrepancy (self-reaction phase). People perform corrective actions because a discrepancy between an actual state and a desired state implies the existence of cognitive dissonance (Festinger, 1957).

In employment relations, the desired state is equal to the employee's expectations for an employer while the actual state is the employer's level of fulfillment. Employees first observe the employer's fulfillment (self-observation) and then compare the level of fulfillment with their level of expectation (self-evaluation). In the event of some discrepancy, they will be motivated to take several corrective actions that decrease these discrepancies (self-reaction). In the case of psychological contracts, the information that employees obtain from observing their employer's fulfillment may alter their ideas about what they can expect from the employer (Salancik and Pfeffer, 1978; Schalk and Roe, 2007). Consistent with prior research, we propose that when an employer's fulfillment falls short of the expectation level at t1, employees are likely to feel a low level of satisfaction (Lambert, et al., 2003) and will correspondingly decrease their expectations at t2. Deficient fulfillment levels should therefore lead to low levels of expectation at t2 because the expectations at t1 constitute a standard for employer behavior. Thus, when perceived fulfillments fall short of a given expectation level, it is likely that an employee's expectation level will decrease (downward self-regulation). In line with this, we propose that when an employer's fulfillment exceeds an employee's expectations at t1, employees will be more likely to increase their

¹ Employees with long tenure tend to have more difficulty accommodating changes in the employment relationship than more recent employees do, because they have a more stable schema (Rousseau, 2001). Such employees may not intentionally seek information and are more willing to focus upon information that supports their existing schema (Rumelhart and Norman, 1978). However, stimulating employees to more consciously consider information inconsistent with their schema can promote schema change.

expectations at t2 (upward self-regulation). In the absence of a discrepancy, there will be no corrective actions.

Accordingly, we hypothesize the following:

Hypothesis 2: For employees with long tenure, a discrepancy between expectation and employer fulfillment at t1 will be associated with a change in expectation at t2. More specifically

(2a) When fulfillment is less than the expectations at t1, expectations at t2 will decrease (downward regulation).

(2b) When fulfillment exceeds expectations at t1, expectations at t2 will increase (upward regulation).

(2c) When expectations and fulfillment are equal at t1, expectations at t2 will be stable.

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 employees (59.4% response rate) voluntarily responded to the first questionnaire. On July 28, 2009 (t2), we conducted another survey in the same way. A total of 3,926 employees (61.3% response rate) responded to the second questionnaire. This interval was based on the socialization literature, which suggests that three-, six-, and nine-, and twelve-month intervals are meaningful in the socialization process (Morrison, 1993). The 2,514 respondents (39.2%) who responded to both questionnaires provided the sample for this study. All responses were anonymous. At t1, the average participant age was 39.81 years (SD=8.716) and their average tenure was 12.46 years (S.D.=9.14); 17%² of the respondents were women.

Measures of key constructs

Level of Expectations. 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 perceived obligations (Rousseau, 1995; 2010, Roehling, 2008) or promises (Conway and Briner, 2005). In this paper, however, we use the term “expectation.”

Item piloting comparing expectation phraseology revealed that the in this company made “obligations”

² It is probable that respondents who only completed the survey at t1 differed from those respondents who completed it at both t1 and t2. We therefore conducted ANOVAs with respect to several variables (tenure, age, level of expectations, and level of fulfillment) to identify whether our data are subject to any sort of response bias. Results failed to establish evidence of a response bias.

and “promise” terminology are unusable. More specifically, the question “to what extent does this company made obligate (or promise) you high pay” was viewed as inappropriate in the prior study (Hattori, 2010). In Japanese companies, people use the term “obligation” and “promise” as a belief about the commitment to act in a certain way towards one another, which is based on an explicit source (e.g. written contract, explicit oral communication). Psychological contracts, however, include commitments based on more indirect or implicit sources such as the observations and messages in corporate personnel practices. In other words, in the Japanese context the term “obligation” and “promise” is too narrow relative to Rousseau’s definition of psychological contract. Thus, at t1 and t2 we measured the employee’s expectations of their employer using the Japanese version of the psychological contract scale developed by Hattori (2010). After compiling their responses, we incorporated items developed by Rousseau (1990). 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. Among the 24 items, we selected 7 items based upon previous research (Rousseau, 1990).

Table 1 presents the results of our exploratory factor analysis using the principal factors method of promax rotation³. Two factors emerged from these items, replicating many existing research findings from the West (e.g. Conway and Briner, 2005). The first factor included items such as “pay based on current level of performance,” “rapid advancement,” and “high pay.” Because these items reflect high extrinsic inducements (Rousseau 1995), the factor was defined as a “transactional contract” (Cronbach’s $\alpha = 0.82$). The second factor included items as “long-term job security,” “support with personal problems,” and “career development.” These patterns were consistent with the Rousseau’s (1995) notion that employment can be characterized by relational issues involving the creation and maintenance of the relationship between an employee and employer, i.e. a “relational contract” (Cronbach’s $\alpha = 0.92$).

Level of fulfillment by employer. At t2, we measured the employer’s fulfillment. As with expectations, for each item, participants were asked to indicate the extent to which their employers actually fulfilled their expectation. 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.

³ As Conway and Briner (2005) suggest, although the distinction between transactional and relational contracts 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 a 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
Performance-based pay	0.85	-0.05
Rapid advancement	0.82	0.04
High pay	0.75	0.06
Provision of adequate training	0.68	0.16
Long-term job security	-0.03	0.93
Support with personal problems	0.06	0.81
Career development	0.08	0.80
	Eigenvalue	
	3.92	3.80

Factor correlation: 0.33.

Career related variables. We measured other demographic and career-related variables such as sex (0=female; 1=male), age, tenure, job change experience (0=no; 1=yes), position as a manager (0=no; 1=yes), and job function. 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 variable (RandD), the MR (RandD) represents one, and others represent zero.

Data analyses

According to the *Annual Report on Health, Labour and Welfare* published by the Japanese Ministry of Health, Labour and Welfare, the unemployment rate of employees within their initial three years is relatively high. We therefore compared employees within their initial three years (n.=307) with those having more experience (n.=2207).for

We tested hypotheses using polynomial regression analysis and the response surface method (Edwards, 1994; Lambert, Edwards, and Cable, 2003). Using this method, we can circumvent several known problems associated with the use of difference score (Edwards, 1994). To test the hypotheses mentioned above, we divided our samples into two sub-samples (initial three years in employment and greater than three years in employment). The hypotheses were tested with regression analyses in which the dependent variable was level of expectations at t2. In step 1 of the regression analysis, we partialled out the effects of the various factors we believed to be related to the level of expectation. In step 2, we regressed level of

expectation at t1 and fulfillment at t2 on the higher order terms (i.e. squared expectation at t1, fulfillment at t2, and their interaction) in step 3.

To test these hypotheses, we used values from the regression analyses to plot the response surfaces (Edwards, 1994; Lambert, et al., 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 the dependent variable (level of expectations at t2) and the two horizontal axes represent the level of expectations at t1 and fulfillment at t2. The comparison of expectations at t1 and fulfillment level at t2 is captured by the two-dimensional space on the floor. In Zone A, both expectations at t1 and fulfillment at t2 are low. In Zone D, both the expectations at t1 and fulfillment at t2 are high. In both cases, the discrepancies are relatively small. In contrast, the discrepancies between expectations at t1 and fulfillment at t2 are relatively large for Zones B and C.

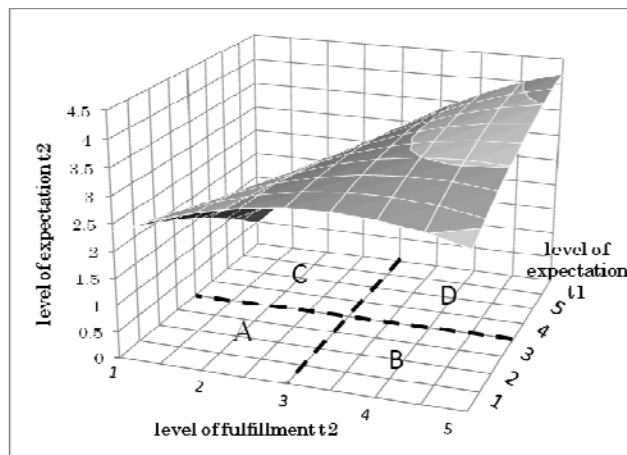


Figure 1. Response surface methodology

Results

The means, standard deviations, and correlations for the employees within their initial three years and those with a longer tenure are presented in Tables 2 and 3. Expectations at t1 and fulfillment at t2 were positively correlated with expectations at t2. Given the two-wave study, we investigated the extent to which the magnitude and variance of psychological contracts change differed between t1 and t2. According to Table 2, for employees in the initial three years, their perceptions of expectations of the employer increased (both relational and transactional contract)⁴, which is inconsistent with previous research (Robinson et al., 1994; Thomas and Anderson, 1998; Lee et al. 2011). According to Table 3, after four years, employee perceptions of relational contracts and transactional expectations decrease. In both samples, the degree of change in expectations was quite small. Interestingly, we found consistent

⁴ Given that sample size was quite different between the groups (initial three years and after four years), we did not conduct t-test.

decreases in the standard deviation for both contracts only for the initial three years sample⁵.

Polynomial regression and response surface: Initial three years

The results of the polynomial regression analysis for employees within their initial three years are shown in Table 4. In step 1, the control variables explained 12% of the variance in relational expectations at t2 and 7% for transactional expectations at t2. In step 2, expectations at t1 and fulfillment accounted for an additional 38% of the variance in expectations t2 (relational contract) and 43% of the variance in expectations (transactional contract). In step, 3 higher order terms explained an additional 7% of the variance in expectations (relational contract) and 3% for transactional contracts.

Hypothesis 1 predicted that the employer's fulfillment of the psychological contract would be associated with an increase in expectations at t2 toward the employer. As shown in Table 4, only the employer's fulfillment was positively related to expectations at t2, expectations at t1, and higher order terms (i.e. squared expectations at t1 and fulfillment at t2 terms as well as their interaction) were not significant. We then used values from the regression analyses to plot the response surfaces (Edwards, 1994; Lambert, et al., 2003) and analyzed these surfaces. As shown in Figures 2 and 3, surfaces were positively sloped along the fulfillment line and exhibited no significant curvature. Thus, Hypothesis 1 was supported.

Polynomial regression and response surface: After four years

The results of the polynomial regression analysis are shown in Table 5. In step 1, the control variables explained 4% of the variance in both relational and transactional contract expectations. In step 2, expectations and fulfillment accounted for an additional 34% of the variance in expectations (relational contracts) and 40% of the variance in expectations (transactional contract). In step 3, higher order terms explained an additional 3% of the variance in expectations (relational contract) and 2% for transactional contracts.

Hypothesis 2 predicted that for employees with a long tenure, a discrepancy between expectations at t1 and employer fulfillment would be associated with an increase in expectations at t2. We specifically predicted that (1) when fulfillment is less than expectations at t1, expectations at t2 will decrease (Hypothesis 2a); (2) when fulfillment exceeds expectations at t1, expectations at t2 will increase (Hypothesis 2b); and (3) when expectations at t1 and fulfillment are equal, expectations at t2 will be stable (Hypothesis 2c).

As shown in Table 5, all higher order variables were related to expectations at t2, a stark contrast to the initial three-year sample. As in the preceding analysis, we examined the shape of the three-dimensional surface using the regression coefficients. As shown in Figures 4 and 5, when there were no discrepancies between the level of expectations at t1 and fulfillment at t2 (i.e. both expectations at t1 and fulfillment at

⁵ Given that the sample size was quite different between the groups, we did not conduct Levine's test.

Variables	M	S.D.	α	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Sex (dummy)	0.90	0.30		1												
2 Age	40.3	7.75		0.14***	1											
3 Job change (dummy)	0.16	0.37		0.01	0.04*	1										
4 MR (dummy)	0.65	0.48		0.11***	0.01	0.18***	1									
5 R and D (dummy)	0.20	0.40		-0.05**	-0.05**	-0.11**	-0.66	1								

6 Manager (dummy)	0.38	0.49		0.19***	0.66***	-0.06**	-0.00	-0.04*	1							
7 Expectation (relational) t1	3.72	1.01	0.89	0.11***	-0.03	0.02	0.11***	-0.07***	0.03	1						
8 Expectation (transactional) t1	3.89	0.94	0.91	0.11***	-0.00	0.01	0.06**	-0.05**	0.06**	0.69***	1					
9 Fulfillment (relational) t2	3.16	0.84	0.81	0.05**	0.03	0.03*	0.15***	-0.09***	0.09***	0.25***	0.24***	1				
10 Fulfillment (transactional) t2	3.78	0.74	0.79	0.05**	0.03	-0.00	0.09***	-0.06***	0.16***	0.28***	0.33***	0.68***	1			
11 Expectation (relational) t2	3.78	0.87	0.83	0.07**	-0.03	0.03	0.15***	-0.10***	0.06***	0.49***	0.44***	0.47***	0.43***	1		
12 Expectation (transactional) t2	3.97	0.77	0.89	0.10***	-0.03	-0.01	0.11***	-0.08***	0.10***	0.47***	0.51***	0.39***	0.57***	0.74***	1	
13 Expectation t1 × Fulfillment (relational) t2	14.06.	4.75		0.10***	0.01	0.03	0.17***	-0.10***	0.08***	0.75***	0.56***	0.79***	0.61***	0.57***	0.51***	1
14 Expectation t1 × Fulfillment (transactional) t2	15.44.	4.62		0.10***	0.03	-0.00	0.10***	-0.07**	0.14***	0.59***	0.80***	0.56***	0.81***	0.52***	0.64***	0.73***

Table 2: Descriptive statistics for variables (initial three years)

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

Table 3: Descriptive statistics for variables (after four years)

Variables	M	S.D.	α	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Sex (dummy)	0.81	0.40		1												
2 Age	29.02	5.96		0.17	1											
3 Job change (dummy)	0.31	0.46		0.23**	0.65***	1										
4 MR (dummy)	0.50	0.50		0.09	-0.25**	0.22**	1									
5 R and D (dummy)	0.40	0.49		0.00	0.08	-0.40**	-0.81*	1								
						*	**									
6 Manager (dummy)	0.16	0.36		0.07	0.34***	0.19*	0.22*	-0.24**	1							
							*									
7 Expectation (relational) t1	3.66	0.87	0.83	-0.19*	0.11	0.01	-0.07	-0.02	-0.07	1						
8 Expectation (transactional) t1	3.86	0.87	0.90	-0.17*	0.10	-0.07	-0.19*	0.11	-0.09	0.75***	1					
9 Fulfillment (relational) t2	3.22	0.84	0.91	-0.12	0.07	0.04	0.00	-0.07	-0.06	0.24**	0.16	1				
10 Fulfillment (transactional) t2	3.55	0.79	0.82	-0.27**	0.04	-0.09	0.03	-0.03	-0.05	0.16	0.16	0.67***	1			
11 Expectation (relational) t2	3.77	0.88	0.80	-0.17*	-0.01	-0.14	-0.16	0.05	-0.17	0.34***	0.30**	0.63***	0.54***	1		
12 Expectation (transactional) t2	3.97	0.86	0.83	-0.11	0.06	-0.03	-0.06	0.00	-0.16	0.29**	0.30**	0.50***	0.66***	0.73***	1	
13 Expectation t1 × Fulfillment (relational) t2	13.80	4.78		-0.22**	0.11	0.03	-0.04	-0.06	-0.06	0.74***	0.57***	0.81***	0.56***	0.59***	0.48***	1
14 Expectation t1 × Fulfillment (transactional) t2	13.70	4.78		-0.29**	0.09	-0.11	-0.11	0.07	-0.08	0.59***	0.77***	0.52***	0.74***	0.52***	0.59***	0.74

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

Table4: Hierarchical regression analysis (initial three years)

	Relational contract t2						Transactional contract t2					
	Step 1		Step 2		Step 3		Step 1		Step 2		Step 3	
Intercept	4.711	***	2.071	**	-1.01	***	4.03	***	0.98		-1.44	
Sex (dummy)	-0.24		0.02		-0.32	**	-0.21		0.24		0.18	
Age	-0.00		-0.02		-0.28	**	0.02		-0.01		-0.02	
Job change (dummy)	-0.31		-0.24		-0.05		-0.12		0.08		0.19	
MR (dummy)	-0.68	*	-0.58	**	-0.43	**	-0.13		-0.21		-0.19	
R and D (dummy)	-0.73	*	-0.48		-0.29		-0.31		-0.21		-0.11	
Manager (dummy)	-0.53	*	-0.28		-0.17		-0.58	**	-0.34	*	-0.37	*
Expectation t1			0.18	**	0.51				0.18	**	0.30	
Fulfillment t2			0.66	***	1.16	**			0.71	***	2.13	**
Expectation t1 × Fulfillment t2					-0.12						-0.12	
(Expectation t1) ²					0.08						0.04	
(Fulfillment t1) ²					0.08						-0.14	
Adjusted R ²	0.06		0.46		0.51		0.01		0.46		0.47	
R ²	0.12		0.50		0.57		0.07		0.50		0.53	
Δ R ²			0.38		0.07				0.43		0.03	
F value	2.06	*	11.52	***	10.40	***	1.11		11.46	***	9.05	***

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

Table 5: Hierarchical regression analysis (others)

	Relational contract t2						Transactional contract t2					
	Step 1		Step 2		Step 3		Step 1		Step 2		Step 3	
Intercept	3.99	***	1.44	***	1.01	***	4.31	***	1.36	***	0.91	***
Sex (dummy)	0.13	*	-0.00		-0.01		0.20	**	0.10	**	0.09	*
Age	-0.02	***	-0.01	**	-0.01	**	-0.02	***	-0.01	***	-0.01	**
Job change (dummy)	0.04		0.02		-0.00		-0.01		-0.02		-0.03	
MR (dummy)	0.29	***	0.11	**	0.10	**	0.13	**	0.04		0.03	
R and D (dummy)	0.00		0.02		0.01		-0.07		-0.05		-0.06	
Manager (dummy)	0.27	***	0.12	**	0.13	**	0.32	***	0.08	**	0.08	**
Expectation t1			0.36	***	0.30	**			0.32	***	0.27	**
Fulfillment t2			0.39	***	0.61	***			0.46	***	0.70	***
Expectation t1 × Fulfillment t2					-0.18	***					-0.16	***
(Expectation t1) ²					0.09	***					0.08	***
(Fulfillment t1) ²					0.07	***					0.06	***
Adjusted R ²	0.04		0.37		0.41		0.04		0.44		0.46	
R ²	0.04		0.38		0.41		0.04		0.44		0.46	
Δ R ²			0.34		0.031				0.40		0.02	
F value	15.83	***	174.44	***	146.65	***	16.90	***	230.98	***	181.28	***

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

Figure 2. Response surface predicting level of expectations at t2 from expected and fulfilled relational contracts: Initial three years

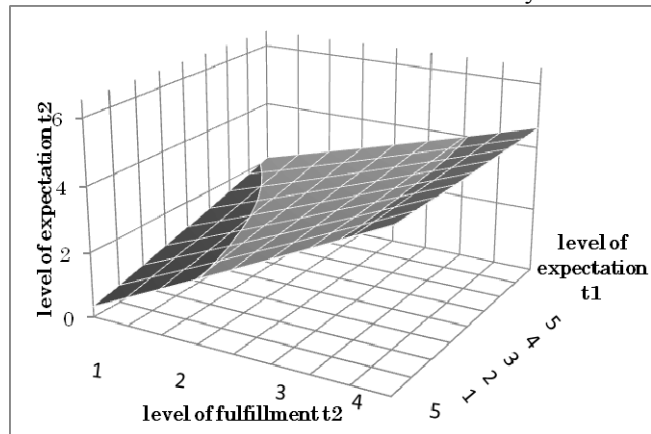


Figure 3. Response surface predicting level of expectations at t2 from expected and fulfilled transactional contracts: Initial three years

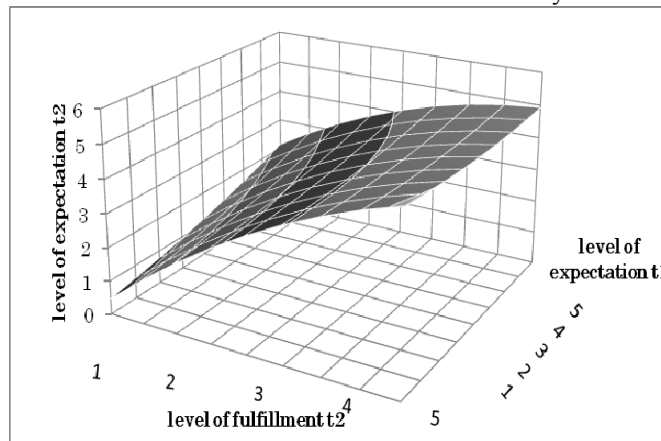


Figure 4. Response surface predicting level of expectations at t2 from expected and fulfilled relational contracts: Others

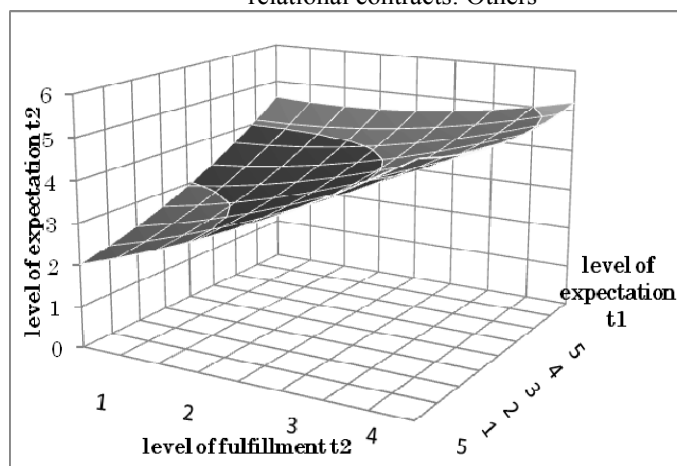
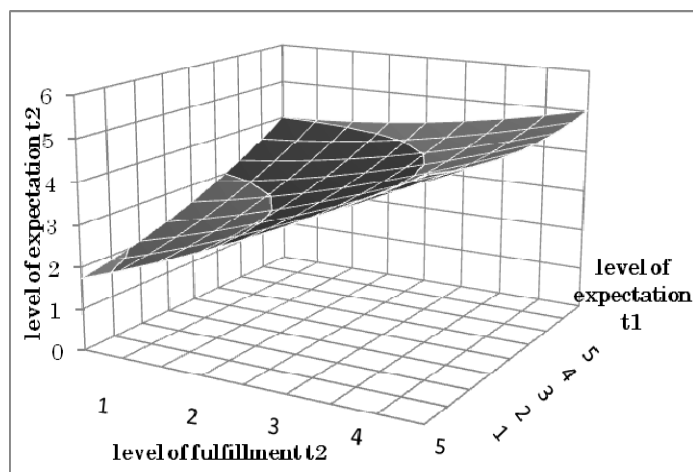


Figure 5. Response surface predicting level of expectations at t2 from expected and fulfilled transactional contracts: Others



t2 were high/low), the level of expectations at t2 did not change, consistent with Hypothesis 2c. In the case of a positive discrepancy between expectations at t1 and fulfillment at t2 (i.e. the level of expectations at t1 was low, but fulfillment at t2 was high), the level of expectations at t2 did increase. This is consistent with Hypothesis 2b. Finally, in the case of a negative discrepancy between expectations at t1 and fulfillment at t2 (i.e. the level of expectations at t1 was high, but fulfillment at t2 was low), the level of expectations at t2 did not change. Hypothesis 2a was not therefore supported.

Discussion

The purpose of this paper is to gain an understanding of psychological contract development by comparing new recruits and veterans. Despite the fundamental role of psychological contracts in employee attitudes and behaviors, there is little research concerning the development of psychological contracts. Although a few empirical efforts describe the early socialization period as a critical stage in the development of psychological contracts (Rousseau, 2001), no consistent pattern for new recruit perception of psychological contracts change over time has emerged. To our knowledge, there is also no research concerning contract change in the post-socialization period. We therefore investigated the developing nature of psychological contracts as well as the development of contracts for veteran employees. In general, our results provide evidence for the determinants of contract change and its impact. However, the pattern of contract change itself differed between employees within their initial three years and those with a longer tenure.

In both samples, the amount of expectation change was quite small, which is inconsistent with extant findings. Interestingly, the results also show a consistent decrease in the standard deviation for both contracts only for those within their initial three years. Is this result incompatible with the established notion that the early socialization period is a critical stage in the development of psychological contracts (Rousseau, 2001)? As socialization theorists and psychological contract theorists suggest, new recruits often have unrealistic expectations for their employer (Louis, 1980; Wanous, 1976; De Vos and Freese, 2011). New recruits are primarily concerned with establishing and clarifying their own identities (Katz, 1980; Schein 1978). They try to adapt to their organization by tuning their expectations to fit the new environment (Ashford, 1986). In addition, they try to insure that the organization really is suitable for them. In seeking information about their organization's fulfillment, employees devote themselves to

conducting self-regulating actions to arrive at more realistic expectation levels (Wanous, 1976). Recruits with inappropriately elevated expectations may take downward corrective actions while recruits with inappropriately low expectations may take upward corrective actions. Thus, contract change exists not as a changing mean expectation level but as convergence in variance.

For employees with longer tenures, comparison of expectations and fulfillment at t2 was associated with expectations at t1. In the case of positive discrepancies between expectations at t1 and fulfillment at t2 (i.e. the level of expectations at t1 was low, but fulfillment at t2 was high), the level of expectations at t2 increases (upward change). In the absence of discrepancies (i.e. both expectations at t1 and fulfillment at t2 are high/low), the level did not change. These results provide evidence for the occurrence of self-regulating changes in employee expectations. However, when negative discrepancies between expectations at t1 and fulfillment at t2 (i.e. the level of expectations at t1 was high, but fulfillment at t2 was low), the level of expectations at t2 did decrease. Interestingly, even when negative discrepancies (i.e. level of expectations at t1 was high, but fulfillment at t2 was low), the level of expectations at t2 was still high. Although veteran expectations do change, they may have a natural downward rigidity. This may be understood from the perspective of psychological distortion (Wells and Iyengar, 2005). As indicated by previous research, there are several discrepancies between Japanese employees' expectations and the employers' fulfillment (Morishima, 1996; Hattori, 2010). However, many Japanese employers maintain their promise of long-term employment (Morishima, 1996). In Japanese companies (as in our sample firm), employees are promoted and receive salary increases more or less in accordance to the length of service (seniority system). In our sample, employees received a relatively high salary. It may therefore be objectively and subjectively difficult for long-tenure employees to change employers, because it could lead to the loss of future benefits (Lincoln and Kalleberg, 1990). For employees with long tenures, perceptions of negative gaps (expectations > fulfillment) imply the existence of cognitive dissonance ("I want to stay here, but my employer betrayed me"). In such cases, employees may achieve an integration of their internal state ("I want/have to stay here") and perceived external state ("My employer betrayed me") through a process of distortion (e.g. "My employer must be trustworthy," "The breach of contract might be a transient and trivial one," or "So, I can expect my employer more and more,"). By consciously and unconsciously distorting their perceptions, employees may be able to decrease cognitive dissonance.

Our findings have several implications for psychological contract formation research. First, though the early socialization period is critical as suggested by current research, the pattern of change is not about the changing expectation level itself, but about the convergence of variance in expectations. Second, the pattern of contract change differs between new recruits and veterans. Although new recruits change their expectation levels following employees' fulfillment, veterans use their perception of expectations as a reference point. This implies that the determinants of the pattern of expectation should be a critical focal point for future research efforts, not the pattern of expectation itself.

In considering these insights, however, it is also important to note several limitations of the present work. The first limitation is that only one side of the psychological contract was included in this study. As previous research indicates, psychological contracts include employee's perception of both (1) expectations of the employer and (2) expectations of the employee. Thus, we focused on only one half of

the psychological contract. The second limitation was our operationalization. Although Rousseau and other theorists recommend the term “obligation” or “promise” (Conway and Briner, 2005; Roehling, 2008; Rousseau, 2010), we used “expectation” based on the pilot results. Not surprisingly, the way researchers operationalize psychological contract can impact their findings (Roehling, 2008). The final issue is the generalizability of our sample, namely employees in a large and stable Japanese company. Our results therefore require replication with other sample populations. Notably, the Japanese context alone may also influence the results. Previous research has indicated that for Japanese employees, it is objectively and subjectively difficult to change their employer (Lincoln and Kalleberg, 1990). The confirmation of the robustness of our findings thus requires more research in other contexts using standard scales.

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