

# Creating value for employees: investment in employee development

*Chay Hoon Lee and Norman T. Bruvold*

**Abstract** Relying on a social exchange theory we examine the relationships among perceived investment in employees' development (PIED), job satisfaction, organizational commitment and intent to leave. Individual-level analyses from a sample of 405 nurses from two countries indicate that PIED is positively associated with job satisfaction and affective commitment but not with continuance commitment. As expected, job satisfaction and affective commitment fully mediate the relationship between PIED and intent to leave. Overall, this research shows support for partial measurement equivalence and equivalent structural parameters across both samples.

**Keywords** Perceived investment in employee development; affective commitment; job satisfaction; continuance commitment; social exchange theory; multi-group analysis.

## Introduction

Motivating the workforce is one of the most critical challenges facing organizations today. The choice of appropriate human resource practices is essential as various arguments have been made that the organization's human resources are critical to an organization's success (Ferris *et al.*, 1999). Employee development is one of the most significant functions of human resource practice. Recent research suggests that 'high commitment' human resource practices, such as employee development, affect organizational outcomes by shaping employee behaviours and attitudes (Whitener, 2001; Arthur, 1994; Huselid, 1995; Woods and de Menezes, 1998).

Employee development is vital in maintaining and developing the capabilities of both individual employees and the organization as a whole. A central premise in perceived investment in employee development (PIED) is that it creates conditions where employees believe that their organizations value their contribution and care about their employability. PIED facilitates greater obligation by employees towards the organization and, in turn, a willingness by employees to work hard to increase the organization's effectiveness (Arthur, 1994; Woods and de Menezes, 1998). Moreover, given the rapid changes that are taking place in workplaces, organizations in many parts of the world are re-examining their employees' need for continuous development of skills (Useem, 1993).

However, it is not well understood how the perception of an organization's investment in their development affects employees' subsequent attitudes and behaviour. Noe and Ford (1992) argued that additional research is needed on perceptual information such as

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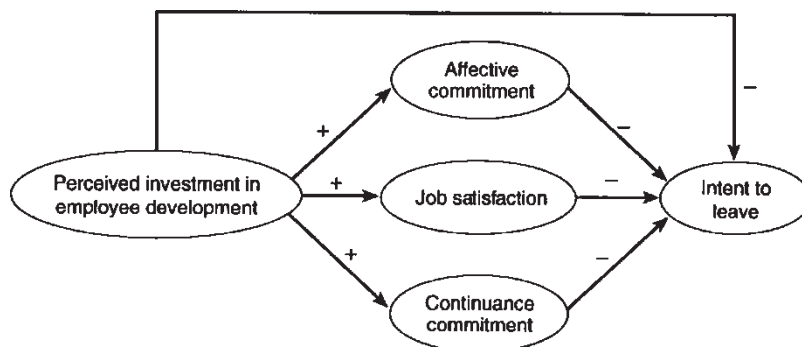
Chay Hoon Lee, Nanyang Technological University, Nanyang Business School, S3-B2B-61 Nanyang Avenue, Singapore 629798 (tel: +65 790 5665; fax: +65 792 4217; e-mail: achlee@ntu.edu.sg) Norman T. Bruvold, University of Cincinnati.

supportiveness of the organizational climate for personal/developmental skills and technical skill upgrading on work attitudes and behaviors. The purpose of this study is to propose and assess such a model. First, we use a social exchange lens to explore the strength of the relationships of PIED with organizational commitment, job satisfaction and intent to leave. Second, we examine the mediating role of organizational commitment and job satisfaction in PIED and intent to leave (see Figure 1). The hypotheses for the current study were tested using data from two samples of 405 nurses from the US and Singapore.

The contributions of this research are three-fold. First, this model is largely based on Whitener's (2001) conception of the effect of 'high commitment' human resource practices (e.g. development) on organizational commitment. We extend her model by adding variables such as job satisfaction and intent to leave to expand our understanding of how employees will respond to such an investment, using data collected from two independent nursing samples from two different countries, the US and Singapore. Second, this study is concerned with investigating the generalizability of the effect of PIED on work attitude and behaviour in both Eastern and Western work settings. Singapore is a suitable context for testing these hypotheses since investment in employees is a very much advocated HR practice in Singapore. Modernization and continual upgrading in organizational practices have also brought the work attitudes and behaviours of Singapore employees closer to those of US employees. This study intends to explore whether PIED will have similar effect on organizational attitudes and behaviour in both the US and Singapore.

Third, by extending this study to nurses in two geographical regions, we are also contributing to cross-cultural literature. In particular, we address key methodological issues that are relevant to cross-cultural research: equivalency of measures and structural models. To ensure that participants from these two regions are interpreting the questions similarly, we established equivalency of measures at the item level before assessing the structural equation model of each country (Hui and Triandis, 1985).

The most significant aim of this study is to gain a more global understanding of perceived investment in employee development and its consequences. The following sections provide a literature review and hypotheses, the methods used, results found and discussion on two independently conducted field studies examining the differential prediction of PIED as an antecedent of organizational commitment, job satisfaction



**Figure 1** *The hypothesized model of the interrelationships between perceived investment in employee development (PIED), and the various work attitudes, and intent to leave constructs*

and turnover intention. Finally, specific managerial and theoretical contributions of these findings and discussion of the study's limitations are presented in the general discussion section.

### **Perceived investment in employee development (PIED)**

Earlier calls for suitable employee development programmes were based on the recognition that organizations were becoming increasingly dependent on their human resources (e.g. Schein, 1977). Investment in employee development represents a high-commitment strategy that affects employee commitment and motivation (Ichniowski *et al.*, 1997; MacDuffie, 1995; Snell and Dean, 1992; Youndt *et al.*, 1996). Across a variety of industries (e.g. automotive assembly plants, steel companies and minimills, not-for-profit organizations), organizations with such strategy experience greater productivity and financial performance (e.g. Arthur, 1994; Delaney and Huselid, 1996; Huselid, 1995; Ichniowski *et al.*, 1997; MacDuffie, 1995; Woods and de Menezes, 1998; Youndt *et al.*, 1996). Experts estimate that, between 1929 and 1982, on-the-job learning accounted for over one-half of productivity increase (Porter, 1990). Michael Porter's studies also confirm that industries that spend the most on employee development and training are typically the most competitive in every developed country in the world (Reich, 1991).

As noted, the notion of 'investment in employee development' means equipping employees with new knowledge and skills, and it can be used to enable people to anticipate and be ready for new job requirements (Rothwell and Kazanas, 1989). It falls under the umbrella of human resource development, which refers to organized learning experiences provided by the employer to enhance performance and personal growth (Nadler and Nadler, 1989). Investment in employee development offers the organization a competitive advantage – by providing continuous learning for employees to develop current skills and gain new ones, which they can then adapt and, in turn, perform effectively (London, 1989).

Perceived investment in employee development (PIED) is developed through employees' assessment of their organizations' commitment to help employees learn to identify and obtain new skills and competencies that will allow them to move to new positions, either within or outside these organizations. Thus, to the extent that the organization commits to an employee's personal and professional growth, the employee can be expected to devote greater effort towards the organization (Wayne *et al.*, 1997). A study by Gutteridge *et al.* (1993) found that organizational development efforts enhanced employee retention, employee skills and morale, employee empowerment, and, in turn, achieved greater strategic advantage. No matter whether employee development is a formal or an informal activity in the organization, the outcomes remain important.

### **PIED and different forms of organizational commitment**

Eisenberger *et al.* (1986) noted that employees form general perceptions about the intentions and attitudes of the organization towards them from the policies and procedures enacted by individuals in the organization, attributing human-like attributes to their employer on the basis of the treatment they receive (Levinson, 1965). In particular, they predicted that 'positive, beneficial actions directed at employees by the organization contribute to the establishment of high-quality exchange relationships. . .that create obligations for employees to reciprocate in positive, beneficial ways' (Settoon *et al.*, 1996: 219).

PIED reflects employees' beliefs about the organization's commitment to improving their competence and enhancing their marketability, both internally and externally.

Therefore, following the motivational processes of social exchange theory (Blau, 1964) and the norm of reciprocity (Gouldner, 1960), employees who believe their organization is committed to providing the training skills and competencies that they need to remain employable may reciprocate by demonstrating attitudes and behaviours commensurate with the amount of commitment they feel the employer has for them.

This study proposes that the different forms of organizational commitment (affective and continuance) may all be related to PIED. Both affective and continuance commitment have disparate effects on organizational functioning. Affective commitment refers to an employee's emotional attachment to, identification with and involvement in the organization (Allen and Meyer, 1990). Continuance commitment refers to an individual's bond to the organization because of extraneous interests (e.g. pension, family concern) rather than a general positive feeling or affect toward the organization (McGee and Ford, 1987; Ritzer and Trice, 1969).

Several previous studies have investigated the relationship between training and affective commitment. A study conducted by Saks (1995) on a sample of new entry-level accountants indicated that affective commitment increased following training. In the international context, Gregersen and Black (1990) found that pre-departure expatriate training was strongly related to expatriate affective commitment. They concluded that the presence of training programmes may make the organization appear supportive and dependable, thus eliciting a reciprocal response from expatriates of more organizational commitment. In another study on expatriate training and organizational commitment, Naumann (1993) found that training is positively related to affective commitment. Gaertner and Nollen (1989) concluded that employees' perception of career-related practices influences their psychological attachment to the organization. Therefore, it is reasonable to assume that employees will interpret organizational actions (investment in development and training) as indicative of the personified organization's commitment to them. Employees will reciprocate accordingly by showing an increased level of loyalty.

Meyer and Allen (1991) suggest that continuance commitment develops as a result of anything that increases the costs of leaving the organization. Wallace (1997) found that investment in employees' training in law firms is positively associated with continuance commitment. Allen and Meyer (1990) suggest that employees who invest considerable time and energy mastering a job skill that may not be easily transferred to other organizations are 'betting' that the time and energy invested will pay off with continued employment in that particular firm. In a study of continuance commitment in Saudi Arabia, Bhuian and Shahidulislam (1996) concluded that organization investment in development may enable employees to perceive higher job security and greater satisfaction with jobs in general, and in turn may lead to a higher level of continuance commitment. Based on the research cited above, we suggest the following hypotheses:

*Hypothesis 1:* Perceived investment in employee development will have a direct and positive association with affective commitment.

*Hypothesis 2:* Perceived investment in employee development will have direct and positive association with continuance commitment.

### **PIED and job satisfaction**

Job satisfaction represents another possible benefit that may be associated with PIED. Job satisfaction is an individual's affective response to specific aspects of the job (Cotton and Tuttle, 1986). PIED may result in increased job satisfaction for several reasons. First, individuals may perceive the organization offering the employee

development programmes as representing the organization's concern for their long-term growth. Second, PIED gives employees a greater sense of control over their career due to the opportunities to update old skills and gain new ones. By seeking out opportunities to develop new competencies, employees may make themselves more valuable to their present firm and at the same time make themselves more valuable in the external labour market should they decide to leave (Feldman, 1996). We would expect employees who are able to increase their employability to have higher levels of job satisfaction. Third, having employee development programmes available in the organization improves employees' perceptions about their employer and increases employees' overall positive feeling towards the employer, which in turn may impact on job satisfaction.

Scarpello and Campbell (1983) noted that investing in the development of employees from two multinational organizations positively influenced global job satisfaction through the symbolic action of the employer providing policies supportive of employees' competence development. In Naumann's (1993) study of expatriate employees, he found a significant, positive relationship between expatriates' training and job satisfaction. In a study on employment relations in Norway (Kalleberg and Rognes, 2000), investment in employees in the form of training is positively associated with increase in job satisfaction. PIED may increase job satisfaction due to positive feelings associated with working for an organization that visibly cares about the employability of its employees.

Based upon the idea that PIED represents the employee's belief that the organization will fulfil its part of the social exchange agreement between employers and employees, and the previous literature, we expect PIED to be positively related to job satisfaction. Hence we propose the following hypothesis:

*Hypothesis 3:* PIED will have a direct and positive association with job satisfaction.

### **Intent to leave**

Turnover incurs a significant amount of costs to the organization. Costs of turnover may include opportunity costs, costs required for reselection and retraining, and decreased level of morale of the remaining workers. These costs would become even more serious when an organization loses valuable employees who are difficult to replace. Therefore, a better understanding of turnover in relation to PIED and work attitudes would be helpful to organizations. Intent to leave has been recognized as the final cognitive variable having an immediate causal effect on turnover (Bedeian *et al.*, 1991). Actual turnover is expected to increase as the intention increases (Mobley, 1977; Mobley *et al.*, 1978). These results provide support for the importance of intent to leave in investigating an individual's turnover behaviour.

McConnell (1999) stressed that effective training and skills development programmes have measurable impact in reducing turnover. PIED should reduce these employees' intent to leave for several reasons. First, employees often engage in social comparison processes (Adams, 1965), so may compare their situation to that of their peers in other organizations that under-invest in employee development programmes. Such comparison should increase the value of the organization to the employees and therefore influence their attachment to the organization. Second, low intent to leave the organization has been viewed as a means by which employees can repay their employer for the obligations created by caring (such as helping employees update their skills and develop new skills to avoid obsolescence) for the employees (Wayne *et al.*, 1997). Kalleberg and Rognes (2000) noted that investment in employees is negatively associated with turnover. In another study of fifty-three establishments in the US, turnover correlated negatively

with the amount of employee training (Colarelli and Montei, 1996). Hence the following hypothesis is proposed:

*Hypothesis 4:* PIED has a direct and negative association with intent to leave.

People who are well-invested-in by their firms in terms of training are more likely to experience success, satisfaction and affective commitment on the job and thus are less likely to leave (Ferris and Urban, 1984). A number of studies have confirmed that job satisfaction and affective commitment have a significant inverse impact on employees' turnover (actual or intended) (e.g. Arnold and Feldman, 1982; Bluedorn, 1982; Hollenbeck and Williams, 1986; Michaels and Spector, 1982; Williams and Hazer, 1986; Aranya *et al.*, 1982). A study on Singapore employees by Aryee and Lau (1990) also indicated that affective commitment has a negative relationship with the intent to leave. When an employer invests in employees' development, they will be more confident and satisfied with their job and they may reciprocate with more productivity and loyalty. Thus, as long as employees are satisfied with the job and the relational exchange exists between the employees and the organization, they may not think of leaving the organization to which they are emotionally attached. Hence:

*Hypothesis 5:* Affective commitment will mediate the association of PIED and intent to leave.

*Hypothesis 6:* Job satisfaction will mediate the association of PIED and intent to leave.

Individuals committed to organizations show less intention to leave either because they want to stay (affective commitment) or because they need to remain (continuance commitment) (Meyer and Allen, 1991; Meyer *et al.*, 1990). The continuance-committed employee may leave his or her employer when the expected benefits from leaving become higher, or at least equal to, the cost of terminating (Suliman and Iles, 2000). Correlation between continuance commitment and turnover variables are found in various studies (Meyer and Allen, 1991; Hackett *et al.*, 1994). Investment in employee development will potentially enhance an organization's chances of retaining its people as it may increase employees' perceived cost of leaving the organization even though developing and increasing employees' competency may enable them to find better jobs elsewhere. These same employees could still run the risk of falling victim to the next round of skill obsolescence in another organization that may not have the same commitment to adding value to its employees (Ghoshal *et al.*, 1999). Accordingly, PIED is likely to increase employees' expected cost of leaving the organization thereby reducing their intent to leave.

Based on the literature, we hypothesized that:

*Hypothesis 7:* Continuance commitment will mediate the association of PIED and intent to leave.

## **Method**

### *Samples and procedures*

Two independently conducted studies are described in this section. The goal of both studies was to provide a test of the PIED – attitude–behaviour relationships. The method employed by each study is similar with respect to the measures and analysis techniques. Nurses were chosen as subjects in this study because the professional training

of the nurses in both countries is conducted in English. Thus, the same questionnaire was used for both samples with no need for language translation. All survey items, except for the demographic variables, had a seven-point response format ranging from 1, 'strongly disagree', to 7, 'strongly agree'.

**Study 1** The sample from the US consisted of registered nurses drawn from a hospital from a large mid-western city. Data were collected from participants via a survey. One week prior to survey administration, the nursing manager explained to the nurses that, as part of a study of nurses in two countries, nurses were being asked voluntarily to complete a survey about their work attitudes and behaviour. Questionnaires were administered during company time in a group format. The response rate was 40 per cent (230 of the 575 nurses completed the survey). The average age of the sample is 41.59 years and the average tenure is 13.39 years. The main characteristics of the sample are presented in Table 1.

**Study 2** This sample consisted of registered nurses drawn from a public hospital in Singapore. The nursing director of the hospital approved of this study and a letter was circulated to the nurses in the various departments to encourage them to participate in this study. The nurses were told that this survey participation was confidential and voluntary. Questionnaires were administered during company time in a group format.

**Table 1** *The characteristics of the samples*

<i>Characteristic</i>	<i>US %</i>		<i>Singapore %</i>
<i>Ages (in years)</i>			
1 Less than 25 years	0.5		37.8
2 25–30 years	4.5		34.9
3 31–40 years	20.3		20.3
4 41–50 years	37.4		5.8
5 51–60 years	37.3		1.2
<i>Gender</i>			
1 Female	99		100
2 Male	1		0
<i>Education level</i>			
1 High school	1.3	GCE 'N' level	18
2 Some college	45.3	GCE 'O' level	6.4
3 College (BA)	44.4	GCE 'A' level	42.4
4 Some graduate school	5.8	Diploma in nursing	13.4
5 Graduate school	3.1	Bachelor's degree	0.6
6 –		Other certification	19.2
<i>Tenure</i>			
1 5 years or less	24.4		38.7
2 6–10 years	16.8		33.3
3 11–15 years	19.0		27.4
4 16–20 years	18.1		0.6
5 >20 years	21.7		0

*Note*

Singapore n = 175; US n = 230.

The response rate was 87.5 per cent (175 of the 200 nurses completed the survey). The mean age of this sample is 29.77 years and the mean tenure is 6.95 years. The main characteristics of the sample are presented in Table 1.

#### *Measures for both studies 1 and 2*

Perception of investment in employees' development (PIED) is a nine-item scale. The first two items from the scale are adapted from Tsui *et al.* (1997). To ensure an adequate number of items for this scale, another seven new items were developed and included in the questionnaire based on the definition of this construct. Examples of the items include 'My organization trains employees on skills that prepare them for future jobs and career development' and 'My organization provides career counseling and planning assistance to employees'. The coefficient alphas for this scale are .92 for the Singapore sample and .85 for the US sample.

Affective and continuance commitment were measured using Allen and Meyer's (1990) instrument. The affective commitment scale consists of eight items. Each subject was asked to indicate the extent to which he/she agreed with statements such as 'I would be very happy to spend the rest of my career with this organization' and 'I enjoy discussing my organization with people outside of it'. The continuance commitment scale consists of five items. Each subject was asked to indicate the extent to which he/she agreed with statements such as 'It would not be too costly for me to leave my organization now' and 'I feel that I have too few options now to consider leaving this organization'. The coefficient alphas for affective commitment and continuance commitment for the Singapore sample are .86 and .77 respectively, and .84 and .69 respectively for the US sample.

Job satisfaction was measured with a three-item scale adapted from Quinn and Staines (1977) that is assumed to generate an overall measure of job satisfaction. Items included 'Generally speaking, I am satisfied with my job', 'Knowing what I know now, if I had to decide all over again whether to take the job I have now, I would definitely take it' and 'I would recommend a job like mine to a good friend'. The coefficient alphas for job satisfaction are .88 for the Singapore sample and .91 for the US sample.

The use of intent to leave as a precursor of actual turnover is supported in the literature (Bluedorn, 1982). Intent to leave was measured by a three-item scale developed by Laudau and Hammer (1986). Sample statements of this scale were 'As soon as I can find a better job, I'll leave the organization' and 'I am seriously thinking about quitting my job'. The coefficient alphas for intent to leave are .81 for the Singapore sample and .80 for the US sample.

#### **Analysis**

Descriptive statistical analysis was used to present the main characteristics of each sample. Additionally, intercorrelations were calculated. Factor analysis (i.e. principal component analysis—factoring with varimax rotation) of the items was used to assess the dimensionality of the scale on the two samples. While this exploratory analysis yielded considerable insights, it did not confirm measurement invariance.

Consistent with cross-cultural literature, we tested measurement invariance of the items from the two countries with multi-group confirmatory analysis (Bollen, 1990; Steenkamp and Baumgartner, 1998; Ryan *et al.*, 1999). We employed a multi-group covariance structure analysis approach to examining equivalence because it allows for a direct test of the assumptions of equivalence through a hierarchical series of nested constraints on parameters across samples (Riordan and Vandenberg, 1994).



A series of analyses to compare the factor structures across the US and Singapore were undertaken using LISREL 8.3 (Jöreskog and Sörbom, 1996).

First, configural invariance was used to assess the extent to which the constructs can be conceptualized in the same way across the US and Singapore. Configural invariance requires factor loadings to exhibit the same general pattern in both data sets – the underlying constructs must be significantly related to each of the scale items, though the magnitude of the corresponding factor loadings can differ between versions.

Second, an ordered series of hierarchical nested models that determined full or partial metric invariance were tested. Metric invariance was assessed by setting factor loadings the same (invariant) between the constructs (in the two countries) and yielded information on whether or not Singapore nurses responded to the items in the same manner as the US nurses. If a full metric invariance does not fit the data, partial metric invariance may be assessed by sequentially relaxing equality constraints for pairs of corresponding factor loadings in the Singapore and the US model.

In addition, scalar invariance, factor variance invariance, factor covariance invariance and latent mean invariance were investigated for full and partial invariance. The above tests were conducted to indicate the unidimensionality of the constructs, the invariance of parameters and the cultural appropriateness of their operational definitions.

Finally, multi-group structural equation modelling (SEM) analysis (Jöreskog and Sörbom, 1996) was used to test whether the structural coefficients linking relationships between the constructs in the US sample were similar to the structural coefficients generated for the Singapore sample. The test will specify which structural relations should be invariant and which should vary. Several structural models representing the hypothesized relationships between latent and measured variables were evaluated. We analysed the measurement and structural models using the LISREL multi-sample analysis (Bentler, 1995).

**Results**

Correlations for all variables in the two studies are reported in Table 2. A review of that table reveals that PIED is positively correlated with affective commitment and job satisfaction but negatively correlated with intent to leave in both studies.

**Table 2** *Correlations of the variables of interest*

No.	Variables	1	2	3	4	5
1	PIED	1.00	.43**	.12	.40**	-.32**
2	Affective commitment	.44**	1.00	.14*	.60**	-.49**
3	Continuance commitment	.23**	.55**	1.00	.18*	-.32**
4	Job satisfaction	.33**	.55**	.30**	1.00	-.57**
5	Intent to leave	-.23**	-.49**	-.30**	-.48**	1.00

*Notes*

The upper triangle consists of correlations from the US sample.  
 The lower triangle consists of correlations from the Singapore sample.  
 \*\*\* Correlation is significant at the .001 level.  
 \*\* Correlation is significant at the .01 level.  
 \* Correlation is significant at the .05 level.

*Measurement models of multi-group confirmatory analyses*

Table 3 presents a global measure of fit for different models. In model 1, all twenty-seven items were conceptualized as a five-factor model with factors of Affective Commitment, Continuance Commitment, PIED, Job Satisfaction and Intent to Leave to estimate the configural invariance model. This was the baseline model against which the other models were compared. The statistics of the configural invariance model had a significant chi-square value 1316.46 with 628 df ( $p < .0005$ ), but a moderate RMSEA of .08; even so, the comparative fit index (CFI) of .86 indicates an acceptable fit. All factor loadings were highly significant with the lowest  $t$ -value 3.53. We concluded therefore that configural invariance of the five factors is achieved across the two countries. The confirmatory factor loadings for Singapore and the US are presented in Appendices 1 and 2.

In model 2, full metric invariance was tested by constraining the matrix of factor loadings (LXs) to be invariant across countries. This yielded a chi-square value of 1357.37 with 650 df. The change in chi-squared was 40.91 with 22 df ( $p < .01$ ), indicating a poorer fit than the configural invariant model. Examination of the modification indices (MIs) revealed that the significant increase in chi-square could be due to a lack of invariance of just one loading, the fifth item in the PIED scale. Model 3 tested for partial metric invariance; the constraint on the fifth item parameter was relaxed. Partial metric invariance was supported with a chi-squared value of 1360.48, with 661 df giving a change in chi-square of 29.27 ( $\Delta\chi^2 = 1345.73 - 1316.46$ ) with 21 df ( $p > .10$ ). The final partial metric invariant model provided a significantly better fit than the configural invariance model, supporting partial metric invariance.

The hypothesis of full scalar invariance was tested by constraining the matrix of means (TXs) to be invariant across countries (model 4). This yielded a chi-square value of 1621.26 with 670 df. The change in chi-square 275.53 ( $\Delta\chi^2 = 1621.26 - 1345.73$ )

**Table 3** *Measurement models of multi-sample analyses*

<i>Model</i>		$\chi^2$	<i>DF</i>	<i>RMSEA</i>	<i>CAIC</i>	<i>(TLI) NNFI</i>	<i>CFI</i>	$\Delta\chi^2$
1	Configural invariance	1316.46	628	.080	2263.00	0.85	0.86	
2	Full metric invariance	1357.37	650	0.080	2168.67	0.85	0.86	40.91 df = 22 $p < .007$
3	Partial metric invariance	1345.73	649	0.080	2156.66	0.85	0.86	29.27 df = 21 $p < .11$
4	Full scalar invariance	1621.26	670	0.092	2706.87	0.72	0.81	275.53 df = 21 $p < .0005$
5	Partial scalar invariance	1360.48	661	0.079	2458	0.85	0.86	14.75 df = 12 $p < .27$
6	Full factor variance covariance invariance	1396.79	676	0.079	2387.22	0.85	0.86	36.31 df = 15 $p < .003$
7	Partial factor variance covariance invariance	1382.01	675	0.078	2383.86	0.85	0.86	21.53 df = 14 $p < .08$

with 21 df was highly significant ( $p < .001$ ) as well as the changes in CAIC, NNFI and CFI. Examination of the MIs revealed that the significant increase in chi-square could be due to a lack of invariance for several TXs. Model 5 tested for partial scalar invariance; the constraints on the parameter with the largest MI were sequentially relaxed. Partial scalar invariance was supported after nine means were freed up. The marker item and at least one other item in each factor had invariant means; hence, partial scalar invariance was achieved (Steenkamp and Baumgartner, 1998) with a change in chi-square of 14.75 ( $\Delta\chi^2 = 1360.48 - 1345.73$ ) with 12 df ( $p > 0.10$ ). Therefore, partial metric and partial scalar invariance were achieved.

Factor covariance invariance was tested by setting the PH matrix to be invariant across countries (Model 6). This model yielded a chi-square value of 1396.79 with 676 df, giving a change in chi-square of 36.31 with 15 df ( $p < 0.01$ ). MIs indicated this change might be due to only a single variance invariance so a partial variance covariance hypothesis was tested, freeing up the variance for continuance commitment. The last model in Table 3 tested for partial variance covariance and yielded a chi-square value of 1382.01 with 675 df. This was a change in chi-square value of 21.53 with 14 df ( $p > 0.05$ ). With this result, partial variance covariance was supported.

Structural equation modeling (SEM) was employed to test the validity of the proposed hypotheses. All the following structural models contained the re-specified conditions from the partial invariance measurement model as recommended by Vandenberg and Lance (2000).

First, in Table 4 we allow a free estimation of the structural coefficients in both the US and Singapore models. Relaxing all equality on the structural coefficients gave a chi-square of 1378.30 with 667 df. Second, we set the structural coefficients of the Singapore model equal to those in the US model. This fully constrained multi-group analysis fitted very well, with a chi-square of 1390.25 with 676 df. The difference between these two chi-squares (11.95,  $df = 9, p > .10$ ) indicated that this approach, wherein the structural paths were constrained to be equal across groups, yielded findings of complete invariance across the two samples. Although the multi-group analysis indicated that the present research model (Figure 1) replicated satisfactorily over the two independent samples of nurses, not all single-country path coefficients have the same significance patterns as the combined invariant paths, as shown in Table 5.

*Structural model of the US and Singapore samples*

Table 5 presents the parameter estimates. SEM on the research model (Figure 1 and Table 5) indicated that PIED directly and positively influenced affective commitment and job satisfaction, supporting hypotheses 1 and 3 in both samples. The result showed that PIED was not related to continuance commitment in both samples, hence hypothesis 2 is not supported.

**Table 4** Results of the multi-group analyses structural parameters

		$\chi^2$	DF	RMSEA	CAIC	TLI	NNFI	CFI	$\Delta\chi^2$
1	SEM (research model) BASELINE: All coefficients unconstrained	1378.30	667	0.079	2428.98	0.85		0.86	
2	All coefficients constrained	1390.25	676	0.079	2383.69	0.85		0.86	11.95 df = 9 $p < .23$

**Table 5** *Results for the research model*

Path from	To	Full model Path coefficient		
		Singapore	US	COMBINED
Investment in employee development	Affective commitment	.25**	.23**	.24***
	Continuance commitment	.00	.14	.06
	Job satisfaction	.52***	.73***	.64***
	Intent to leave	-.05	.07	.01
Affective commitment	Intent to leave	-.36**	-.15	-.22**
Job satisfaction	Intent to leave	-.37**	-.54***	-.47***
Continuance commitment	Intent to leave	-.05	-.21**	-.18**

*Notes*

\*\*\* Coefficient is significant at the .001 level.

\*\* Coefficient is significant at the .01 level.

\* Coefficient is significant at the .05 level.

The result showed that the path from PIED is not significant when going directly to intent to leave in both samples, hence hypothesis 4 was not supported. The results in Table 5 showed that affective commitment is negatively related to intent to leave in the Singapore sample and when the parameter was held invariant across countries in the combined model, but this relationship was not supported in the US sample. Hence, hypothesis 5 (the mediating role of affective commitment) is supported in the Singapore sample and the combined samples but not in the US sample alone. Hypothesis 6, predicting the mediating role of job satisfaction between PIED and intent to leave, was confirmed in both samples. Hypothesis 7, predicting a mediating role of continuance commitment between PIED and intent to leave, was not confirmed in either sample, as PIED was not significantly related to continuance commitment

**Discussion**

The results suggest that employees will be more satisfied with the job, more affectively committed to an organization when the employer commits to developing employees' skills and competency, which in turn reduces their intent to leave the organization. PIED encourages affective commitment and job satisfaction, rather than continuance commitment. This study also contributes to the broader understanding of the mediating effect of affective commitment and job satisfaction on the intent to leave. The result suggests that a fully mediated model of affective commitment and job satisfaction fits the data better than a partially mediated model.

The two-study design included several features that increase the robustness of the present findings. Specifically, generalizability is enhanced because the findings from the independently conducted field studies were generated using samples from two countries. This study has provided cross-cultural evidence that the organizational

outcomes of PIED in Singapore employees are found to be generally similar to their American counterparts. Specifically, this study found most of the US constructs used in this study have similar meanings in Singapore. Our findings suggest that, whether it is in Singapore or in the US, PIED is associated with higher levels of affective commitment and job satisfaction and in turn reduces employees' intent to leave.

#### *PIED and different types of OC*

Iles *et al.* (1996) argued that different types of commitment have different relationships to organizational action. This study provides evidence that not all kinds of commitment are associated with PIED. Indeed, our findings suggest that nurses emerged with higher affective commitment with PIED in both Singapore and US hospitals. However, PIED has no relationship with continuance commitment. This is in line with the finding by Tsui *et al.* (1997), which suggests that employees expressed a higher level of affective commitment to an employer when they are in an over-investment (by the employer) relationship than when they are in an under-investment relationship.

Organizations that invest in employee development are more likely to have employees who perceive their employment conditions to have more relational features. It could be argued that employee development activities are a message to employees that the organization cares about their well-being; to reciprocate, they demonstrate attitudes commensurate with the amount of commitment they feel the employer has for them (Wayne *et al.*, 1997). This implies that employees take cues from the organization with regard to development, and these perceptions may influence the formation and maintenance of affective commitment. Therefore, an organization should strive to create a culture in which a formal employee development programme is strongly supported so as to enhance such reciprocity. In so doing, the repayment of these obligations reinforces giving and strengthens the mutually beneficial exchange between employees and organization (Eisenberger *et al.*, 1986).

#### *PIED and JS*

Another important finding of this study is that PIED increases the job satisfaction of nurses in both countries. A key point raised by the results of this study is that the perceptions and actual investment activities will all have an impact on job satisfaction. This result suggests that employees who are given the opportunity to build their skills and competence are more likely to develop a greater sense of confidence and the job satisfaction that comes from having more control over their employability. The concept of employability can be applied within a single organization and not just across organizations. Investing in employee development is one way to help them become more competent in their interactions with the work environment and maintains employability by ensuring that they have the necessary skills to compete for jobs within their organization.

#### *PIED and intent to leave*

Our study provides additional evidence that the relationship between PIED and intent to leave is not straightforward, as we did not find a direct relationship between PIED and intent to leave among the nurses. The result suggests that only under circumstances where affective commitment and job satisfaction are enhanced will the nurses' intent to leave be affected. Our work, combined with Kalleberg and Rognes (2000), suggests that people who perceived they had more internal training and development were generally more committed to their organization, more satisfied with their job and less likely

to leave. The implication is clear: PIED allows employees to see the extent that the organization value them, and, in return, employees offer higher levels of commitment and job satisfaction, and do not exercise their liberty to leave.

#### *Limitations and future research*

As with most survey research, a common method bias may be present since all the data were self-reported. Since the constructs of this study asked for perception of the organization development, employees' attitudes and their intent to leave, self-report data are appropriate for this study. Another limitation of this study relates to the cross-sectional nature of the data collection, which might not fully capture the dynamic nature of the PIED in relation to work attitudes and behaviour. Also, the reliability for continuance commitment in the Singapore sample is .69, which may indicate that this scale needs further development, although Nunnally and Bernstein (1994) argued that this was acceptable for scale in a new context. Furthermore, since the respondents were all healthcare professionals, generalizing these results to other types of industry might be inappropriate. Although there are limitations to this or any study that uses self-report data from a single industry, we believe that the research on this topic has yielded results that are both interesting and useful.

The current study opens new doors for further research. First, for purposes of causality, it would be interesting to replicate this study in a longitudinal design so that it could be determined if perception of investment in employee development activities, positive work attitudes and behaviours are conditions and relationships that are likely to be sustained. Second, studying a different industry other than health care may also assist with the generalizability of the results. Third, to expand this research, in-depth interviews with employees would be helpful, especially because organizations' investment in employee development may vary according to vocation, industry and country. Finally, future research should continue to utilize SEM to examine the framework used in this study with other important organizational outcomes such as in-role performance and helping behaviour.

#### **Conclusion**

The findings from this research have important implications for healthcare organizations. Perception of investment in development can improve nurses' morale and dedication to the level that emotionally binds them to the organization and encourages them to stay on. This implies that healthcare organizations need to pay greater attention, both in investing and planning development activities that promote and develop organizational commitment and job satisfaction among nurses.

If sustained competitive advantage is what most organizations are looking for, then one way to achieve it is through sustained employee development. Not only do such programmes enhance the well-being of individual employees by providing benefits such as skill acquisition and career development, they may also enhance the organization's productivity. In fact, investing in employee development may create a dynamic relationship where employees may work harder because they have a greater sense of job satisfaction and commitment to the organization.

Finally, factors related to individual employability are gaining more importance with the changing patterns occurring in the workplace landscape. With increasing mergers, downsizing and lay-offs, commitment to employees' development will accordingly become an important source of occupational meaning to employability. Though no single study can provide conclusive evidence on the issues examined here, the results obtained are encouraging and should be regarded as a stimulus for further theory and research.

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### Appendix 1: Confirmatory factor analysis of affective commitment and continuance commitment

	<i>Singapore</i>		<i>US</i>	
	<i>I</i>	<i>II</i>	<i>I</i>	<i>II</i>
<i>Affective commitment</i>				
1 I would be very happy to spend the rest of my career with this organization.	.71		.73	
2 I enjoy discussing my organization with people outside of it.	.57		.61	
3 I really feel as if this organization's problems are my own.	.65		.42	
4 I think that I could easily become as attached to another organization as I am to this one.	.13		.40	
5 I do <i>not</i> feel like 'part of the family' at my organization.	.81		.69	
6 I do <i>not</i> feel 'emotionally attached' to this organization.	.88		.82	
7 This organization has a great deal of personal meaning for me.	.69		.67	
8 I do <i>not</i> feel a strong sense of belonging to my organization.	.72		.77	
<i>Continuance commitment (personal sacrifices)</i>				
9 Too much in my life would be disrupted if I decided I wanted to leave my organization now.		.68		.73
10 It would <i>not</i> be too costly for me to leave my organization now.		.43		.38
11 One of the major reasons I continue to work for this organization is that leaving would require a considerable personal sacrifice.		.68		.74
12 One of the major reasons I continue to work for this organization is that another organization may not match the overall benefits I have here.		.60		.53
13 It would be very hard for me to leave my organization right now, even if I wanted to.		.43		.81
<i>Chi-square</i>	259.28.00 (df: 116)		276.72. (df: 116)	
<i>Goodness of fit index</i>	.85		.87	
<i>Root mean square residual (RMSR)</i>	.08		.08	
<i>Comparative fit index (CFI)</i>	.86		.89	

**Appendix 2: Confirmatory factor analysis of investment in employee development, job satisfaction and intent to leave**

	Singapore			US		
	I	II	III	I	II	III
	<i>Perceived investment in employee development</i>					
1 My organization trains employees on skills that prepare them for future jobs and career development.	<u>.73</u>			<u>.65</u>		
2 My organization provides career counselling and planning assistance to employees.	<u>.76</u>			<u>.77</u>		
3 My organization allows employees to have the time to learn new skills that prepare them for future jobs.	<u>.79</u>			<u>.78</u>		
4 My organization provides support when employees decide to obtain ongoing training.	<u>.77</u>			<u>.63</u>		
5 My organization is receptive to employees' requests for lateral transfers (transfer to another department).	<u>.77</u>			<u>.47</u>		
6 My organization ensures that employees can expect confidentiality when consulting staff.	<u>.72</u>			<u>.60</u>		
7 My organization provides employees with information on the availability of job openings inside the organization.	<u>.72</u>			<u>.42</u>		



Appendix 2 (continued)

	Singapore			US		
	I	II	III	I	II	III
8 My organization is fully supportive of a career-management program for the employees.	<u>.84</u>			<u>.70</u>		
9 My organization provides a systematic program that regularly assesses employees' skills and interests.	<u>.73</u>			<u>.52</u>		
<i>Job satisfaction</i>						
1 Generally speaking, I am satisfied with my job.	<u>.77</u>			<u>.88</u>		
2 Knowing what I know now, if I had to decide all over again whether to take the job I have now, I would definitely take it.	<u>.86</u>			<u>.89</u>		
3 I would recommend a job like mine to a good friend.	<u>.91</u>			<u>.87</u>		
<i>Intent to leave</i>						
1 As soon as I can find a better job, I'll leave.			<u>.84</u>		<u>.78</u>	
2. I am seriously thinking about quitting my job.			<u>.94</u>		<u>.96</u>	
3 I am actively looking for a job outside.			<u>.76</u>		<u>.56</u>	
<i>Chi-square</i>						292.06. (df: 87)
<i>Goodness of fit index</i>	.84					.83
<i>Root mean square residual (RMSR)</i>	.05					.07
<i>Comparative fit index (CFI)</i>	.91					.88

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