

**Psychological Contract Inventory
Technical Report**

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Introduction

The ***Psychological Contract Inventory*** (PCI) is designed to serve two basic purposes: 1) as a psychometrically sound tool for assessing the generalizable content of the psychological contract for use in organizational research, and 2) as a self-scoring assessment to support executive and professional education.

A psychological contract is an individual's belief in mutual obligations between that person and another party, such as an employer (Rousseau, 1989). This belief is predicated on the perception that an exchange of promises has been made (e.g., of employment or career opportunities) to which the parties are bound. Most research on psychological contracts focuses on obligations in the context of the employment relationship (There are exceptions such as research addressing marketing channels, Lusch & Brown, 1996).

Psychological contracts can be operationalized from a variety of perspectives. A first cut on operationalization occurs with the decision whether or not to focus on aspects of the psychological contract believed to generalize across persons and settings. Morey and Luthans (1984) distinguished etic perspectives, addressing generalizable features, from emic ones, where the focus is on local and idiosyncratic content. Assessments using standardized scales to assess the extent to which workers experience a "transactional" or "relational" arrangement with their employer generally are etic in nature, applying a common framework across a variety of situations. In contrast, ethnographic interviews probing the subjective experiences of workers, with no a priori framework to test, typically are emic in nature.¹ Emic assessments provide a qualitative description of the idiosyncratic meanings ascribed to employment (e.g., Arthur, Inkson, & Pringle, 1999; Inkson, & Rousseau, in press). An emic perspective characterized scholarly work on the psychological contract conducted by early seminal writers on the topic (Argyris, 1962; Levinson, Price, Munden & Solley, 1962; see Roehling, 1996 for an historical treatment of the development of psychological contract research). The PCI is etic in nature, designed to assess characteristics of the employment relationship based

¹ Emic and etic approaches can be combined to permit a structured assessment of the psychological contracts in a particular setting in terms that are specific to that setting. For example, Rousseau and Tijoriwala (1999) conducted intensive interviews with key informants in a hospital setting to gather its nursing staff and managers' understanding of their employment relationship. The obligations or terms these key informants described were then formulated into a structured questionnaire administered to the entire nursing population.

on a conceptual framework grounded in organizational theory and research (Rousseau & Wade-Benzoni, 1994; Rousseau, 1995).

A second cut on the operationalization of psychological contracts occurs with the decision of whether to focus upon content, features, and/or evaluations (Rousseau & Tijoriwala, 1998). The content of psychological contracts refers to the terms and elements which comprise the contract (e.g., specific obligations such as job security, or general types of obligations such as relational or transactional). Features of psychological contracts characterize them on some element or attribute (e.g., explicit or implicit, stable or unstable over time). Evaluations assess the degree of fulfillment change or violation experienced within the context of the psychological contract. Researchers have been interested in any or all of these aspects of the psychological contract.

The PCI contains both content and evaluation measures. First, it assesses a variety of specific terms (e.g., “to train me only for my particular job”, “opportunities for promotion”) that can arise in employment. It then assesses the extent to which the respondent believes that he or she has fulfilled commitments made to the employer and whether that employer has fulfilled its commitments in turn.

The PCI assesses individual subjective reports regarding a particular employment relationship. It can be used to measure the subjective experience of the employment relationship from various frames of reference: 1) worker/employee/contractor, 2) supervisor or manager of a particular worker or group of workers, or 3) an “ideal” or preferred psychological contract as described by workers, managers, or others.

This technical report describes the psychometric properties of version 1.1 of the PCI, including its reliability and construct validity. It also presents statistical findings regarding the relationships observed among psychological contract scales and other variables. Findings from administration of this survey to professionals, managers, executives, and graduate students in the United States are compared with those from Singaporean managers and professionals. Another comparison sample provided by Ang and Goh (1999) will be used to assess the generalizability of the psychometric properties of the instrument and as a basis for further refinement of the PCI.

The conceptual framework

Beginning with Macneil (1985) scholars have proposed typologies for conceptualizing the forms that promissory contracts can take. Macneil conceptualized contracts on a relational-transactional continuum. Transactional refers to short-term arrangements that are highly monetary or economic in focus (e.g., spot market sales). In contrast, relational refers to open-ended arrangements

that comprise socioemotional as well as economic terms (e.g., marriage, friendships). In employment, arrangements can be transaction, relational or a hybrid form (as in the case of high performance work teams). A typology characterizing employment arrangements along the dimensions of duration (short-term versus open-ended) and performance-reward contingencies (highly contingent, low or non-contingent) reflects observed variation in psychological contracts across people and firms (Rousseau & Wade-Benzoni, 1994; Rousseau, 1995; Figure 1).

Relational—long-term or open-ended employment arrangements based upon mutual trust and loyalty. Rewards are only loosely conditioned on performance, derive from membership and participation in the organization.

Balanced---dynamic and open-ended employment arrangements conditioned on economic success of firm and worker opportunities to develop career advantages. Both worker and firm contribute highly to each other's learning and development. Rewards to workers are based upon performance and contributions to firm's comparative advantages, particularly in face of changing demands due to market pressures.

Transactional—employment arrangements with a short-term or limited duration, primarily focused upon economic exchange; specific, narrow duties and limited worker involvement in organization.

Transitional—not a psychological contract form itself, but a cognitive stated reflecting the consequences of organizational change and transitions that are at odds with a previously established employment arrangement.

To operationalize these four dimensions in a manner that produces scales with high convergent and discriminant validity, I elected to further sub-divide each dimension into conceptually homogeneous components (Figure 2).

Relational

- 1) Stability: Employee is obligated to remain with the firm and to do what is required to keep job. Employer has committed to offering stable wages and long-term employment.
- 2) Loyalty: Employee obligated to support the firm, manifest loyalty and commitment to the organization's needs and interests. Be a good organizational citizen. Employer has committed to supporting the well-being and interests of employees and their families.

Balanced

- 1) External employability- Career development on the external labor market. Employee is obligated to develop marketable skills. Employer has committed to

enhancing worker's long-term employability outside the organization as well as within it.

- 2) Internal advancement—Career development within an internal labor market. Employee is obligated to develop skills valued by this current employer. Employer has committed to creating worker career development opportunities within the firm.
- 3) Dynamic performance—Employee is obligated to successfully perform new and more demanding goals, which can change again and again in the future, to help the firm become and remain competitive. Employer has committed to promote continuous learning and to help employees successfully execute escalating performance requirements.

Transactional

- 1) Narrow—Employee is obligated to perform only a fixed or limited set of duties, to do only what he or she is paid to do. Employer has committed to offer the worker only limited involvement in the organization, little or no training or other employee development.
- 2) Short-term—Employee has no obligations to remain with the firm; committed to work only for a limited time. Employer offers employment for only a specific or limited time, is not obligated to future commitments.

Transitional

- 1) Mistrust—Employee believes that the firm sends inconsistent and mixed signals regarding its intentions; employee mistrusts the firm. Employer has withheld important information from employees. Firm mistrusts its workers.
- 2) Uncertainty—Employee is uncertain regarding the nature of his or her own obligations to the firm. Employer measure assesses the extent that the employee is uncertain regarding the employer's future commitments to him or her.
- 3) Erosion—Employee expects to receive fewer future returns from his or her contributions to the firm compared to the past; anticipates continuing declines in the future. Employer has instituted changes that reduce employee wages and benefits, eroding quality of work life compared to previous years.

The Instrument

With a goal of developing four-item scales for each construct, the PCI employed five items for each proposed scale. A self-scoring questionnaire was constructed for instrument development (using a scoring template printed on carbonless paper). This scoring feature permitted administration of the survey as part of in-class or executive development activities where participants could derive insights from their own answers as well as benefit from a general discussion of the patterns observed across participants.

The analyses presented here are based on the four-items (unless otherwise indicated) as having the highest item-total correlation and appropriate factor loadings (principal axes factor analysis with varimax rotation).

Each construct in Figure 2 described above is measured twice, first in terms of the respondent's beliefs regarding the Employer's obligations to the employee, and then again in terms of the Employee's obligations to the firm. The original five items for each of the resulting twenty scales (10 sets of obligations each operationalized according to Employer and Employee terms) are listed in the Appendix. The instrument divided the items into four sets. The first set contained the seven Employer Obligations (Short-term, Loyalty, Narrow, Dynamic Performance, Internal Development, External Development, and Stability) and had the following instruction: "Consider your relationship with your current employer. To what extent has your employer made the following commitment or obligation to you? Please answer each question using the following scale":

1	2	3	4	5
not at all	slightly	somewhat	moderately	to a great extent

The second set contained the three Employer Transition scales (Mistrust, Uncertainty, and Erosion) and used the following instructions to accompany a 1-5 scale "To what extent do the items below describe your employer's relationship to you?".

The third set contained the seven Employee obligations (comparable to the Employer measures above) and used this instruction: "To what extent have you made the following commitment or obligation to your employer?" Again, the same 1 to 5 scale was used as above.

Lastly, the fourth set contained the Employee Transition scales comparable to those above for Employer Transition. The instruction read "To what extent do the items below describe your relationship with your employer?" Again, the same 1 to 5 item scale was used.

Within each of the above four sets, items were sequenced such that an item from one scale was completed, then an item from another until all other scales were represented, and then the sequence repeated). no items on the same scale were near each other. The sequencing for the Employee and Employer Obligations was Short-term, Loyalty, Narrow, Dynamic Performance, Internal Development, External Development, Security. The sequencing for the Employee and Employer Transition items was Uncertainty, Mistrust, and Erosion.

The back page of the PCI 1.1 contained some additional questions. A global measure of Employer Fulfillment containing two items used previously in Rousseau and Tijoriwala (1999): "Overall, how well does your employer fulfill its commitments to you" and "In general, how well does your employer live up to its

promises.” Also included is the Rousseau and Tijoriwala two-item measure of Employee Fulfillment: “Overall, how well have you fulfilled your commitments to your employer” and “In general, how well do you live up to you promises to your employer.” A global measure of Satisfaction was used: “Overall, how satisfied are you in your job” where a five-item response set using smiley faces was employed (as a cultural and gender-neutral variation on the GM-Faces Scale, Kunin, 1955). To gauge whom respondent’s believed held the responsibility for the employer’s obligations, the following question was asked: “To what extent do you believe the commitments your employer has made to you are the responsibility of the following: a) your coworkers/work group, b) your boss/manager, c) senior management, d) the organization generally, e) other(s) (whom?_____).

Samples

A total of 630 respondents completed the *Psychological Contract Inventory 1.1*. Of these, 492 respondents were obtained in the Pittsburgh, Pennsylvania USA region during 1997-1998. Within the Pittsburgh-based sample, 424 had work experience in the United States, with the remaining 68 having been employed only outside the US. Participants with a minimum work experience of 4 year (n=424) were obtained from several graduate management programs at Carnegie Mellon University. Participants with a minimum work experience of 7 years (n=33) were obtained from an executive education program at the University of Pittsburgh. Sixty additional Pittsburgh-based respondents were human resource management specialists attending a professional meeting. To investigate the generalizability of the psychometric results, 138 full-time employees attending an evening graduate program in Singapore also completed the PCI in 1999 (note that this Singaporean sample is different from that used by Ang and Goh (1999) which is described below).

Singapore provides a good test of the generalizability of the PCI across countries. Like the United States, Singapore is a highly developed country with a legal system based upon English common law, with relatively few labor laws, a factor creating wide latitude in the forms employment can take (Rousseau & Schalk, 2000). It has an open and dynamic labor market and English is the primary language of administration and instruction. Unlike the United States, Singapore society has Asian cultural roots, characterized by high emphasis on interpersonal relationships and greater power distance between employees and employers. Further, it is distinctive in that in 1999, the year of the assessment, Singaporean workers experienced a high degree of inter-organizational mobility due to a labor shortage and low social costs to leaving one employer for another (Ang, Yee & Ng, 2000). Its status as an island city-state also contributed to the ease of mobility since changing firms does not entail the need to change residences.

In addition to the data included here, I cite the 1999 thesis completed in Singapore by Grace Ang and Karen Goh who gathered data using part-time MBA

students from Nanyang Technological University and graduate diploma students from another private university. Ang and Goh (1999) surveyed an additional 464 respondents using a subset of the PCI items. These students were working professionals taking evening classes; they too completed the questionnaire and formed 30% of the Ang and Goh sample. In addition to participating in that study as subjects, these students distributed questionnaires to colleagues and friends in nine professional groups targeted by the researchers:

Accounting/Banking/Finance, Engineering, IT, Education and Research, Healthcare, Management, Sales and Marketing, Administration and Clerical, and Customer Service. Respondents were largely from Singaporean firms (52.6%) and US affiliates (36%). They ranged in age from 19 to 62, with the average being 32 years. The average work experience was 9.3 years, with 3 organizations. Average tenure with present employer was 4.5 years.

Results

These results are divided into five sections: 1) identification of the four-item scales that form the basis of subsequent analyses, 2) item-level factor analyses to examine their convergent and discriminant validities, 3) hierarchical factor analyses at the level of the Obligation and Transition scales, 4) descriptive statistics and mean comparisons between the U.S. and Singaporean sub-samples, 5) correlational and regression analyses to examine the interrelations among the scales and the relationship of Obligation and Transition scales with the Fulfillment measures, and 6) exploratory analyses involving the Responsibility measures.

1. Identification of four (or reduced)-item scales. The Appendix contains the original set of five items for each scale, identifies the four selected items based upon item-total correlations and initial factor analysis. In certain cases, three-items produced a highly internal consistent scale with a stable factor structure, where the remaining items did not enhance the scale's reliability. Revised fourth items are proposed, which will form the basis of the next round of validation work done using the PCI.²All subsequent analyses included in the tables below are on the subset of items identified in the Appendix. (Note that for the reader's ease at interpreting the final conclusions of this report, any revisions recommended to a scale are included in this Appendix.)

Initial analyses identified that several scales did meet the traditional standards for convergence and reliability (where a minimum Cronbach's alpha coefficient is .70). Problematic scales were Employer Narrow and Employee Security. In addition, Employer Short-term yielded an alpha of .69 for four items while a 3-item version does meet reliability standards and has an appropriate factor structure.

² In those cases where three item scales are identified, researchers may wish to employ these in subsequent research. For purposes of the self-scoring system which I use for research and teaching purposes, I intend to work toward four-item scales to promote standardization and ease of self-scoring.

2. Item-level factor analyses (principal axes factor analyses with varimax rotation) were performed on the total sample (Tables 1 to 4), the US-based sample and for the Singaporean sample.

Table 1 presents a five-factor solution for Employer Obligations: I (Loyalty), II Internal Development, III (External Employability), IV (Dynamic Performance), and V (Narrow). (Note that fewer factors were expected than with that latter set of obligations because the Short-term measure was not included here do to poor inter-item correlations and low reliabilities.) All Employer scales meet the criteria for simple structure in this factor analysis with the exception of Dynamic Performance, where one item (“Support me in meeting increasingly higher goals”) also loads on the Loyalty factor and the Internal Development factor. Revised items are proposed in the Appendix. Table 2 presents a six-factor solution for Employee Obligations: I (Narrow), II (Internal Development), III (External Employability), IV (Loyal), V (Short-term) and VI (Dynamic Performance). Although simple structure (Comrey, 1973) does characterize the results generally, some departure from simple structure is evident in one case where an External Employability item loads not only with its own items but with Internal Development as well.

The two sets of Transitional scales each factor analyzed into three factors (Tables 3 and 4) consistent with the proposed measurement model. In the case of Employer Transitional scales, Uncertainty and Erosion manifest simple structure for all four items in each scale. However, Mistrust did so for three of its items with the fourth (“doesn’t trust me”), splitting across all three factors. These three items do produce a highly internal consistent scale and a revised fourth item is suggested in the Appendix. The three factors associated with Employee Transition also basically fell out into the proposed measurement model of Uncertainty, Trust, and Erosion. Employee Uncertainty yielded a simple structure for all four items, and the Mistrust scale did so for the three-item kept in following the initial analyses (Appendix). However, Erosion, did so only for 3 of its four items. These three items do produce a highly internally consistent scale and a revised fourth item is proposed in the Appendix. Both factor analyses support the underlying measurement model on which the Transition measures were based.

Factor analyses on the US-based sample are highly consistent with the total sample, as would be expected given that this sub-sample is nearly $\frac{3}{4}$ of the total (not shown). Factor analyses on the Singaporean sample show some divergent patterns. First, the Employer Obligations factor analysis yielded a 3-factor solution compared to the 6-factor solution from the Total and US analyses. This solution collapsed the Employer Obligations of Loyalty, Internal Development, and Dynamic Performance into Factor I, External Employability items into Factor II, and Narrow obligation items in to Factor III. Second, the Employee Obligations factor analysis yielded a 5 factor solution, I (Balanced: Internal Development, Dynamic Performance, and External Employability), II (Loyalty), III (Narrow), IV

(Short-term), and V (External Employability). Note that External Employability forms part of the Balanced factor as well as loading highly on its own factor. Employer Transition items yielded only a single factor with one large eigenvalue in the Singaporean sample. Employee Transition items yielded two factors in the Singaporean sample, I (Mistrust, Uncertainty) and II (Erosion). In both the Employee and Employer Transitional assessments, the Singaporean sample yielded a less fine-grained distinction between different aspects of transitions as characterized in psychological contracts literature focusing on American experiences (Rousseau, 1995; 1996). In general, we note that Narrow and External Employability do tend to perform in Singaporean samples in a manner similar to that observed in the US sample. The Singaporean sample shows less discriminant validity among related obligations among the Balanced psychological contract form (Internal Development and Dynamic Performance). This convergence among Balanced contract forms can be due to societal differences in how these dimensions are interpreted, or it could be due to the lower levels of variation in the kinds of human resource strategies, and psychological contract forms, employed in Singaporean firms.

3. Hierarchical factor analyses to identify the observed relationships among obligation scales were conducted on the PCI scales separately for Employee and Employer (Tables 5 and 6). The Employee scales yielded a 3-factor solution where the Transition scales comprised the first factor. The second factor was characterized by large positive loadings from Loyalty, Dynamic Performance and Internal Development (in effect combining dimensions conceptualized as Relational and Balanced) along with negatively loading Transaction scales (Stability and Narrow). The third factor combines two of the Balanced dimensions (External and Internal Development). The employee analysis suggests that while the Transition scales are distinct from the obligation measures, Balanced and Relational Dimensions are inter-related.

The Employer scales also yielded a 3-factor solution where the Transition scales comprised a separate factor (#2) from the obligation scales. The first factor comprised high positive loadings of Loyalty, Stability, Dynamic Performance,, External and Internal Development, again as in the Employee analysis above, combining Relational and Balanced dimensions. However, the third factor in this case was defined by a high loading on Narrow, the only Transaction scale available for inclusion in this analysis. This pattern of findings suggests that Transition measures are distinct from Obligation measures across both Employee and Employer indices. Relational and Balanced scales, although distinct at the item levels, are highly related. Dynamic Performance scales appear in particular to overlap the Relational and Balanced domains, rather than being associated only with the Balanced domain as conceptualized in the measurement model. With regard to the Transaction scales, findings are less easily interpreted, particularly because only the Employer and Employee measures of Narrow made the cut. This scale appears to function as the opposite of Relational and Balanced dimensions in the Employee analysis and as a distinct factor in the Employer one. Currently

research is being conducted to develop an appropriate measure of the other Transactional dimension Short-term, which should then permit a more useful examination of the factor structure with respect to the Transactional dimensions.

4. Descriptive statistics and U.S./Singapore Mean Comparisons. Descriptive statistics are presented in Table 7 for the Total Sample. Means and standard deviations for the US and Singaporean subsamples are presented in Table 8 along with t-test results comparing these means. Note, that these results are presented solely for illustrative purposes since further research is needed on the calibration of the PCI for cross-national comparisons. However, taken at face value, the results indicate that the US-based sample reports higher levels of scores on obligations across most dimensions on both the Employee and Employer side of the exchange and higher levels of Employee and Employer Fulfillment of the psychological contract than the Singaporean sample. Such trends are consistent with the Ang, Kee & Ng's (2000) discussion of low organizational commitment in the Singaporean workforce in the face of a shortage of skilled workers and worker concerns in obtaining maximum career advantage from the situation.

5. Correlations and multiple regression analyses. Correlations are presented in Table 9 for the entire sample. Multiple regression analyses were performed on the total sample (Table 10), and US (Table 11) and Singapore sub-samples (Table 12). These examine each scale's relationship with measures of Employer and Employee Fulfillment. Note that the internal consistency reliability of Employer Fulfillment and Employee Fulfillment is .84 and .74 (Cronbach's alpha), respectively. To test whether evidence exists of an interaction between reported Employee and Employer Obligations and fulfillment, both Employee and Employer versions of each scale were used as predictors along with their joint product. Not surprisingly given the sample size and level of intercorrelation among the measures, equations are significant in the total sample. But more interesting is the significance of the main effects and interaction terms in predicting both Employee and Employer Fulfillment in the Total and US sample (which is the largest segment of the Total sample) for the following: Narrow, Mistrust, and Uncertainty. These findings suggest that some degree convergence or comparability between employer and employee in levels of obligations enhances a sense of psychological contract fulfillment for Narrow (Transactional) obligations. Moreover, where Transition features of Mistrust and Uncertainty are high for both Employee and Employer behavior, as experienced in this case by workers, higher levels of Fulfillment of obligations are reported, perhaps because expectations though diminished are aligned. There is no similar trend in the Singapore-based sample, even for the Employer and Employer Narrow obligations, which do factor similarly across both US and Singaporean samples.

6. Exploratory analysis of Responsibility measures. Rousseau (1995) observed that people frequently attributed the organization's failure to honor its commitments to situational factors associated with one's manager (e.g., "my boss

left”). In the interest of learning more about the locus of responsibility measures were included on this version of the PCI. Note that in Table 7, Boss/Manager, Senior Management and Organization have essentially the mean levels of Responsibility as rated by our respondents (4.01, 4.00, 3.57) and comparable standard deviations. Singaporeans and US-based respondents do differ somewhat in their ratings (Table 13) with Singaporeans rating Coworkers as significantly more responsible than do US-based respondents, who rate the Boss/Manager and Senior Management significantly higher. A fifth Responsibility item asked respondents to indicate whether any other party was responsible for fulfilling the employer’s commitments and to identify that party. While only a small portion of the total sample responded to the Other option, the typical responsible party identified was Self followed by Mentors.

Multiple regression analyses and t-tests are used to examine the link between ratings of whose Responsibility it is to fulfillment the Employer’s side of the psychological contract. These analyses can only be termed exploratory because there is no theory I know of that addresses the locus of responsibility for fulfillment of the employer’s obligations. Multiple regression analyses (Table 14) predicting Employer and Employee Fulfillment using the four single-item measures of Responsibility (Coworker/Group, Boss/Manager, Senior Manager, Organization) indicate that Coworker/Group and Organization significant predicts Employer Fulfillment while only Boss/Manager predicts Employee Fulfillment.

T-tests were conducted to examine differences in Obligations and Transition scales and in Fulfillment depending on the locus of Responsibility for the Employer’s Commitments (Table 15-18). Each Responsibility item was used to form two groups (High GE 4; Low LE 3) Where one’s immediate Manager/Boss is rated as high on Responsibility, Employer and Employer Loyalty, Internal Development and Dynamic Performance, and Employer Stability obligations were significantly higher than when that person’s responsibility was not rated as highly. In turn, those high in Manager/Boss Responsibility also report significantly lower Employee Narrow. Further, those rating their Manager/Boss as highly responsible do score significantly lower on both Employee and Employer Mistrust and Erosion. Similar patterns exist for those rating the Organization and/or Senior Management as being high in Responsibility. Coworker Responsibility, however, yields fewer significant differences in the Obligation or Transition scales (only Employer Dynamic Performance and External Development are significantly higher and Employee Trust significantly lower). These exploratory data suggest that believing the Employer’s commitments are the responsibility of the firm itself or its managerial agents is associated with higher level of Relational and Balanced obligations and lower levels of Transactional obligations and Transitional scores. Moreover, fulfillment of those obligations is rated as consistently higher where the firm or its managerial agents are believed to be responsible for fulfillment.

Profiles

When used for feedback to individuals regarding their psychological contract responses, PCI profiles reveal some intriguing patterns. The following Employee and Employer profiles were obtained from respondents participating in executive education programs dealing with organizational change.

Profile 1 and 2 reflect aggregated responses from managers in the same organization, but at different points in time. All were from a division within AT & T. The profiles 1 a and b reflect a strongly Relational and Balanced pattern combining Loyalty, Internal Development and Dynamic Performance with little evidence of change of transition. Note the degree of similarity between Employee and Employer profiles across all scales. Respondents consistently described the organization as communicating a “common bond” shared between it and its employees. Features of that common bond, as reflected in company mission statements and other communiques included openness, trust, and concern for personal development.

Profile 2a and 2b are aggregates of several participants from AT & T at the time its restructuring and downsizing parts of its business. Respondents describe their Employer’s communications to them as signalling a high degree of Uncertainty and Erosion of existing commitments. Meanwhile, their own Employee commitments entail dimensions very similar to the Profile 1b. Respondents indicated that while they realized the organization was intent upon change, they themselves were still uncertain what their roles would be subsequent to the change. The patterns suggest that changes to the Employee profile may lag behind changes in the Employer profile as workers seek to understand and respond to employer initiated changes.

Profile 3a and 3b describes student employees at Carnegie Mellon, hired to work while they are enrolled in the university. The Loyalty dimension on both Employee and Employer profiles indicates a relational quality while the short-term feature indicates a realistic assessment of temporariness of the job. Respondents indicated that they felt part of the university community but that their role as employee was limited to supporting themselves while at the university.

Profiles can also be used to obtain respondent’s perceptions of their preferred or ideal psychological contract. Though these can take many forms, particularly as business strategy and employee needs vary, some sample ideal profiles obtained from senior executives suggest a tendency toward a mix of Balanced and Relational dimensions. Interestingly, External Employability, commonly described as feature contemporary employment relations, does not score highly on the “ideal” profile of the managers I have surveyed.

Discussion

The psychometric analyses presented here indicate that eleven of the fourteen PCI obligation scales meet established criteria for internal consistency reliability and convergent and discriminant validity (as assessed by the item-level factor analyses on the total sample). Three scales, both the Employee and Employer Short-term obligations and the Employer Stability obligation, require revision. All six Transition scales also meet established criteria for reliability and validity. The Appendix indicates the scales and specific items that have met the criteria. Moreover, suggestions for revisions and clarifications are included with the goal of developing a robust and psychometrically sound assessment of the generalizable content of psychological contracts in employment.

The data provide some support for the PCI's cross-national generalizability at least to one non-American setting, Singapore. The Balanced contract obligations tend to cluster together in the Singaporean sample but the Transactional obligation Narrow yields its own factor on both Employee and Employer assessments as does External Employability. Ang and Koh (1999) employed a 3-item scale version of the PCI in Singapore in their research into the relationship between Singaporean motivational traits and the forms of employment relationships workers were party to. Support for many of their central hypotheses suggests that the PCI has some construct validity in Singapore. While I am cautious about overstating the case, these preliminary findings suggest that many aspects of both the conceptualization and operationalization of psychological contract dimensions can be generalizable across societies. Such a claim is particularly reasonable regarding those dimensions of employment that are shared across nations, as would be the case with global employment practices.

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Figure 1
Types of Psychological Contracts

Performance Terms

	Specified	Not Specified
<u>Duration</u>		
Short-term	Transactional	Transitional/ No guarantees
Long-term	Balance	Relational

Figure 2
Assessment of Psychological Contract

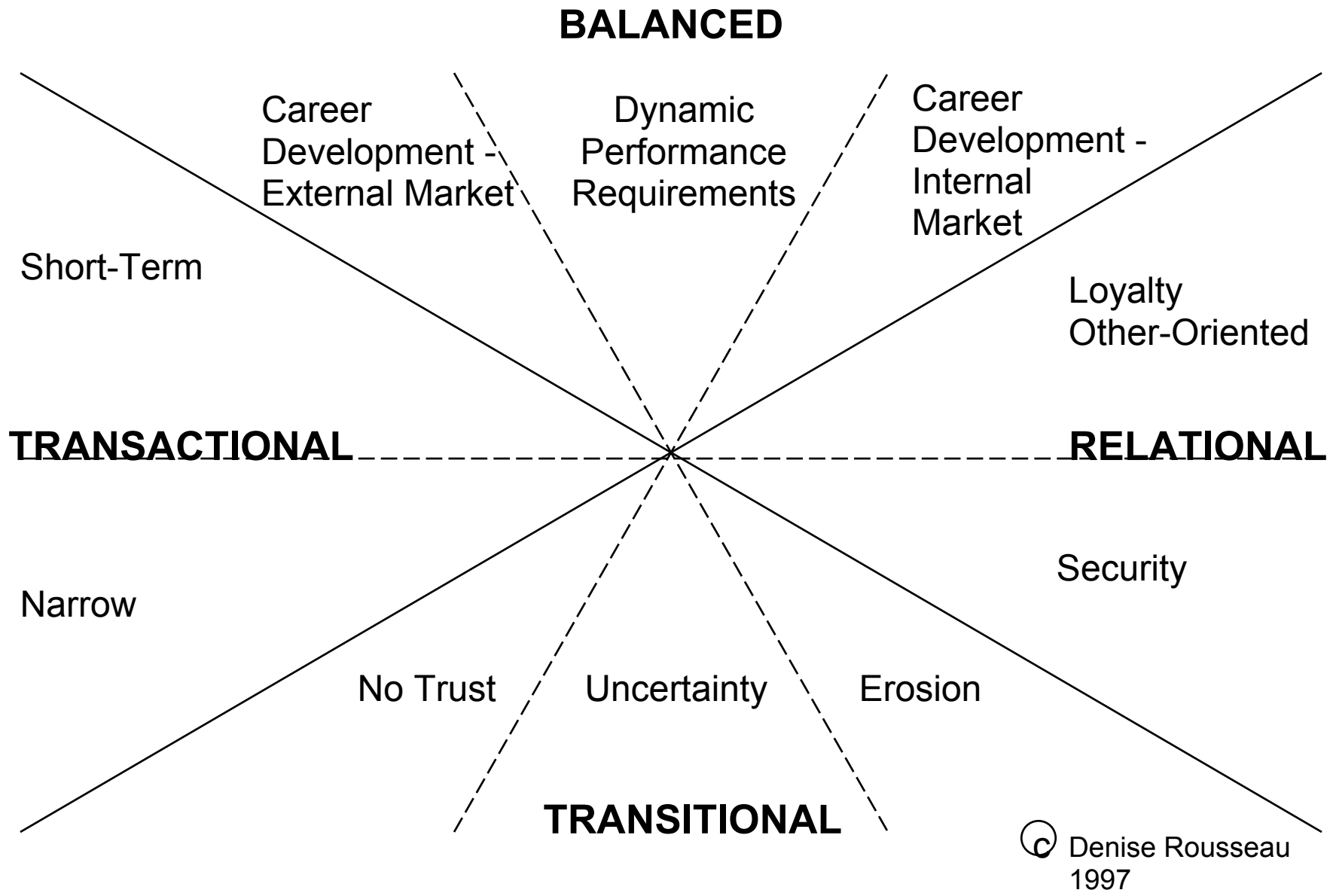


Table 1
Factor Analysis¹
Employer Obligations

		I	II	III	IV	V
A2	Concern for my personal welfare	<u>.52</u>	.11	.05	.36	-.11
A16	Be responsive to employee concerns	<u>.60</u>	.20	.13	.19	-.02
A23	Make decisions with my	<u>.72</u>	.21	.21	.03	.06
A30	Concern for my long-term well-being	<u>.68</u>	.16	.14	.27	-.13
A10	Limited involvement in the organization	-.12	-.09	-.09	-.12	<u>.47</u>
A17	Training me only for management	-.11	-.10	-.05	-.07	<u>.60</u>
A24	A job limited to specific ...	.12	.01	.04	-.02	<u>.52</u>
A4	Support me to attain higher levels ...	.30	.18	.10	<u>.73</u>	-.15
A11	Help me respond to each greater ...	.22	.26	.23	<u>.49</u>	-.14
A18	Support me in meeting higher goals	<u>.49</u>	.39	.24	.38	-.10
A12	Developmental opportunities within this firm	.20	<u>.51</u>	.11	.39	-.28
A19	Advancement within the firm	.23	<u>.77</u>	.18	.26	-.13
A33	Opportunities for promotion	.28	<u>.74</u>	.22	.08	-.09
A6	Help me develop extremely marketable skills	.32	.17	<u>.47</u>	.27	-.17
A20	Job assignments that enhance ...	.27	.23	<u>.60</u>	.11	-.15
A27	Potential job opportunities outside ...	.06	.03	<u>.65</u>	.06	.07
A34	Contracts that create employment opportunities elsewhere	.08	.14	<u>.73</u>	.06	.04
	Eigenvalues	6.1	1.7	1.4	1.0	.88
	% Variance Explained	14.3	11.2	10.9	9.1	6.5

¹Principal Axes Factor Analysis with Varimax Rotation.

Table 2
Factor Analysis
Employee Obligations

		I	II	III	IV	V	VI
C3	Perform only required tasks	<u>.64</u>	-.10	-.09	-.13	.13	-.08
C17	Do only what I am paid to do	<u>.81</u>	-.11	.05	-.01	.12	-.19
C24	Fulfill a limited number of responsibilities	<u>.67</u>	-.09	.08	.00	.12	-.14
C31	Only perform specific duties	<u>.71</u>	-.23	.00	-.12	.03	.03
C1	Quit whenever I want	.08	.02	-.01	-.05	<u>.74</u>	-.05
C8	I have no future obligations	.18	-.04	.13	-.03	<u>.48</u>	-.08
C15	Leave at any time I choose	-.06	-.06	-.02	-.18	<u>.73</u>	.20
C22	I have much fewer commitments ...	.25	.10	.21	.03	<u>.52</u>	-.22
C9	Make personal sacrifices for this organization	.15	.08	.13	<u>.68</u>	-.06	.02
C16	Take this organization's concerns personally	.03	.p9	.06	<u>.56</u>	.03	-.01
C23	Protect this organization's image	.03	.18	-.03	<u>.57</u>	-.05	.14
C30	Commit myself personally	-.11	.14	-.03	<u>.64</u>	-.18	.06
C5	Seek out assignments that enhance the value	-.30	<u>.55</u>	.07	.07	-.01	.33
C19	Build skills to increase my value in this organization	-.11	<u>.65</u>	.15	.33	-.10	.05
C26	Make myself increasingly valuable to this employer	-.25	<u>.61</u>	.11	.28	-.04	.17
C33	Actively seek internal opportunities ...	-.14	<u>.60</u>	.20	.14	-.10	.05
C4	Accept increasingly challenging performance standards	-.42	.43	.01	.04	.02	<u>.43</u>
C11	Take personal responsibility ...	-.40	.21	-.07	.23	-.13	<u>.62</u>
C32	Continually exceed my formal accomplishments	-.38	.28	.08	.21	-.05	<u>.37</u>
C6	Build contacts outside firm ...	-.03	.14	<u>.78</u>	.08	.05	.06
C20	Increase my visibility ...	.13	.09	<u>.83</u>	.00	.10	-.05
C27	Building skills to increase future employment ...	-.06	.39	<u>.52</u>	.02	.08	-.02
C34	Seek out assignments that enhance my employability	-.06	<u>.54</u>	<u>.49</u>	.14	.09	-.01
	Eigenvalues	5.9	3.1	2.1	1.6	1.1	.8
	% Variance Explained	12.6	10.6	8.8	8.4	7.6	4.6

Table 3
Factor Analysis¹
Employer Transition

		I Uncertainty	II Erosion	III Trust
B1	Withholds information from me	.18	.24	<u>.63</u>
B4	Doesn't trust me	.30	.30	.33
B7	Introduces changes without involving me	.42	.16	<u>.53</u>
B10	Doesn't share important information with me	.34	.19	<u>.82</u>
B5	Difficult to predict future direction of its relations with me	<u>.70</u>	.21	.25
B8	An uncertain future regarding its relations with me	<u>.75</u>	.28	.28
B11	Uncertainty regarding its commitment to employees	<u>.57</u>	.32	.35
B14	Uncertainty regarding its commitment to me	<u>.63</u>	.41	.28
B3	Demands more from me while giving me less in return	.27	<u>.51</u>	.32
B9	Decreasing benefits over the next few years	.25	<u>.51</u>	.19
B12	Stagnant or reduced wages the longer I work here	.16	<u>.63</u>	.12
B15	More and more work for less pay	.19	<u>.71</u>	.14
	Eigenvalues	5.70	1.19	.88
	% Variance Explained	20.7	17.1	16.7

¹Principal Axes Factor Analysis with Varimax Rotation.

Table 4
Factor Analysis¹
Employer Transition

		I Uncertainty	II Trust	III Erosion
D1	I cannot believe what this employer tells me	.29	<u>.68</u>	.22
D7	I have no trust in this employer	.35	<u>.65</u>	.23
D13	Inconsistency exists between what this employer says and does	.32	<u>.72</u>	.23
D6	I'm getting less pay for more work	.12	<u>.22</u>	<u>.77</u>
D9	I'm doing more for less	.20	.18	<u>.90</u>
D12	I expect less from this employer tomorrow...	.33	<u>.47</u>	.39
D15	I expect increasing demands from this employer for little return	.28	.43	<u>.54</u>
D5	It's difficult to predict the future of this relationship	<u>.69</u>	.32	.17
D8	I cannot anticipate what my future relationship...	<u>.78</u>	.27	.19
D11	It's difficult to anticipate my future commitments	<u>.75</u>	.21	.15
D14	My commitments to this employer are uncertain	<u>.57</u>	.32	.16
	Eigenvalues	5.70	1.36	.87
	% Variance Explained	23.2%	20.4%	19.4%

¹Principal Axes Factor Analysis with Varimax Rotation.

Table 5

Hierarchical Principal Factor Analysis/
Varimax Rotation Employer Scales

	I	II	III	Community
LOYAL	<u>.68</u>	-.34	.00	.50
STABILITY	<u>.45</u>	-.31	.00	.30
NARROW	-.12	.00	<u>.60</u>	.13
DYNPERF	<u>.79</u>	-.17	-.26	.56
EXTERN	<u>.54</u>	-.15	.00	.29
INTERN	<u>.68</u>	-.22	-.28	.50
TRUST	<u>-.24</u>	<u>.71</u>	.00	.53
UNCERTAINTY	-.27	<u>.82</u>	.00	.57
EROSION	-.20	<u>.65</u>	.00	.40
Eigenvalue	4.03	1.2	.97	
% Variance	25.3%	21.8%	6.2%	

Table 6

Hierarchical Principal Factor Analysis/
Varimax Rotation Employee Scales

	I	II	III	Communality
LOYAL	-.17	<u>.35</u>	.20	.21
STABILITY	.00	<u>-.67</u>	.00	.37
NARROW	.26	<u>-.32</u>	.12	.17
DYNPERF	.00	<u>.81</u>	.27	.53
EXTERN	.00	.00	<u>.85</u>	.45
INTERN	.00	<u>.47</u>	<u>.72</u>	.60
TRUST	<u>.88</u>	.00	.00	.55
UNCERTAINTY	<u>.72</u>	-.12	.00	.44
EROSION	<u>.72</u>	.00	.00	.55
Eigenvalue	2.8	2.09	1.19	
% Variance	21.4%	18.0%	15.3%	

Table 7

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ERLOYAL	623	1.00	5.00	3.03	.89
ERNARROW	622	1.00	5.00	2.51	.84
ERDYNPRF	620	1.00	5.00	3.39	.87
ERTRUST	623	1.00	5.00	2.40	.90
ERSTABLE	623	1.00	5.00	3.61	.93
EREXTERN	621	1.00	5.00	2.62	.97
ERINTERN	624	1.00	5.00	3.23	1.05
ERUNCERT	624	1.00	5.00	2.44	1.02
EREROSN	625	1.00	5.00	2.22	.95
EENARROW	623	1.00	5.00	1.99	.92
EELOYAL	623	1.00	5.00	3.58	.82
EEDYNPRF	621	1.00	5.00	3.92	.77
EESHORT	623	1.00	5.00	2.72	1.04
EEINTERN	624	1.00	5.00	4.02	.73
EEEXTERN	624	1.00	5.00	3.51	.97
EEEROSN	623	1.00	5.00	2.31	1.04
EEUNCERT	624	1.00	5.00	2.55	1.02
EETRUST	625	1.00	5.00	2.43	1.07
ERFULFILL	435	1.00	5.00	3.59	.84
EEFULFILL	435	2.00	5.00	4.24	.60
SATISFACTION	425	1.00	5.00	3.55	1.02
COWORKER	362	1.00	5.00	2.68	1.16
MANAGER	363	1.00	5.00	4.01	1.05
SENIOR MGT	360	1.00	5.00	4.00	1.07
ORGANIZATION	360	1.00	5.00	3.57	1.16
OTHER	72	1.00	5.00	3.22	1.65

Table 8
T-TEST SINGAPORE VS. U.S.

		N	Mean	Std. Deviation	t	Sig.
ERTRUST	1,00 US	406	2,41	,90	-.65	n.s.
	9,00 SG	149	2,46	,91		
ERLOYAL	1,00 US	406	3,05	,87	2.09	-.05
	9,00 SG.	148	2,88	,90		
ERNARROW	1,00 US	407	2,53	,89	-.31	n.s.
	9,00 SG	146	2,50	,72		
ERDYNPRF	1,00 US	406	3,45	,84	3.31	.001
	9,00 SG	147	3,16	,93		
ERSTABLE	1,00 US	407	3,74	,88	5.01	.001
	9,00 SG	148	3,26	1,01		
EREXTERN	1,00 US	405	2,60	,96	-.50	n.s.
	9,00 SG	148	2,65	1,01		
ERINTERN	1,00 US	408	3,25	1,05	2.09	.05
	9,00 SG	147	3,40	1,06		
ERUNCERT	1,00 US	408	2,44	1,02	-1.41	n.s.
	9,00 SG	147	2,58	1,02		
EREROSN	1,00 US	408	2,17	,92	-3.12	.01
	9,00 SG	148	2,47	1,03		
EENARROW	1,00 US	407	1,94	,95	-2.35	.05
	9,00 SG	149	2,14	,83		
EELOYAL	1,00 US	406	3,70	,79	6.11	.001
	9,00 SG	149	3,23	,80		
EEDYNPRF	1,00 US	406	3,98	,77	2.46	.05
	9,00 SG	148	3,80	,76		
EESHORT	1,00 US	407	2,85	1,04	3.52	.001
	9,00 SG	148	2,52	,94		
EEINTERN	1,00 US	407	4,08	,68	2.36	.05
	9,00 SG	149	3,91	,80		
EEEXTERN	1,00 US	407	3,54	,97	-.77	n.s.
	9,00 SG	149	3,61	,98		
EEEROSN	1,00 US	407	2,26	1,03	-2.27	.05
	9,00 SG	148	2,49	1,05		
EEUNCERT	1,00 US	408	2,55	1,04	-.90	n.s.
	9,00 SG	149	2,64	,98		
EETRUST	1,00 US	409	2,44	1,06	.08	n.s.

	9,00 SG	149	2,43	1,11		
ERFULFIL	1,00 US	252	3,69	,79	3.95	.001
	9,00 SG	149	3,34	,89		
EEFULFIL	1,00 US	252	4,36	,57	5.12	.001
	9,00 SG	149	4,04	,61		
SATIS	1,00 US	241	3,58	1,08	1.45	n.s.
	9,00 SG	149	3,42	,93		

Table 9
Correlation Matrix

<u>EMPLOYER</u>																				
STABILITY	1)																			
LOYALTY	2)	,46																		
INTERNAL	3)	,42	,54																	
DYNPERF	4)	,40	,61	,65																
EXTERNAL	5)	,23	,44	,44	,49															
NARROW	6)	-,08	-,13	-,29	-,27	-,10														
TRUST	7)	-,28	-,46	-,36	-,38	-,24	,22													
UNCERTAINTY	8)	-,41	-,45	-,39	-,38	-,28	,13	,68												
EROSION	9)	-,33	-,36	-,33	-,28	-,21	,14	,54	,59											
<u>EMPLOYEE</u>																				
LOYALTY	10)	,26	,35	,34	<u>,41</u>	,30	-,13	-,20	-,20	-,10										
INTERNAL	11)	,15	,20	,27	<u>,40</u>	,31	-,21	-,13	-,06	-,08	,32									
DYNPERF	12)	,23	,19	,25	,39	,15	-,32	-,20	-,12	-,10	,40	,57								
EXTERNAL	13)	,02	,06	,09	,19	,43	-,01	,00	-,05	,04	,15	,62	,22							
SHORT	14)	-,20	-,21	-,24	-,20	-,02	,31	,26	-,24	,19	-,17	-,10	-,18	,13						
NARROW	15)	-,15	-,02	-,17	-,18	,02	,52	,22	-,13	,18	-,18	-,34	-,56	-,03	,28					
TRUST	16)	,33	-,44	-,36	-,39	-,26	,15	,65	,68	,59	-,20	-,08	-,11	,03	,25	,11				
UNCERTAINTY	17)	-,31	-,36	-,32	-,31	-,23	,11	,52	,69	,46	-,19	-,04	-,10	,05	,25	,11	,62			
EROSION	18)	-,31	-,33	-,35	-,28	-,23	,16	,48	,57	,78	-,11	-,03	-,07	,07	,18	,12	,64	,53		
ERFUL	19)	,47	,52	,51	,55	,33	-,05	-,52	-,60	-,53	,39	,20	,29	,01	-,23	-,17	-,69	-,54	-,57	
EEFUL	20)	,15	,23	,20	,25	,21	-,20	-,17	-,18	-,10	,39	,31	,30	,21	-,05	-,12	-,21	-,17	-,12	,35

SATISFACTION	21)	.22	.50	.47	.52	.32	-.23	-.46	-.52	-.35	.42	.21	.28	.04	-.28	-.10	-.59	-.48	-.45	.63	.27
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

$r \leq .15$ $p \leq .001$

N = 624

Table 10

Multiple Regression

TOTAL SAMPLE

	ER Fulfillment				EE Fulfillment		
LOYALTY	ER	β .46**	$R^2=.31$ F =65.1 df=3.428	$p \leq .001$	β .12	$R^2=.16$ F=28.3 df=3.428	$p \leq .001$
	EE	.23			.39**		
	INT	-.04			-.05		
INTERNAL	ER	.13	$R^2=.27$ F =53.5 df=3.428	$p \leq .001$.63**	$R^2=.12$ F=20.2 df=3.428	$p \leq .001$
	EE	-.10			.53**		
	INT	.44			-.61*		
DYNPERF	ER	.07	$R^2=.32$ F =67.8 df=3.425	$p \leq .001$.20	$R^2=.10$ F=17.19 df=3.425	$p \leq .001$
	EE	-.26			.26		
	INT	.66*			-.07		
EXTERN	ER	.15	$R^2=.12$ F =21.2 df=3.428	$p \leq .001$.02	$R^2=.06$ F=10.6 df=3.428	$p \leq .001$
	EE	-.26*			.07		
	INT	.31			.18		
NARROW	ER	-.57***	$R^2=.09$ F =14.2 df=3.427	$p \leq .001$	-.19	$R^2=.03$ F =3.9 df=3.427	$p \leq .001$
	EE	-.72***			-.46**		
	INT	.93***			.48*		
TRUST	ER	-.24**	$R^2=.49$ F =141.0 df=3.431	$p \leq .001$	-.36**	$R^2=.06$ F=9.847 df=3.431	$p \leq .001$
	EE	-.76***			-.51***		
	INT	.24			.60***		
UNCERTAINTY	ER	-.63***	$R^2=.40$ F =97.2 df=3.428	$p \leq .001$	-.50**	$R^2=.06$ F =10.2 df=3.428	$p \leq .001$
	EE	-.41***			-.47***		
	INT	.34*			.71***		
EROSION	ER	-.17	$R^2=.34$ F =76.3 df=3.429	$p \leq .001$	-.31*	$R^2=.02$ F =3.8 df=3.429	$p \leq .001$
	EE	-.37			-.33*		
	INT	-.07			.50*		

Table 11
Multiple Regression
U.S. BASED SAMPLE

	ER Fulfillment				EE Fulfillment		
LOYALTY	ER	β .09	$R^2=.21$ F =26.2 df=3.280	$p \leq .001$	β .48*	$R^2=.17$ F=20.4 df=3.280	$p \leq .001$
	EE	.06			.72*		
	INT	.33			-.64		
INTERNAL	ER	.20	$R^2=.17$ F =19.97 df=3.281	$p \leq .001$.68	$R^2=.08$ F=8.59 df=3.281	$p \leq .001$
	EE	.02			.49**		
	INT	.21			-.67		
DYNPERF	ER	-.08	$R^2=.25$ F =31.37 df=3.279	$p \leq .001$.48	$R^2=.08$ F=8.96 df=3.279	$p \leq .001$
	EE	-.31			.42		
	INT	.79*			-.47		
EXTERN	ER	.29	$R^2=.08$ F =9.00 df=3.280	$p \leq .001$.02	$R^2=.06$ F=10.6 df=3.428	$p \leq .001$
	EE	-.14			.07		
	INT	.03			.18		
NARROW	ER	-.61***	$R^2=.09$ F =9.94 df=3.281	$p \leq .001$	-.19	$R^2=.01$ F =1.33 df=3.281	
	EE	-.87***			-.39		
	INT	1.16***			.47		
TRUST	ER	-.39***	$R^2=.47$ F =85.2 df=3.282	$p \leq .001$	-.37*	$R^2=.10$ F=10.53 df=3.282	$p \leq .001$
	EE	-.94***			-.56***		
	INT	.59**			.58*		
UNCERTAINTY	ER	-.72***	$R^2=.47$ F =97.2 df=3.428	$p \leq .001$	-.54***	$R^2=.02$ F=7.98 df=3.281	$p \leq .001$
	EE	-.55***			-.53***		
	INT	.59***			.79***		
EROSION	ER	-.16	$R^2=.36$ F =53.9 df=3.281	$p \leq .001$	-.21	$R^2=.02$ F =2.3 df=3.282	n.s.
	EE	-.58***			-.33		
	INT	.22			.39		

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

Table 12

Multiple Regression

SINGAPORE SUBSAMPLE

	ER Fulfillment				EE Fulfillment		
		β	R^2		β	R^2	
LOYALTY	ER	.66**	$R^2=.47$	$p \leq .001$	-.29	$R^2=.11$	$p \leq .001$
	EE	.14	$F = 42.8$		-.08	$F=5.9$	
	INT	-.05	$df=3.144$		.63	$df=3.144$
INTERNAL	ER	.66**	$R^2=.47$	$p \leq .001$	-.29	$R^2=.11$	$p \leq .001$
	EE	.14	$F = 42.8$		-.08	$F=5.9$	
	INT	-.05	$df=3.144$		.63	$df=3.144$
DYNPERF	ER	.17	$R^2=.40$	$p \leq .001$	-.43	$R^2=.14$	$p \leq .001$
	EE	-.26	$F = 32.7$		.03	$F=7.6$
	INT	.62	$df=3.142$		.67	$df=3.142$
EXTERN	ER	.04	$R^2=.22$	$p \leq .001$.04	$R^2=.09$	$p \leq .001$
	EE	-.39*	$F = 14.1$		.21	$F=4.8$
	INT	.59	$df=3.144$		.08	$df=3.144$
NARROW	ER	-.39	$R^2=.09$	$p \leq .001$.04	$R^2=.03$	n.s.
	EE	-.22	$F = 4.7$		-.06	$F = 1.6$	
	INT	.24	$df=3.142$		-.14	$df=3.142$	
TRUST	ER	-.55***	$R^2=.547$	$p \leq .001$	-.51*	$R^2=.03$	n.s.
	EE	-.18	$F = 66.0$		-.72*	$F=1.6$	
	INT	-.04	$df=3.145$		.34	$df=3.145$
UNCERTAINTY	ER	-.50**	$R^2=.48$	$p \leq .001$	-.43	$R^2=.04$	n.s.
	EE	-.26	$F = 44.0$		-.43	$F=2.0$	
	INT	.04	$df=3.143$		.69	$df=3.143$
EROSION	ER	-.38*	$R^2=.49$	$p \leq .001$	-.35	$R^2=.02$	n.s.
	EE	-.23	$F = 46.0$		-.34	$F = 1.03$	
	INT	-.11	$df=3.143$		.67	$df=3.143$

Table 13

T-TEST FOR US/SINGAPORE DIFFERENCES IN RESPONSIBILITY LEVELS

		N	Mean	Std. Deviation	t	P
Coworkers	US	214	2,51	1,16	-2.05	.05
	SG	126	2,78	1,14		
Manager	US	214	4,10	1,02	2.08	.05
	SG	127	3,85	1,11		
Senior Manager	US	213	4,13	1,02	2.92	.01
	SG	125	3,77	1,13		
Organization	US	212	3,57	1,17	.03	n.s.
	SG	126	3,57	1,16		
Other	US	43	3,60	1,59	2.25	.05
	SG	24	2,66	1,65		

Table 14
Multiple Regression
TOTAL SAMPLE

	ER Fulfillment		EE Fulfillment	
	β	P	β	P
CO-WORKER/GROUP	.14	.01	-.06	n.s.
BOSS	.06	n.s.	.19	.001
SENIOR MANAGEMENT	.01	n.s.	.02	n.s.
ORGANIZATION	.14	.01	-.01	n.s.

$R^2 = .05$

F = 5.48

df = 4.352

p = .001

$R^2 = .03$

F = 3.5

df = 4.352

p = .01

Table 15

T-Test of Mean Differences in Psychological Contract Scales based on Manager/Boss Responsibility

	My manager / boss is responsible	Mean	Standard Deviation	T-Test	Significance
ERLOYAL	,00	2,7893	,89	t -3,1	P ,01
	1,00	3,1305	,85		
ERNARROW	,00	2,5562	,87	,11	n.s.
	1,00	2,5440	,83		
ERDYNPRF	,00	3,1236	,94	-2,90	,01
	1,00	3,4520	,84		
ERTRUST	,00	2,5758	1,04	1,9	,054
	1,00	2,3394	,83		
ERSTABLE	,00	3,3399	1,02	-2,45	,05
	1,00	3,6383	,91		
EREXTERN	,00	2,5899	,99	-,94	n.s.
	1,00	2,7042	,99		
ERINTERN	,00	2,8914	1,14	-2,60	,01
	1,00	3,2466	1,01		
ERUNCERT	,00	2,7163	1,03	-2,75	,01
	1,00	2,3741	,96		
EREROSN	,00	2,4860	1,02	2,98	,01
	1,00	2,1227	,91		
EENARROW	,00	2,2781	,96	3,20	,01
	1,00	1,9093	,89		
EELOYAL	,00	3,3034	,92	-2,4	,05
	1,00	3,5772	,84		
EEDYNPRF	,00	3,6506	,85	-3,2	,01
	1,00	3,9835	,77		
EESHORT	,00	2,7809	1,03	-,93	n.s.
	1,00	2,8993	1,02		
EEINTERN	,00	3,8933	,80	-2,1	,05
	1,00	4,0943	,70		
EEEXTERN	,00	3,6039	,94	-,62	n.s.
	1,00	3,6758	,92		
EEEROSN	,00	2,5590	,93	3,24	,001
	1,00	2,1795	1,03		
EEUNCERT	,00	2,7416	1,02	1,69	n.s.

	1,00	2,5302	1,00		
EETRUST	,00	2,6479	1,11	2,56	,05
	1,00	2,3078	,99		
ERFULFIL	,00	3,3295	,86	-3,00	,01
	1,00	3,6423	,80		
EEFULFIL	,00	4,1193	,62	-2,31	,05
	1,00	4,2956	,59		

N0 = 89

N1 = 274

Table 16

T-Test of Mean Differences in Psychological Contract Scales based on Senior Management Responsibility

	Senior Mgt Responsible	Mean	Standard Deviation	T-Test	Significance
				t	P
ERLOYAL	,00	2,8099	,92	-2,94	,01
	1,00	3,1259	,83		
ERNARROW	,00	2,5208	,86	-,36	n.s.
	1,00	2,5580	,84		
ERDYNPRF	,00	3,1763	,91	-2,40	,05
	1,00	3,4370	,86		
ERTRUST	,00	2,3906	,96	-,04	,05
	1,00	2,3958	,87		
ERSTABLE	,00	3,3895	1,01	-2,06	,05
	1,00	3,6335	,92		
EREXTERN	,00	2,6026	1,00	,77	n.s.
	1,00	2,6951	,99		
ERINTERN	,00	2,8750	1,08	-2,98	,01
	1,00	3,2573	1,03		
ERUNCERT	,00	2,6342	1,06	1,94	,054
	1,00	2,3935	,95		
EREROSN	,00	2,3984	,95	2,23	,05
	1,00	2,1435	,94		
EENARROW	,00	2,1302	,92	1,68	n.s.
	1,00	1,9458	,91		
EELOYAL	,00	3,2786	,87	-3,09	,01
	1,00	3,6002	,85		
EEDYNPRF	,00	3,7526	,78	-2,16	,05
	1,00	3,9572	,80		
EESHORT	,00	2,8553	1,03	-,17	n.s.
	1,00	2,8769	1,02		
EEINTERN	,00	3,9010	,76	-2,26	,05
	1,00	4,1036	,70		
EEEXTERN	,00	3,6120	,88	-,63	n.s.
	1,00	3,6806	,94		
EEEROSN	,00	2,5417	,92	3,29	,001
	1,00	2,1673	1,03		
EEUNCERT	,00	2,8047	1,00	2,51	,05
	1,00	2,5029	1,01		
EETRUST	,00	2,5938	1,12	2,17	,05
	1,00	2,3119	,99		
ERFULFIL	,00	3,3854	,81	-2,47	,05

	1,00	3,6274	,82		
EEFULFIL	,00	4,0781	,62	-3,31	,001
	1,00	4,3213	,58		

N0 = 96

N1 = 264

Table 17

T-Test of Mean Differences in Psychological Contract Scales based on Organizational Responsibility

	The organization generally is responsible	Mean	Standard. Deviation	T-Test	Significance
				t	P
ERLOYAL	,00	2,90	,86	-2,67	,01
	1,00	3,15	,86		
ERNARROW	,00	2,63	,87	1,8	,07
	1,00	2,47	,81		
ERDYNPRF	,00	3,14	,87	-4,28	,001
	1,00	3,54	,85		
ERTRUST	,00	2,48	,91	1,78	,076
	1,00	2,31	,88		
ERSTABLE	,00	3,40	1,00	-2,92	,01
	1,00	3,70	,88		
EREXTERN	,00	2,63	,98	-,58	n.s.
	1,00	2,69	1,00		
ERINTERN	,00	2,91	1,07	-3,85	,001
	1,00	3,34	1,01		
ERUNCERT	,00	2,61	,94	2,8	,01
	1,00	2,32	1,01		
EREROSN	,00	2,39	,93	3,36	,001
	1,00	2,05	,94		
EENARROW	,00	2,13	,95	2,69	,01
	1,00	1,87	,87		
EELOYAL	,00	3,38	,85	-2,58	,01
	1,00	3,62	,87		
EEDYNPRF	,00	3,77	,81	-2,81	,01
	1,00	4,01	,77		
EESHORT	,00	2,93	,96	1,12	n.s.
	1,00	2,81	1,07		
EEINTERN	,00	3,92	,72	-3,02	,01
	1,00	4,15	,71		
EEEXTERN	,00	3,65	,90	-,20	n.s.
	1,00	3,67	,94		
EEEROSN	,00	2,48	,98	3,87	,001
	1,00	2,07	1,01		
EEUNCERT	,00	2,71	1,03	2,27	,05
	1,00	2,47	,99		

EETRUST	,00	2,61	1,05	3,90	,001
	1,00	2,19	,99		
ERFULFIL	,00	3,40	,78	-3,42	,001
	1,00	3,69	,84		
EEFULFIL	,00	4,22	,61	-,79	n.s.
	1,00	4,27	,60		

N0 = 164

N1 = 196

Table 18

T-Test of Mean Differences in Psychological Contract Scales based on Coworker Responsibility

Coworkers Responsible		Mean	Std. Deviation	T-Test	Significance
ERLOYAL	,00	3,0051	,88	-1,88	,06
	1,00	3,2107	,80		
ERNARROW	,00	2,5464	,85	,86	n.s.
	1,00	2,5643	,79		
ERDYNPRF	,00	3,3259	,91	-2,14	,05
	1,00	3,5362	,68		
ERTRUST	,00	2,4272	,93	1,31	n.s.
	1,00	2,2929	,71		
ERSTABLE	,00	3,5249	,96	-1,80	n.s.
	1,00	3,7393	,87		
EREXTERN	,00	2,6074	,99	-2,58	,05
	1,00	2,9286	,91		
ERINTERN	,00	3,1226	1,09	-,130	n.s.
	1,00	3,2857	,89		
ERUNCERT	,00	2,4966	1,02	1,49	n.s.
	1,00	2,3214	,84		
EREROSN	,00	2,2216	,99	,29	n.s.
	1,00	2,1893	,78		
EENARROW	,00	1,9596	,93	-1,91	,057
	1,00	2,1821	,85		
EELOYAL	,00	3,5026	,89	-,21	n.s.
	1,00	3,5250	,77		
EEDYNPRF	,00	3,8888	,82	-,54	n.s.
	1,00	3,9429	,72		
EESHORT	,00	2,8634	1,03	-,32	n.s.
	1,00	2,9071	1,01		
EEINTERN	,00	4,0696	,69	1,27	n.s.
	1,00	3,9286	,86		
EEEXTERN	,00	3,6615	,91	,27	n.s.
	1,00	3,6250	,99		
EEEROSN	,00	2,2912	1,04	,61	n.s.
	1,00	2,2143	,91		
EEUNCERT	,00	2,6323	1,03	1,90	,06
	1,00	2,3964	,90		
EETRUST	,00	2,4441	1,07	2,11	,05
	1,00	2,1905	,85		

ERFULFIL	,00	3,5292	,84	-1,67	n.s.
	1,00	3,7000	,74		
EEFULFIL	,00	4,2801	,60	1,92	,057
	1,00	4,1286	,58		

N0 = 292

N1 = 70

Appendix

Employee Internal Development ((Balanced)

Seek out assignments that enhance my value to this employer (C5) -- should change "assignments" to "development"

Build contacts inside the organization that increase my knowledge base (C12) – delete (note: this seems to load also on External Development)

Build skills to increase my value to this organization (C19)

Make myself increasingly valuable to my employer (C26)

Actively seek internal opportunities for training and development (C33)

Comments: Alpha reliability of C5,C19,C26 and C33 is .78. Ang and Goh (1999) report an alpha of .79 for a three item scale (C5, C12, C26).

Employer Internal Development (Balanced)

Skill development that increases my value to the firm (A5) –reword or delete?

Developmental opportunities within this firm for me (A12)

Advancement within the firm (A19)

Exposure and visibility inside the firm (A 26) --delete

Opportunities for promotion (A33)

Comments: A12,A19,A33 have alpha reliability of .81 (Reword A5 and delete A26). Ang and Goh (1999) report an alpha of .84 with a three item scale (A12,A26,A33).

Note: $r = .27$ between ER and EE Internal development scales.

Employee Short-term (Transactional)

Quit whenever I want (C1)

I have no future obligations to this employer (C8)

Leave at any time I choose (C15)

Work here for a limited time only (C22)

I have made few commitments to this employer regarding the future (C29)--delete

Comments: Alpha reliability of C1,C8,C15,C22 is .71. Ang and Goh (1999) report an alpha of .74 for a three item scale (C1,C8,C22).

Employer Short-term (Transactional)

Employment for a specific or limited time. (A1)
(suggested replacement: Employment for a specified time period)

Makes no commitments to retain me in the future (A8)

Short-term employment (A15)

It has made no promises to continue my employment (A22)

It can terminate my employment at any time (should this be rewritten?) (A29)

Comments: Low reliabilities. Ang and Goh (1999) used a 4 item version (omitting A22) and yielded an alpha of .68 (higher, .71, if A29 were omitted).

Employee Loyalty (Relational)

Be loyal to this organization (C2)

Make personal sacrifices for this organization (C9)

Take this organization's concerns personally (C16)

Protect this organization's image (C23)

Commit myself personally to this organization (C30)

Comments: Alpha reliability of C9,C16,C23,C30 is .72. Ang and Goh (1999) report an alpha of .82 for a three item scale (C2, C9, C16).

Employer Loyalty (Relational)

Concern for my personal welfare (A2)

Sacrifice short-term organizational interests for employee interests (suggested replacement: Sacrifice organizational interests for employee interests) –delete? (A9)

Be responsive to employee concerns and well-being (A16)

Make decisions with my interests in mind (A23)

Concern for my long-term well-being (A30)

Comments: Alpha reliability .80. Ang and Goh (1999) report an alpha of .90 for a three item scale (A2, A16, A23).

Note: $r=.35$ between ER and EE Loyalty measures.

Employee Narrow (Transactional)

Perform only required tasks (C3)

Perform only specific duties for which I am compensated (C10) -- delete

Do only what I am paid to do (C17)

Fulfill a limited number of responsibilities (C24)

Only perform specific duties I agreed to when hired (C31)

Comments: Alpha reliability of C3,C17,C24,C31 is .82. Ang and Goh (1999) report an alpha of .76 for a three item scale (C17, C24, C31).

Employer Narrow (Transactional)

Pay me only for specific duties I perform –delete (A3)

Limited involvement in the organization (A10)

Training me only for my current job (A17)

A job limited to specific, well-defined responsibilities (A24)

Require me to do only limited duties I was hired to perform –reword? (A31)

Comments: Alpha reliability without A3 is .65. Need to reword A31. Ang and Goh (1999) used four item scale (omitting A31) with an alpha of .64.

Note: $r=.52$ between Employee and Employer Narrow scales.

Employee Dynamic Performance (Balanced)

Accept increasingly challenging performance standards (C4)

Take personal responsibility for making the organization more successful (C11) – reword. Accept new and different performance demands.

Accept frequent changes in performance demands (C18) --delete

Respond positively to dynamic performance requirements (C25)

Continuously exceed my formal accountabilities (add “and goals”) (C32)

Comments: Alpha reliability of C4,C11,C25,C32 is .72. Ang and Goh (1999) report an alpha of .83 for a three item scale (C4, C18, C25).

Employer Dynamic Performance (Balanced)

Support me to attain the highest possible levels of performance (A4)

Help me to respond to ever greater industry standards (A11)

Support me in meeting increasingly higher goals (A18)

Frequently changing what it demands of me in response to market pressures (A25) --delete

Set ever more difficult and challenging performance goals for me (A32)

Comments: Alpha reliability without A25 is .77. Ang and Goh (1999) report an alpha of .90 with a three item scale A4,A11,A18.

Note: $r=.39$ between Employee and Employer Dynamic Performance Measures.

Employee External Employability (Balanced)

Build contacts outside this firm that enhance my career potential (C6)

Continuously work to enhance my marketability (C13)--delete

Increase my visibility to potential employers outside the firm (C20)

Build skills to increase my future employment opportunities (C27)

Seek out assignments that enhance my employability (add: elsewhere) (C34)

Comments: Alpha reliability of C6,C20,C27,C34 is .80. Ang and Goh (1999) report an alpha of .82 for a three item scale (C6, C20, C27).

Employer External Employability (Balanced)

Help me develop externally marketable skills (A6)

Develop my visibility outside the firm (A13)--delete

Job assignments that enhance my external marketability (A20)

Potential job opportunities outside the firm (A27)

Contacts that create employment opportunities elsewhere (A34)

Alpha reliability of A6,A20,A27,A34 is .75. Ang and Goh (1999) report an alpha of .83 for a 3 item scale (A13,A20,A34).

Note: $r=.43$ between Employee and Employer External Employability measures.

Employee Stability (Relational) --REWORK

Remain with this organization indefinitely (C7)

Not look for a job elsewhere (C14)

Do what it takes to keep my job (C21)

Be a steady employee (C28)

Make no plans to work anywhere else (C35)

Comments: Alpha reliability of C35 and C7 is .72 Need to focus on continuous commitment. Ang and Goh (1999) report an alpha of .69 for a four item scale (C7, C21,C28, C35).

Employer Stability (Relational)

Secure employment (A7)

Stable wages over time (A14)-- delete

Wages and benefits I can count on (A21)

Steady employment (A28)

Stable benefits for employees' families (A35)

Comments: Alpha reliability of A7,A21,A28,A35 is .72. Ang and Goh (1999) report an alph of .83 for a three item scale (A7,A14,A28).

Employee Mistrust (Transition)

I cannot believe what this employer tells me (D1)

I expect little from this employer (D4) --delete

I have no trust in this employer (D7)

A gap exists between my employer's promises and what it delivers (D10)--delete

Inconsistency exists between what this employer says and does (D13)

Recommended new 4th item: This employer is not trustworthy.

Comments: Alpha reliability of D1,D7,D13 is .83 and D1,D7,D10, D 13 has an alpha of .87. Ang and Goh (1999) report an alpha of .89 for a three item scale (D1, D10, D13).

Employer Mistrust (Transition)

Withholds information from me (B1)

Doesn't trust me (B4) or This employer does not act as if it trusts me?

Introduces changes without involving me (B7) (or should this be revised to Introduces changes without involving employees?)

Doesn't share important information with me (B10)

Distrusts its employees (B13)--delete (for consistency, should this be revised to Distrusts me?)

Comment: Alpha reliability of B1,B4,B7,B10 is .78. Ang and Goh (1999) used three items for an alpha of .75 (B4, B7, B13).

Note: $r=.65$ between Employee and Employer Mistrust measures.

Employee Uncertainty (Transition)

I am uncertain what my obligations are to this employer (D2)

It's difficult for me to predict the future of this relationship (D5)

I cannot anticipate what my future relationship with the employer will be (D8)

It's difficult to anticipate my future commitments (D11)

My commitments to this employer are uncertain (D14) is this item better than D2???

Comments: Alpha reliability of D5,D8,D11,D14 is .85. Ang and Goh (1999) report an alpha of .86 for a three item scale (D2, D5, D8).

Employer Uncertainty (Transition)

Difficult to know what its relations are to me at present (B2)—delete

Difficult to predict future direction of its relations with me (B5)

An uncertain future regarding its relations with me (B8)

Uncertainty regarding its commitments to employees (B11)

Uncertainty regarding its commitments to me (B14)

Comments: Alpha reliability of B5,B8,B11,B14 is .87. Ang and Goh (1999) used three items (B8, B11, B 14) for an alpha of .93.

Note: $r=.69$ between Employee and Employer Uncertainty measures.

Employee Erosion (Transition)

My job security is diminishing over time (D3)--delete

I'm getting less pay for more work (D6)

I'm doing more for less (D9)

I expect less from this employer tomorrow than I receive today (D12)

I expect increasing demands from this employer for little return (D15)

Comments: Alpha reliability of D6,D9,D12,D15 is .84. Ang and Goh (1999) report an alpha of .81 for a three item scale (D6, D12, D15).

Employer Erosion (Transition)

Demands more from me while giving me less in return (B3)

Promises less and less over time (B6)--delete

Decreased benefits in the next few years (B9)

Stagnant or reduced wages the longer I work here (B12)

More and more work for less pay (B15)

Comments: Alpha reliability of B3,B9,B12,B15 is .75. Ang and Goh (1999) report alpha of .84 with three item scale (B9,B12,B15).

Note: $r=.78$ between Employee and Employer versions of Erosion scale. Perhaps only one should be used.