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博士論文

比較台灣公民營機構員工工作滿意與離職傾向：
低層次需求假設的檢定



COMPARING PUBLIC AND PRIVATE EMPLOYEES' JOB
SATISFACTION AND TURNOVER INTENTION IN TAIWAN:
TESTING THE ASSUMPTION OF LOWER-ORDER NEED

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中華民國九十八年一月

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摘 要

本研究目的在比較公民營機構員工的工作滿意和離職傾向。使用兩個研究，都用問卷收集各類公民營機構員工的資料進行分析比較。第一個研究結果是：1. 公家機構員工的外在滿意和離職傾向，都小於民營機構員工；但是內在滿意卻大於民營機構員工。2. 公家機構員工的外在滿意和離職傾向的負向關係，低於民營機構員工。

第二個研究結果是：1. 公家機構員工的離職傾向小於民營機構員工；但是內在滿意卻大於民營機構員工。2. 公家機構員工的外在滿意與離職傾向的負向關係，低於民營機構員工。以上與第一個研究結果雷同。3. 公家機構員工的低層次需求強度高於民營機構員工；公民營機構員工的低層次需求與離職傾向都有負向關係。4. 公家機構員工的低層次需求，不是造成外在滿意與離職傾向負向關係低於民營機構員工的原因。所以，有關公家機構員工因為有較強的低層次需求，所以會使外在滿意與離職傾向負向關係轉弱的論點被拒絕。

因此本研究建議，公家機構應該建立制度，協助那些不滿意的員工在組織內部轉換工作或轉至民營機構。此機制可以健全公家機構的離職率，更重要的是可以提供機會給那些外在不滿意的員工，轉換至更適合他們的工作位置。

關鍵詞：公家機構員工、民營機構員工、工作滿意、離職傾向、需求層級。

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ABSTRACT

The purpose of this research is to compare the job satisfaction and turnover intention of public - and private -sector employees. Questionnaire survey was used to collect data from employees of various private enterprises and public organizations in the two studies, which compose of this research. The results of the first study show that, first, public employees have a lower extrinsic satisfaction and lower turnover intention, but higher intrinsic satisfaction compared to their counterparts in the private sector. Second, the negative relationship between the extrinsic satisfaction and turnover intention is weaker in public employees than in private employees.

The results derived from the second study show that, first of all, similar to the findings from the first study, public employees have a higher intrinsic satisfaction but a lower turnover intention compared to private employees. Secondly, the negative relationship between extrinsic satisfaction and turnover intention is weaker in public employees. Thirdly, the lower-order need is stronger in public employees than in private employees; the lower-order need and turnover intention is negatively related with each other in both public and private employees. Fourthly, the lower-order need does not cause a weaker negative relationship between extrinsic satisfaction and turnover intention in public employees. The argument concerning that a stronger lower-order need in public employees weakens their extrinsic satisfaction—turnover intention relation is rejected. The public employees' lower mobility in job market is proposed as an alternative viable explanation.

On the basis of the findings from the two studies, we suggest that public sector should create mechanisms to assist their dissatisfied employees to transfer to other jobs within their organizations or to the private sector. The mechanisms will induce a healthy turnover rate in public sector. More importantly, these mechanisms will provide those who are dissatisfied with the extrinsic aspects of their jobs an opportunity for moving onto other jobs that are better suited for them.

Keywords: Public Employees, Private Employees, Job Satisfaction, Turnover Intention, Hierarchy of Needs.

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中華民國九十八年元月

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1. Introduction

1.1 Overview of the Research

This research comprises two studies. The first study was conducted to compare the job satisfaction and turnover intention between public employees versus private employees. The results of the first study showed that public employees had a higher level of intrinsic satisfaction than private employees. However, their extrinsic satisfaction and turnover intention were lower than the private employees'. In addition, the negative relation between extrinsic satisfaction and turnover intention was found weaker in public employees. The previous empirical research in the literature concerning the differences between public and private employees has shown that public employees place a higher value than private employees on employment security, which is a lower-order need. We assumed that the finding of public employees' weaker negative relation between extrinsic satisfaction and turnover intention in the first study came from their stronger lower-order need.

The second study was conducted to examine whether the public employees do have stronger lower-order need and whether the stronger lower-order need causes a weaker negative extrinsic satisfaction-turnover intention relationship in public employees. In addition to replicate the finding for this weaker relationship in the first study, the results of the second study showed that public employees indeed had

stronger lower-order need than private employees. However, when the effects of the lower-order need on turnover intention were accounted, the negative relation between extrinsic satisfaction and turnover intention did not become stronger in public employees. This result rejected the explanation concerning the effects of lower-order need on the public employees' extrinsic satisfaction and turnover intention relationship. The job mobility explanation was suggested as an alternative explanation for accounting the weaker negative relationship that was found in the first study and replicated in the second study of this research. The results of the two studies are summarized as follows.

1. Public employees in Taiwan were higher on their intrinsic satisfaction and lower turnover intention compared to private employees.
2. The negative relationship between extrinsic satisfaction and turnover intention was weaker in public than in private employees.
3. Public employees were stronger on their lower-order need than private employees; the lower-order need and turnover intention is negatively related with each other in both public and private employees..
4. The conjecture concerning that the lower-order need causing a weaker negative relationship between extrinsic satisfaction and turnover intention in public employees was not supported.

2. STUDY 1

2.1 Introduction

Economic theories generally consider the public sector to be less efficient and productive than the private sector (Drucker, 1990; Gupta, 2005; Cho, 2007; Rousseau, & Xiao, 2008). The public sector in Taiwan is no exception (Chou, 1999; Cho, 2007; Wu, 2007). To reform its public sector, the government of Taiwan has launched a major privatization effort (Chang & Chaing, 1999; Cho, 2007; Wu, 2007). However, parts of the public sector, e.g., public schools and governmental offices cannot be privatized. Therefore, other strategies need to be formulated and incorporated into the reform process. To design the strategies for resolving the problem effectively, the causes of the problem must first be explored.

Literature proposes different arguments to account for the causes of low productivity in the public sector. One of these arguments is that public employees' job satisfaction is often lower than that of private employees' because jobs in the public sector lack motivating potential (Perry & Porter, 1982; Cacioppe & Mock, 1984; Solomon, 1986; Aryee, 1992; Holtom & Tanova, 2008). Although low job satisfaction is not necessarily related to low productivity at the individual level, it is often associated with a higher level of absenteeism and turnover (Michaels & Spector, 1982; Lee, Wise, & Fireman, 1996; Hom & Kinicki, 2001), which in turn can reduce

productivity at the organizational level. High job satisfaction, on the contrary, may lower employees' absenteeism and turnover rate and increase their organizational citizenship behaviors. All of these can lead to enhanced overall organizational performance (Kim, 2005). If public employees' job satisfaction is lower than that of private employees', public institutions should redesign their employees' jobs to enhance motivating potential (Cho, 2007). Because of the implications of job satisfaction to productivity at the organizational level, one purpose of this study is to compare the differences in job satisfaction, both extrinsic and intrinsic, between public and private employees.

Another argument concerning the causes for lower productivity in the public sector is derived from Baldwin's findings (Baldwin, 1991). Baldwin reviewed many empirical studies (Kilpatrick, Cummings, & Jennings, 1964; Grupp & Richards, 1975; Rawls, Ullrich, & Nelson Jr., 1975; Rainey, 1977; Smith & Nock, 1980) and concluded that public employees have a greater need for job security than private employees do. A higher need for job security could result in a lower turnover rate in the public sector. The literature on general personnel management suggests that a lower turnover rate can save personnel costs in the recruitment, selection, and training of replacement personnel. In addition, it can induce the individual employee's loyalty and commitment to the organization, in turn leading to better organizational

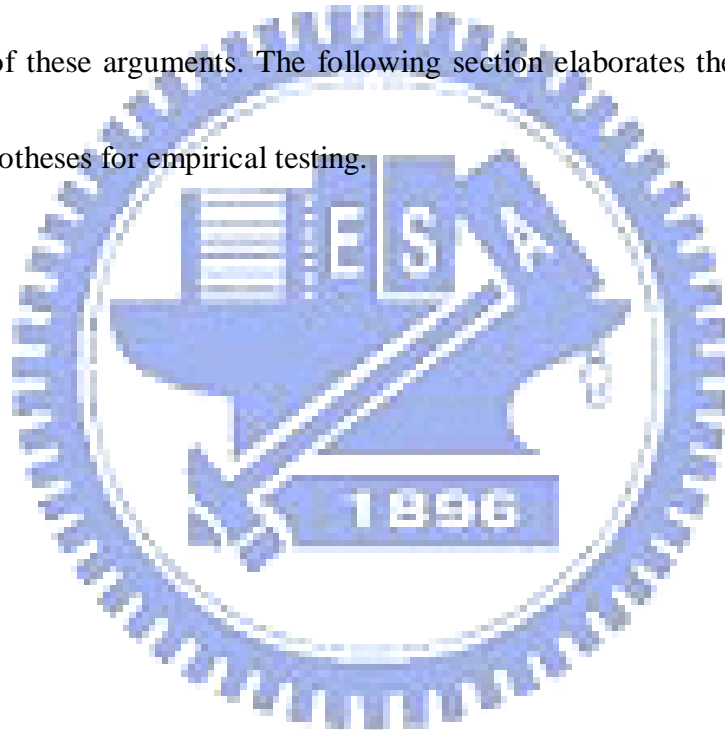
performance (Abbasi & Hollman, 2000). However, an excessively low turnover rate is unhealthy to organizations. It may stifle opportunities for internal promotions and for infusing new blood from external labor markets into the organizations. Hence, it may hamper performance at the organizational level (Staw, 1980; Dalton & Todor, 1986). It can be inferred that with a stronger need for job security, public employees' turnover intentions are lower, which results in a lower level of turnover rate that dampens the public sector's productivity. Another purpose of this study is to compare public and private employees' turnover intentions, which few studies have attempted before.

The higher need for job security in public employees also hampers organizational performance through influencing the job satisfaction–turnover relationship. In the literature, job satisfaction is found to be negatively associated with turnover intention (Michaels, & Spector, 1982; Lee, Wise, & Fireman, 1996; Hom & Kinicki, 2001).

When employees are dissatisfied, they think more of quitting their jobs. For public employees, dissatisfaction may stimulate less of an intention to quit because of their greater need for security. If those who are dissatisfied continue to stay on in their jobs, their low work motivation will decrease the overall performance of the organization. In Taiwan, there may be many public employees who are dissatisfied with their jobs but continue to stay, and hence decrease the productivity of their organizations

(Hwang & Kuo, 2006). There have been no empirical studies conducted to compare the differences in the strength of the job satisfaction–turnover intention relationship between the public and the private sectors. The third purpose of this study is to examine these differences in Taiwan.

This study tests the above three arguments that contribute to the low productivity in the Taiwanese public sector. The results of this study add to the literature by testing the validity of these arguments. The following section elaborates the arguments and proposes hypotheses for empirical testing.



2.2 Hypotheses

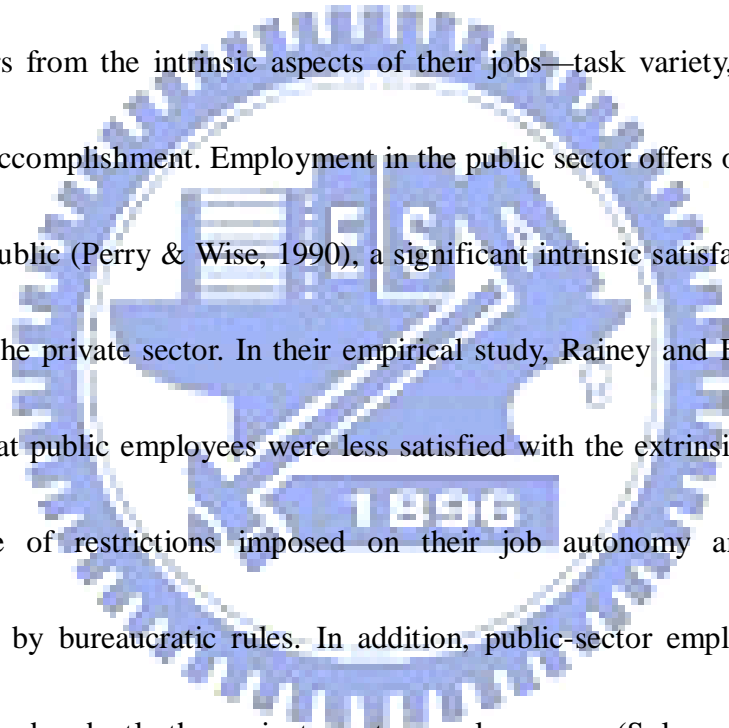
2.2.1 Comparing Job Satisfaction between Public and Private

Employees

Studies comparing the job satisfaction of public versus private employees have resulted in mixed outcomes. Many studies have found that public employees are less satisfied with their jobs than private employees (Kovach, 1990; Aryee, 1992; Rainey & Bozeman, 2000; Dimitris, 2008). On the other hand, some studies have discovered that public employees are more satisfied than private employees with certain aspects of their jobs (Newstrom, Reif & Monczka, 1976; Smith & Nock, 1980; DeSantis & Durst, 1996). Yet other studies have resulted in a no-difference finding between the job satisfaction of public employees and that of private employees. For example, Schneider and Vaught (1993) found that although public-sector managers in Missouri showed a lower level of satisfaction with regard to their pay, their overall job satisfaction and intrinsic satisfaction were equal to those of private-sector managers. Cho and Lee (2001) found that government managers and private bank managers in Korea were equally satisfied with their jobs.

Existing research has failed to clearly show whether the job satisfaction of public employees is lower than, equal to, or higher than that of private employees'. It is

likely that the intrinsic versus the extrinsic aspects of job satisfaction cause the inconsistency in findings. Schneider and Vaught (1993) argued that the intrinsic and extrinsic aspects of jobs moderate the sector–job satisfaction relationship. Public employees are more satisfied with intrinsic aspects of their jobs, but less satisfied with the extrinsic aspects than are private employees. Posner and Schmidt (1982) found that public administrators experience more satisfaction than private corporate administrators from the intrinsic aspects of their jobs—task variety, challenge, and worthwhile accomplishment. Employment in the public sector offers opportunities for serving the public (Perry & Wise, 1990), a significant intrinsic satisfaction that is not available in the private sector. In their empirical study, Rainey and Bozeman (2000) concluded that public employees were less satisfied with the extrinsic facets of their jobs because of restrictions imposed on their job autonomy and promotional opportunities by bureaucratic rules. In addition, public-sector employees are often rewarded less abundantly than private-sector employees are (Solomon, 1986). Lower rewards could result in lower extrinsic satisfaction of public employees (Dimitris, 2008). Taking the moderating effect of the intrinsic and extrinsic aspects of job satisfaction into consideration, we propose that



Hypothesis 1: Public employees have a higher level of intrinsic satisfaction than private employees.

Hypothesis 2: Public employees have a lower level of extrinsic satisfaction than private employees.

2.2.2 Comparing Turnover Intentions between Public and Private Employees

Although Baldwin (1987) found that the need for security had no negative effect on the work motivation of public employees, he did not fully explore the implications of a greater need for security on the work behavior of public employees. A greater need for security could lead to a lower turnover rate in the public sector (Gambrel & Cianci, 2003; Fenner Jr. & Selmer, 2008). According to Shore and Tetrick (1994), an employee seeking long-term employment is more likely to form a relational contract with his or her employer. The relational contract stabilizes the employment relationship and results in lower turnover intentions among public employees. In addition, Hammer and Tassell (1983) noted that public employees' stronger need for security often reflects a higher level of risk aversion. This can make them more reluctant to meet the uncertainty involved in changing jobs, and they will be less likely to leave their jobs than private employees. In line with the need for security argument, we propose that

Hypothesis 3: Public employees have a lower level of turnover intention than private employees.

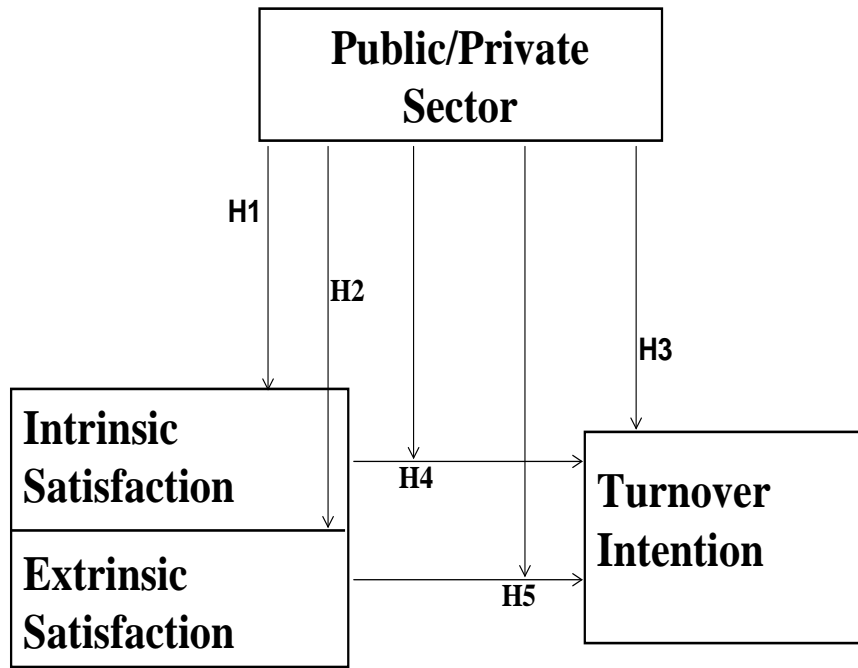
2.2.3 Comparing the Satisfaction–Turnover Intention Relationship between Public and Private Employees

Empirical evidence has shown that when an employee's job satisfaction decreases, his or her turnover intention increases (Michaels & Spector, 1982; Tett & Meyer, 1993; Elangovan, 2001; Lee, Gerhart, Weller, & Trevor, 2008). However, because of their stronger attachment to their jobs and their aversion for the risk involved in changing jobs, one may suspect that even at low levels of job satisfaction, public employees will continue to stay on in their jobs because of their stronger need for job security (Fenner Jr. & Selmer, 2008). This suggests that the negative relationship between job satisfaction and turnover intention is weaker in the public sector than in the private sector. Based on the above argument, we propose that

Hypothesis 4: The negative relationship between intrinsic satisfaction and turnover intention is weaker in public than in private employees.

Hypothesis 5: The negative relationship between extrinsic satisfaction and turnover intention is weaker in public than in private employees.

The framework of Study 1 is shown in Figure 1.



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Figure 1. Conceptual framework of study 1

2.3 Methods

2.3.1 Sampling and Survey Procedures

The sample for this study included employees from public and private organizations in Taiwan. The large size of the population of both private and public employees in Taiwan (10 millions and 530 thousands, respectively) prevented the use of random sampling. To ensure the representativeness of the sample, this study collected data from employees of various types of public and private organizations. In Taiwan, the following four main types of public organizations exist: administrative organizations, hygienic and medical services, public schools, and public enterprises (The Examination Yuan of R.O.C. Taiwan, 2007). The first three types of organizations provide free services to citizens. The last type, public enterprises, provides services for basic needs (e.g., utilities, railway transportation, and postal services) to citizens at affordable costs. The aim of the enterprises is not to make profits but to provide services. They are subsidized if losses are incurred, and profits generated belong to the government. The employees of public enterprises are governed by a personnel management system similar to that of public employees in other organizations. Employees in both enterprise and non-enterprise organizations

are all considered as public employees. To increase the representativeness of the sample, the participation of employees from all four types of public organizations was solicited. Private employees in Taiwan work mainly in the service, manufacturing, and electronics and semi-conductor industries. The sample therefore included many employees from these industries.

The sample included employees from all position levels (high, middle, and low). The study aimed to sample 50% of the subjects from the low level, 30% from the medium level, and the remaining (20%) from the top level. According to reports published by the Directorate-General of Budget, Accounting and Statistics, Executive Yuan, R. O. C. (2007), the relative ratio of these percentages represented a pyramidal hierarchical structure commonly seen in both public and private organizations. Anonymous questionnaires were given to managers, who then distributed them to other managers and workers in their organization. Participation was voluntary. Anonymity was further insured by providing the participants with stamped envelopes to mail the completed questionnaires directly to the researchers.

The questionnaires were distributed to 500 employees in the public sector and another 500 employees in the private sector. Two hundred and forty-three (243) questionnaires were received from public employees, resulting in a response rate of 48.6 percent. Six of those were incomplete, and were excluded from data analysis.

Two hundred and forty (240) questionnaires were received from the private employees, giving a response rate of 48 percent. Six of them were incomplete and were excluded from analysis. This resulted in a total of 483 responses, i.e. an overall response rate of 48.3 percent. As shown in Table 1, the public-sector sample included employees from all four main types of public organizations in Taiwan. It included 66 enterprise employees and 177 non-enterprise employees. Twenty of the enterprise employees were from four public banks, 36 from seven post offices, and 10 from two public utilities companies. In the group of non-enterprise employees, 27 were from four administrative offices, 10 from two hygienic and medical services, and 140 from twenty-seven public schools. For private sector, the distribution of sample was shown in Table 2. Twenty-one participants were from five private banks, 5 from a metal manufacturer, 24 from four automobile manufacturing companies, 42 from seven materials/parts manufacturers, and 148 from fourteen electronics and semiconductor manufacturing companies. Overall, the distribution of sample shows a broad coverage of employees from the main types of industries in Taiwan.

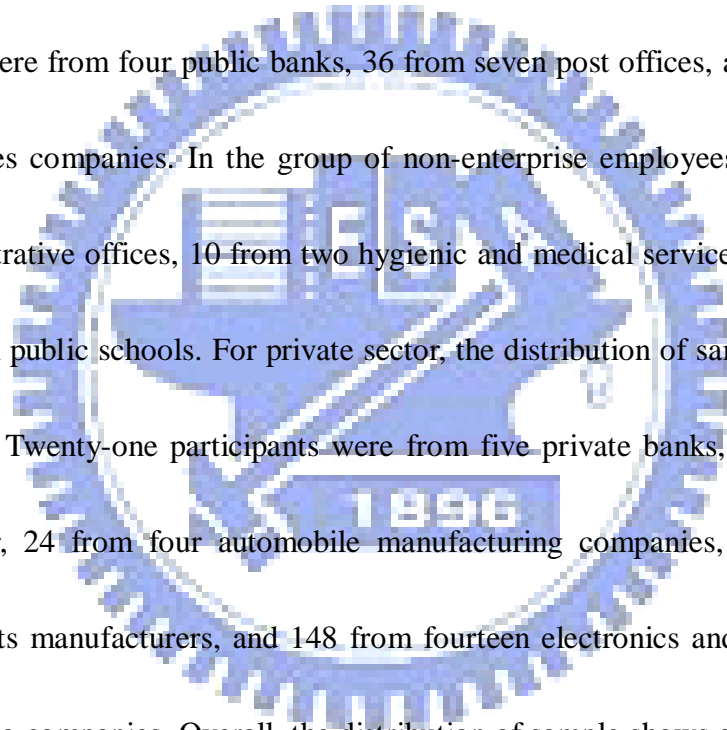


Table 1: Distribution of the Sample of Public Employees^a

Type of Industry	Type of Business	# of Institute	# of Respondent	Total # Respondent	Response Rate
Enterprise	Public Bank	4	20	66	48.6
	Post Office	7	36		
	Public Utility	2	10		
Non-enterprise	Administrative Office	4	27	177	
	Hygienic/ Medical Service	2	10		
	School	27	140		

^aQuestionnaires were distributed to 500 employees in 46 public organizations.

Table 2: Distribution of the Sample of Private Employees^a

Type of Industry	Type of Business	# of Company	# of Respondent	Total # of Respondent	Response Rate
Manufacturing	Metal Manufacturer	1	5	71	48.0
	Automobile Manufacturer	4	24		
	Materials/Parts Manufacturer	7	42		
Service	Private Banks	5	21	21	
Electronics and Semi-conductor	Electronics or Semiconductor Manufacturer	14	148	148	

^aQuestionnaires were distributed to 500 employees in 31 private companies.

2.3.2 Measurement

Sector referred to the type of organization from which the subjects were sampled: private or public. Ownership was used to define whether an organization is public or private (Rainey, Backoff & Levine, 1976; Solomon, 1986). Public organizations are

owned collectively by members of public communities, funded by taxation, and controlled by political forces (Boyne, 2002). On the other hand, private organizations are owned mainly by entrepreneurs or shareholders and controlled by market forces. “1” was used to code for public organizations and “0” to code for private organizations.

Job satisfaction included intrinsic and extrinsic satisfaction. Intrinsic satisfaction is a state of pleasure gained from the work itself, such as interesting work activities, achievement, autonomy, responsibility, and opportunities for making important decisions. Extrinsic satisfaction refers to pleasure gained from outside of work itself, such as comfortable working conditions, good salaries and benefits, promotional opportunities, effective leadership, and efficient organizational procedures and policies (Weiss, Dawis, England & Lofquist, 1967). The Chinese version of the Minnesota Satisfaction Questionnaire, translated and modified by Liao (1978), was used to measure job satisfaction. According to Liao, the Cronbach α was 0.76 for intrinsic satisfaction, 0.87 for extrinsic satisfaction, and 0.82 for overall satisfaction. The items were in a 5-point Likert scale.

Turnover intention referred to the intention of quitting one’s job. The measurement of turnover intention often includes items assessing thoughts about quitting, intentions of searching for alternative employment, and intention to quit

(Mobley, Griffeth, Hand & Meglino, 1979; Michaels & Spector, 1982; Meyer, Allen & Smith, 1993). Chen's (1994) scale was used to measure turnover intention. On the scale, one item (I have considered quitting my job) measures thoughts about quitting, two of the items (I have planned to search for alternative employment; I will start to search for alternative employment within one year) measure the intent of searching for new employment, and the remaining two items (I have carried out my plan for quitting; I will quit my job within one year) measure the intent of quitting. All five items were in a 5-point Likert scale. The Cronbach α of the scale was 0.89 (Chen, 1994).

Control variables included age, gender, education, career tenure, and level of position. According to literature, these variables are significantly related to employees' work attitudes (Parasuraman, 1982; DeSantis & Durst, 1996; Tanova & Holtom, 2008). To manifest the differences in job satisfaction and turnover intention between public and private employees, these demographic factors were used as the control variables in our regression analyses. An eight-point scale was used to code for age, ranging from "1" for twenty-five years old or below to "8" for fifty-six years old or above. For gender, "1" was used to code for male and "0" to code for female employees. A four-point scale, ranging from "1" for junior college or below to "4" for Ph.D., was used to code for the level of education. Job tenure was coded using an

five-point scale, ranging from “1” for five years and below to “5” for twenty years and above. Because the positions in public organizations in Taiwan are classified into three main levels with many grades in each, a three-point scale was used to code the position level of public employees. “1” was used for low level, “2” for mid-level, and “3” for high level. Private organizations in Taiwan have a more refined position classification system. The coding for private employees ranged from “1” for operative personnel to “5” for division manager, general manager, or plant manager.



2.4 Results

2.4.1 Characteristics of Participants

The characteristics of the sample are described in Table 3. The gender distribution of the surveyed respondents was about equal for both private and public employees. For private employees, the age range of 26-30 was the largest group (38.7 %) whereas in the case of public employees, the largest group (21.9 %) fell in the age range of 41-45. More than half (52.6 %) of the private employees in the sample were single. In contrast, the majority (90.4 %) of the public employees were married. In terms of education, 71.2% of public employees had a college-level education or higher as opposed to 58.1% of private employees. About one third (31.8 %) of the public employees had a career-tenure longer than thirty years, while a career tenure of 2-3 years counted for the highest percentage (23.1 %) among private employees. In the sample of public employees, 44.5% of them held low-level jobs, 50.4% mid-level, and the remaining (5.1%) held high-level jobs. In the sample of private employees, 36.3% were low-level, 47.9% were mid-level, and 15.8% were high-level.

Table 3: Characteristics of the Public Employees and Private Employees

Category	Public Employee			Private Employee		
		#	%		#	%
Gender	Male	135	57.0	Male	130	55.6
	Female	102	43.0	Female	104	44.4
Age	25 years or below	1	0.4	25 years or below	37	15.7
	26-30years	13	5.5	26-30years	91	38.7
	31-35 years	42	17.7	31-35 years	53	22.6
	36-40 years	33	13.9	36-40 years	37	15.7
	41-45 years	52	21.9	41-45 years	13	5.5
	46-50 years	49	20.7	46-50 years	3	1.3
	51-55 years	25	10.5	51-55 years	1	0.4
	56 years or above	22	9.3	56 years or above	0	0
Marital Status	Married	216	90.4	Married	111	47.4
	Unmarried	23	9.6	Unmarried	123	52.6
Education	High School or below	69	28.9	High School or below	98	41.9
	University/College	83	34.8	University/College	88	37.6
	Graduate	87	36.4	Graduate	48	20.5
Job Tenure	5 years or less	8	3.3	1 year or less	51	21.8
	6-10 years	25	10.5	2-3 years	54	23.1
	11-15 years	28	11.7	4-5 years	30	12.8
	16-20 years	19	7.9	6-7 years	28	12.0
	21-25 years	43	18.0	8-9 years	20	8.5
	26-30 years	40	16.7	10-15 years	38	16.2
	31 years or more	76	31.8	16 years or more	13	5.6
Position Level	Low	106	44.5	Low	85	36.3
	Middle	121	50.4	Middle	112	47.9
	High	12	5.1	High	37	15.8

2.4.2 Validity and Reliability of Variables

To test the validities of job satisfaction and turnover intention, factor analysis was performed. Job satisfaction was separated into and measured as two factors: intrinsic satisfaction and extrinsic satisfaction (Weiss, Dawis, England & Lofquist, 1967; Porter, Steers, Mowday & Boulian, 1974; Michaels & Spector, 1982). Turnover intention converged on a single factor. Twelve items were loaded on intrinsic satisfaction (see item 1, 2, 3, 4, 7, 8, 9, 10, 11, 15, 16, and 20 in Section 1 of Appendix A); 8 items on extrinsic satisfaction (item 5, 6, 12, 13, 14, 17, 18, and 19 in Section 1 of Appendix A); and 5 items on turnover intention (see item 1-5 in Section 2 of Appendix A). The reliability test found satisfactory results for each of the variables. The Cronbach α was 0.88 for intrinsic satisfaction, 0.82 for extrinsic satisfaction, and 0.89 for turnover intention.

2.4.3 Results from Hypothesis Testing

The t-test was used to verify Hypotheses 1, 2 and 3 whereas hierarchical regression was applied to examine Hypotheses 4 and 5. In the regression analysis, the control variables consist of career tenure, age, gender, education, and position level. The moderating variable is the type of sector, i.e. public or private. The procedures

employed by Schoonhoven (1981) were used to examine the moderating effect stated in Hypotheses 4 and 5. As an example, to verify Hypothesis 5 (the negative relationship between extrinsic satisfaction and turnover intention is weaker in public than in private employees), it was first examined whether the effect of extrinsic satisfaction on turnover intention was negative and significant. If yes, it was further examined whether the interaction between extrinsic satisfaction and sector was significant. Finally, if the interaction was significant, it was examined whether the relationship was positive. Because it was hypothesized that there is a weaker relationship between extrinsic satisfaction and turnover intention in public employees than there is in private employees, an interaction in the positive direction meant that the negative relationship of extrinsic satisfaction and turnover intention was attenuated in public employees and thereby the hypothesis was supported.

The means, standard variations, and correlations for all variables are reported in Tables 4.1 and 4.2. In the case of public employees, job tenure was positively related to extrinsic satisfaction, but negatively related to intrinsic satisfaction. Age was related positively with extrinsic satisfaction in public employees and with intrinsic satisfaction in private employees. Gender was positively related with intrinsic and extrinsic satisfaction only in private employees. Level of education was positively related with intrinsic and extrinsic satisfactions in private employees but was

negatively related with extrinsic satisfaction in public employees. Position level was positively related with extrinsic satisfaction in public employees and with intrinsic satisfaction in private employees. Consistent with our expectations, intrinsic and extrinsic satisfactions were negatively associated with turnover intention in both public and private employees.

Table 4.1: Means, Standard Deviations, and Correlation Matrix for Public Employees

Variable	Mean	SD	1	2	3	4	5	6	7
1.Job Tenure	5.20	2.05	--						
2.Age	5.02	1.70	0.66***	--					
3.Gender	0.57	0.50	0.12*	0.20**	--				
4.Education	2.62	1.24	-0.55***	-0.02	-0.04	--			
5.Position Level	1.93	0.99	0.09	-0.01	0.21**	0.05	--		
6.Intrinsic Satisfaction	3.64	0.52	-0.13*	0.08	0.01	0.25***	0.12 ⁺	--	
7.Extrinsic Satisfaction	3.08	0.73	0.20**	0.14*	0.06	-0.14*	0.14*	0.44***	--
8.Turnover Intention	1.70	0.81	0.10	-0.05	-0.02	-0.22***	-0.12 ⁺	-0.39***	-0.14*

n=237.

⁺p<0.10 ; *p<0.05 ; **p<0.01 ; ***p<0.001.

Table 4.2: Means, Standard Deviations, and Correlation Matrix for Private Employees

Variable	Mean	SD	1	2	3	4	5	6	7
1.Job Tenure	3.38	2.05	--						
2.Age	2.62	1.20	0.74***	--					
3.Gender	0.55	0.50	-0.03	0.30***	--				
4.Education	2.02	1.15	-0.28***	0.04	0.32***	--			
5.Position Level	2.65	0.95	0.20**	0.43***	0.51***	0.36***	--		
6.Intrinsic Satisfaction	3.43	0.62	0.10 ⁺	0.20**	0.23***	0.16**	0.27***	--	
7.Extrinsic Satisfaction	3.30	0.72	0.01	0.12 ⁺	0.17**	0.14*	0.10	0.72***	--
8.Turnover Intention	2.23	0.97	-0.05	-0.09	-0.05	-0.04	-0.02	-0.45***	-0.50***

n=234.

⁺p<0.10 ; *p<0.05 ; **p<0.01 ; ***p<0.001.

The differences in intrinsic and extrinsic satisfaction between the two sectors.

Table 5 shows that public employees had a level of intrinsic satisfaction higher than that of private employees' ($t = 3.85, p < .001$). However, public employees were lower on extrinsic satisfaction than were private employees ($t = -3.37, p < .001$). Hypotheses 1 and 2 were supported.

Table 5: T-test on the Means of Job Satisfaction and Turnover Intention between Public and Private Employees

Variable	Public Employee Mean	Private Employee Mean	t
Intrinsic Satisfaction	3.64	3.43	3.85***
Extrinsic Satisfaction	3.08	3.30	-3.37***
Turnover Intention	1.70	2.23	-6.48***

N is 237 for public employees and 234 for private employees.

* $P < .05$; ** $P < .01$; *** $P < .001$.

The difference in turnover intention between sectors. As shown in Table 2, public employees' turnover intentions were significantly lower than those of private employees' ($t = -6.48, p < .001$). Hypothesis 3 was supported.

The moderating effect of sector on the satisfaction–turnover relationship. Hierarchical regression analysis was used to test Hypotheses 4 and 5.

Turnover intention was regressed onto the control variables and the independent variables. The control variables (job tenure, age, gender, education, and position level) were entered into the regression model first; then the variables of sector, intrinsic and extrinsic satisfactions, and lastly, the interactions of sector with the variables of intrinsic and extrinsic satisfaction.

As shown in Table 6, the control variables explained a 5 percent variance in turnover intention, thereby indicating that older employees would have lower intentions to leave their jobs ($b = -.20, p < .01$). The sector and the intrinsic and extrinsic satisfaction scores were then entered in the second model, thereby increasing the predictive power of the model to 24 percent. Together, sector and intrinsic and extrinsic satisfaction significantly predicted turnover intention. Public employees ($b = -.33, p < .01$) and those with higher intrinsic satisfaction ($b = -.44, p < .001$) or higher extrinsic satisfaction ($b = -.15, p < .05$) had lower intentions to leave. Hypothesis 3 was

supported because public employees' turnover intentions were lower than those of private employees'.

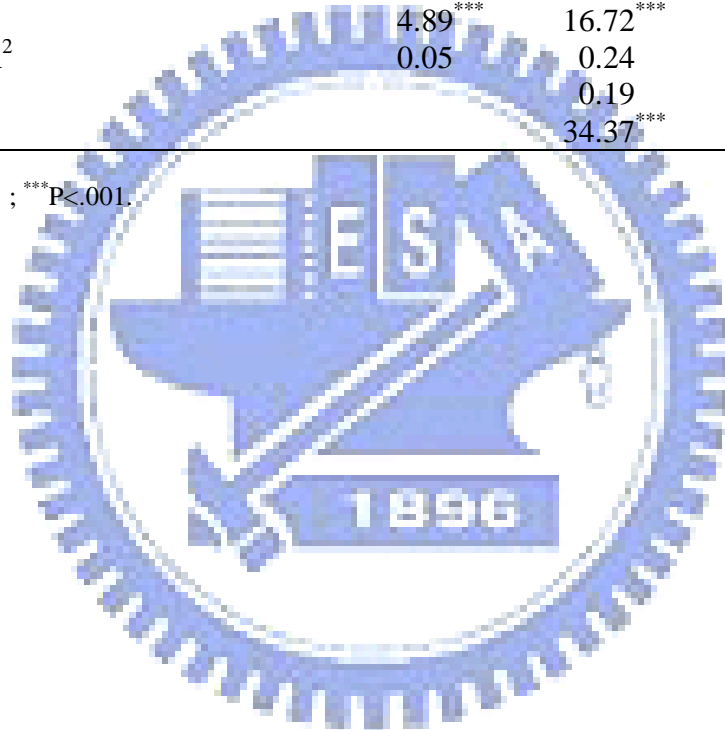
In the final model, the interactions of sector and intrinsic and extrinsic satisfaction were entered to increase the predictive power of the model to 25 percent. Though intrinsic satisfaction was negatively related with turnover intention ($b = -.27$, $p < .05$), its interaction with sector on turnover intention was not significant ($b = -.20$, $p > .05$), thereby indicating that public employees were similar to private employees in the sense that they equally had greater intentions to leave their jobs when they were dissatisfied with the intrinsic aspects of their jobs. Hypothesis 4 was not supported. Extrinsic satisfaction, on the other hand, was negatively related with turnover intention ($b = -.41$, $p < .001$). The effect of its interaction with sector was significant and positive ($b = .40$, $p < .01$). Public employees were less likely than private employees to consider leaving their jobs when they were dissatisfied with the extrinsic aspects of their jobs. Hypothesis 5 was supported. In a separate analysis, we combined intrinsic and extrinsic satisfaction into overall job satisfaction and ran a separate hierarchical regression. Its results showed that compared with private employees, public employees would have weaker intentions to leave their jobs when their overall job satisfaction was lower.

Table 6: Regression Analysis Predicting Turnover Intention

Independent Variable	Model 1	Model 2	Model 3
Control Variables			
Job Tenure	0.08	0.05	0.03
Age	-0.20**	-0.02	-0.02
Gender	0.08	0.09	0.10
Education	-0.09	-0.03	-0.02
Position Level	0.02	0.04	0.03
Main Effect			
Sector		-0.33**	-0.37***
Intrinsic Job Satisfaction		-0.44***	-0.27*
Extrinsic Job Satisfaction		-0.15*	-0.41***
Interaction Effect			
Intrinsic Job Satisfaction × Sector			-0.20
Extrinsic Job Satisfaction × Sector			0.40**
Model F	4.89***	16.72***	14.62***
Adjusted R ²	0.05	0.24	0.25
ΔR ²		0.19	0.01
F change		34.37***	4.91**

n=471.

*P<.05 ; **P<.01 ; *** P<.001.



2.5 Discussion

The results of this study support our hypotheses regarding the lower extrinsic satisfaction and the higher intrinsic satisfaction in public employees. The results also show that public employees have a lower turnover intention than private employees and their extrinsic satisfaction have a weaker negative relationship with their turnover intention than in the case of private employees. These results seem to support the conjecture of a stronger need for security in public employees and, because of this stronger need, public employees are less likely to leave their jobs and are more likely to stay on their jobs when they are extrinsically dissatisfied (Hom & Kinicki, 2001; Fenner Jr. & Selmer, 2008; Holtom, & Tanova, 2008).

Another result that seems to be inconsistent with the need for security argument is from the intrinsic satisfaction. There is no moderating effect from the sector on the relationship between intrinsic satisfaction and turnover intention. The lack of a moderating effect suggests that when public employees are dissatisfied with the intrinsic aspects of their jobs, they will consider quitting their jobs just as the private employees will (Nowlin, 1982; Khojasteh, 1993). Public employees seem to value the intrinsic aspects of their jobs equally strongly as private employees and their need

for security does not prevent them from thinking to quit when they are intrinsically dissatisfied.

In the next study, we will examine whether the lower-order need (including the need for security) is stronger in public employees than in private employees and whether the negative relationship between extrinsic satisfaction and turnover intention in public employees will be strengthened when the effect of lower-order need on their turnover intention is removed.



3. STUDY 2

3.1 Introduction

This purpose of this study is to examine the assumption underlying the weaker negative relationship between extrinsic satisfaction and turnover intention in public employees. In Study 1, we assumed that public employees have a stronger need for employment safety (job security need). When dissatisfied with the extrinsic aspects of their jobs, the public employees would not choose to quit their jobs because of their preference for job security than the uncertainty and risk involved in changing jobs.

In Study 2, we used the same research methods as those in Study 1. The lower-order need (physiological and safety needs) from Maslow's hierarchy of need theory are added into Study 2 to serve as a moderating variable on the relationship between job satisfaction and turnover intention. Maslow (1954) developed a hierarchical model of needs in which there are five types of needs: physiological need, safety need, social need, esteem need, and self-actualization need. The physiological and safety needs are generally referred as the lower-order need whereas the needs for social belongings, esteem, and self-actualization are referred as the higher-order need.

In this study, we proposed that, at the removal of the influence of lower-order need on turnover intention, if there is a significant increase in the negative relationship between extrinsic job satisfaction and turnover intention in public

employees, the assumption regarding why public employees are less likely to leave their jobs when they are dissatisfied extrinsically will be supported (Ashford, Lee, & Bobko, 1989; Fenner Jr. & Selmer, 2008). On the other hand, if the results show no significant change in the relationship, the above assumption will be falsified. Before validating this assumption, we need, first of all, testing whether the lower-order need are indeed stronger in public employees than in private employees; and secondly, replicating the findings of Study 1— a weaker negative extrinsic satisfaction and turnover intention in public employees. The hypotheses of this study is as follows:

Hypothesis 1: Public employees are stronger on the lower-order need than private employees.

Hypothesis 2: The negative relationship between extrinsic satisfaction and turnover intention is weaker in public than in private employees.

If the above two hypotheses are supported, the assumption underlying a weaker negative relationship between extrinsic satisfaction and turnover intention in public employees will be tested (Hom and Kinicki, 2001; Fenner Jr. & Selmer, 2008; Holtom, & Tanova, 2008). We will examine first, whether the removal of the effect of

lower-order need on turnover intention will strengthen the negative relationship between extrinsic satisfaction and turnover intention in both public and private employees; and second, whether this removal will strengthen the relationship only in the public employees (Riipinen,1996; Gambrel & Cianci, 2003). If the results from this validation show that the removal of the effect of lower-order need does not strengthen the negative relationship between extrinsic satisfaction and turnover intention in all employees and particularly in public employees, then the assumption regarding the weaker extrinsic satisfaction and turnover intention in public employees can be rejected. We propose the following two hypotheses to test this assumption:



Hypothesis 3: When the lower-order need is stronger, the negative relationship between extrinsic satisfaction and turnover intention becomes weaker.

Hypothesis 4: When the effect of lower-order need on turnover intention is removed, the negative relationship between extrinsic satisfaction and turnover intention in public employees becomes stronger.

The framework of Study 2 is shown in Figure 2.

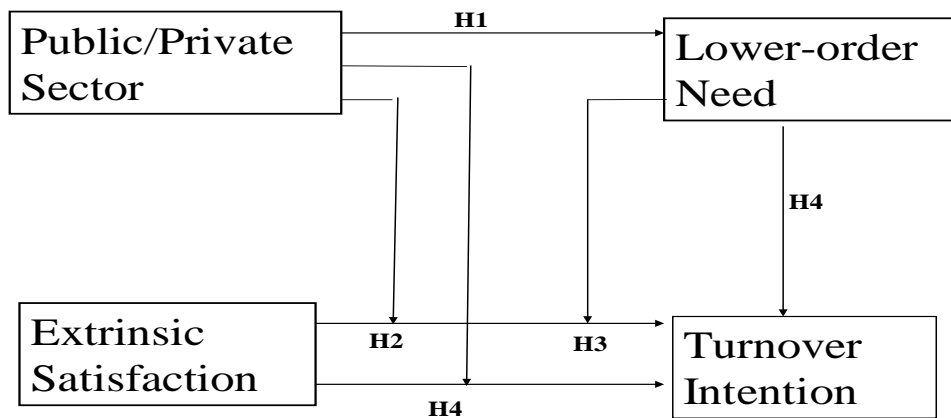


Figure 2. Conceptual framework of study 2

By comparing the hypothesis models between Study 1 (see Fig. 1) and Study 2 (see Fig. 2), the intrinsic satisfaction and turnover intention was found to be negatively related with each other in both public and private employees as in Study 1. It is not necessary to continue discussing the same relationship in Study 2. Also, Study 1 showed the negative relationship between the extrinsic satisfaction and turnover intention was weaker in public employees than in private employees. Therefore, lower-order need is added as the variable to predict whether the previous inference is correct.

3.2 Methods

3.2.1 Definition of Variables

The questionnaire is adapted from Mitchell and Moudgill's (1976) Measurement of Maslow's need hierarchy. It consists of twenty-one questions, as shown in Appendix B. The variables are defined as follows.

Lower-order need includes physiological need such as the needs for food, water, air, and sleep and safety need such as the needs for security, protection and family sustainment.

Higher-order need includes the need for giving and receiving love, the need for a sense of belonging and friendship, the need for self respect, and the need for a sense of achievement, contribution, respect by others, and personal growth and self-fulfillment.

The definitions of other variables are stated in the Method section of Study 1.

3.2.2 Sample and Data Collection

The sample for this study was composed of employees from the public and the private sectors. To ensure representativeness of the sample, we collect data from employees of various organizations in different industry (China Credit Information

Service, 2005; The database of enterprise index in Taiwan, 2008). The sample in public sector includes the employees from public banking, commerce, postal services, public utilities, government institutions, public health, and public educational organizations. The sample in private sector includes the employees from private banking, commerce, metal manufacturing, automobile manufacturing, materials industry, and high-tech companies. In addition, to further enhance the representativeness of our sample, we surveyed the employees from different hierarchical levels including high-level managers, middle-level managers, and low-level employees. The large size of the population of both private and public employees in Taiwan (10 millions and 530 thousands, respectively) prevented the use of systematic, random sampling procedure. The respondents were solicited through the personal network of the researchers. Questionnaires were used to collect data. The questionnaires were handed to the managers who agreed to distribute them to their subordinates. Anonymity was assured for each respondent. The respondent returned the completed questionnaire by mail to the researchers directly.

The questionnaires were distributed to 3,000 employees, two-thirds of them (n=2,000) were from private sector and one third (n=1,000) were from public sector. Four hundred and thirty-six (436) public employees returned their questionnaires for a response rate of 43.6%. We received 1,138 responses from private employees, corresponding to a response rate of 56.9%. A total of 1,574 responses were returned for an overall response rate of 52.4%.

3.2.3 Characteristics of the Sample

The characteristics of the sample are shown in Table 7. The sample of public employees includes 104 respondents from the general administrative offices, 74 from police department, and 181 from public school, to name a few. The sample of private employees consists of 298 respondents from the traditional manufacturing industries, 207 from the high-tech industries, 503 from the finance and services industries, and another 130 from other industries.

The gender distribution is similar in both the private and the public employees. Female respondents are twice more than male respondents. Age group of 31-35 was the biggest group in the private sector (23.99%) as well as in the public sector (22.71%). Job tenure of below 5 years was the largest group (41.30%) in the private sector while job tenure of between 6-10 years was the largest group (29.36%) in the public sector. Job positions are mostly in the lower level for both sectors: about seven out of every 10 respondents are clerical staff. Regarding salary range, 70.18% of public employees are in the salary treatment of below \$NT 50, 000 and 27.98% are in the range of \$NT 60, 000-100,000. For private employee, about four out of every five respondents (80.3%) receive monthly salary below \$NT 50, 000 while 14.25% of them receive \$60, 000-100,000. The findings hinted that public employee had better wages treatment than private employee.

Table 7: Characteristics of the Public and Private Employees

Category		Private Employee		Public Employee	
		Number	Percent	Number	Percent
Gender	Male	307	26.98	133	30.50
	Female	831	73.02	303	69.50
Age	25 or below	136	11.95	39	8.94
	26-30	202	17.75	67	15.37
	31-35	273	23.99	99	22.71
	36-40	232	20.39	78	17.89
	41-45	174	15.29	87	19.95
	46-50	76	6.68	40	9.17
	51-55	37	3.25	19	4.36
	56 or above	8	0.70	7	1.61
Education	High School or below	196	17.22	51	11.70
	University/ College	917	80.58	346	79.35
	Graduate	25	2.20	39	8.95
Job Tenure (Current)	5 years or less	470	41.30	121	27.75
	6-10 years	278	24.43	128	29.36
	11-15 years	188	16.52	91	20.87
	16-20 years	117	10.28	55	12.61
	20 years or more	85	7.47	41	9.40
Job Tenure (Accumulated)	5 years or less	157	13.80	54	12.39
	6-10 years	259	22.76	98	22.48
	11-15 years	308	27.07	121	27.75
	16-20 years	227	19.95	79	18.12
	20 years or more	187	16.43	84	19.27
Salary (Monthly, \$NT)	\$50,000 or less	913	80.30	306	70.18
	\$60,000-\$100,000	162	14.25	122	27.98
	\$110,000-\$150,000	31	2.73	2	0.46
	\$160,000 or more	31	2.72	6	1.38
Position Level	Clerical Staff	802	70.47	308	70.64
	Supervisor	198	17.40	105	24.08
	Middle Manager	83	7.29	8	1.83
	Top manager	55	4.83	15	3.44
Region	North	369	32.40	181	41.50
	Central	449	39.50	152	34.90
	South	320	28.10	103	23.60

Table 7 (continued): Characteristics of the Public and Private Employees

Category		Private Employee		Public Employee	
		Number	Percent	Number	Percent
Job Category	Marketing	280	24.60		
	Finance	262	23.02		
	HRM	93	8.17		
	Manufacture	212	18.63		
	R & D	36	3.16		
	Information Management	40	3.51		
	Foreign Department	12	1.05		
	Others	203	17.84		
Employees Number	Below 10	225	19.79		
	11-50	265	23.31		
	51-200	184	16.18		
	201-1,000	123	10.82		
	1,001-3,000	114	10.03		
	Over 3,000	211	18.56		
	Others	15	1.32		
Capital	Below 5 million	235	20.72		
	5-10 million	145	12.79		
	10-50 million	165	14.55		
	50-80 million	42	3.70		
	Over 80 million	416	36.68		
	Others	131	11.55		
Type of Industry	Traditional Manufacturing	298	26.19		
	High- tech	207	18.19		
	Finance and Service industries	503	44.20		
	Others	130	11.42		
Job Category	General Administrative			104	24.02
	Medical and Hygiene			7	1.62
	Police Department			74	17.09
	Public Schools			181	41.80
	Public Produce Enterprises			11	2.54
	Public Transportation			14	3.23
	Public Banks			28	6.47
	Others			14	3.23

3.2.4 Validities and Reliabilities of Variables

There are five variables involved in this study: lower-order need, higher-order need, intrinsic satisfaction, extrinsic satisfaction, and turnover intention. The validities and reliabilities for the measures of these variables can be found in the literature (Weiss, 1967; Porter et al, 1967; Michael & Spector, 1982). We performed factor analysis on Maslow's hierarchy of need of the variables in order to examine their convergent and discriminant validities. The results were shown in Table 8. As evident, eight items were loaded on higher-order need and seven items on lower-order need. We did not perform factor analysis on the items on intrinsic and extrinsic satisfactions and turnover intention because those items were identical to those used in Study 1. (Note: the items for turnover intention can be found in Section 2 of Appendix B and the items for intrinsic and extrinsic satisfactions are shown in Section 3 of the appendix.)

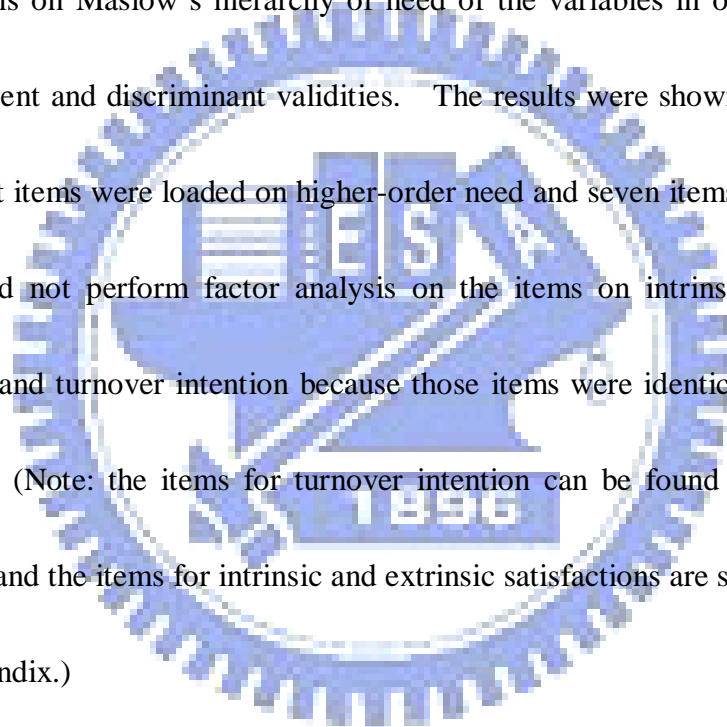


Table 8: Factor Analysis on the Lower-order and Higher-order Needs

Item #	Content	Factor 1 Higher-order Need	Factor 2 Lower-order Need
17	the opportunity for participating in setting of goals	0.84	-0.09
15	the opportunity for participating in deciding work methods and procedures	0.79	-0.03
20	the opportunity for doing original or creative work	0.77	-0.05
16	the authority in my position	0.76	-0.19
21	the feeling of self-actualization	0.74	0.04
19	the feeling of accomplishment	0.68	0.12
18	the opportunity for personal growth and development	0.68	0.09
14	the opportunity for independent thinking and action	0.60	0.15
1	long-term employment security	-0.23	0.62
7	the opportunity for exchanging ideas with colleagues and co-workers.	0.11	0.62
6	the opportunity for helping other people	0.09	0.61
5	the predictability and orderliness of work	-0.05	0.61
2	clear job objectives and unambiguous content of work	-0.02	0.59
9	the opportunity for developing friendships with other people	0.16	0.56
10	the feeling of self-esteem	0.26	0.53
Eigen Value		8.37	1.21
Percent of Variance Explained		80.10	11.60
Cumulative Percent of Variance Explained		80.10	91.70

Our reliability analysis showed a satisfactory stability on the measures of each variable. As tabulated in table 9, the Cronbach α is 0.72 for the lower-order need, 0.92 for the higher-order need, 0.87 for intrinsic satisfaction, 0.88 for extrinsic satisfaction, and 0.92 for turnover intention.

The lower-order need consists of safety need (see item 1, 2, and 5 of Table 8) and social need (see item 6, 7, 9, and 10 of Table 8). Maslow (1954) pointed out that the hierarchy of needs is dynamic; the dominant need is always shifting. Moreover, a single behavior may combine several levels. For example, eating dinner is both

physiological and social. Therefore, the above observation may explain why

Cronbach α of lower-order need is lower than others.

Table 9: Reliabilities of the Variables

Variable	α
Lower-order Need	0.72
Higher-order Need	0.92
Intrinsic Satisfaction	0.87
Extrinsic Satisfaction	0.88
Turnover Intention	0.92



3.3 Analyses and Results

In our statistical analyses, the type of sector and the orders of needs were used as moderating variables. In comparison, job tenure, age, gender, education, salary, and job position level were used as control variables. Note that the variable of section was coded as 1 for public employees and as 0 for private employees. Similar to what was performed in Study 1, we used Schhoonhoven's (1981) procedures to test the interaction effects stated in Hypotheses 2 and 3. The descriptive statistics and inter-correlations of the variables are reported in Tables 9.1-9.2.

As shown in Table 10.1, for public employees, each of the lower-order need, higher-order needs, job intrinsic satisfaction, and extrinsic satisfaction has negative relation with turnover intention. In contrast, based on the data in Table 10.2, for private employees, their higher-order need has no association with turnover intention while each of the lower-order need, intrinsic and extrinsic satisfactions has a negative relation with turnover intention.

Table 10.1: Descriptive Statistics and Inter-correlations of the Variables for Public Employees

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1.Job Tenure (accumulated)	3.09	1.29	--											
2.Job Tenure (current)	2.47	1.27	0.72 ^{***}	--										
3.Age	3.78	1.68	0.79 ^{***}	0.60 ^{***}	--									
4.Gender	1.69	0.46	0.10 [*]	-0.01	0.21 ^{***}	--								
5.Education	2.44	0.82	0.07	0.11 [*]	0.16 ^{***}	0.20 ^{***}	--							
6.Salary	1.34	0.63	0.34 ^{***}	0.41 ^{***}	0.32 ^{***}	0.00	0.25 ^{***}	--						
7.Position Level	1.38	0.69	0.12 [*]	0.20 ^{***}	0.13 ^{**}	-0.03	0.33 ^{***}	0.45 ^{***}	--					
8.Lower-order Need	4.30	0.51	0.10 [*]	0.07	0.11 [*]	0.16 ^{**}	0.10 [*]	0.12 [*]	0.12 [*]	--				
9.Higher-order Need	4.05	0.55	0.07	0.04	0.06	0.13 ^{**}	0.08	0.08	0.10 [*]	0.51 ^{***}	--			
10.Intrinsic Satisfaction	4.11	0.65	0.10 [*]	0.07	0.14 ^{**}	0.08	0.23 ^{***}	0.14 ^{**}	0.19 ^{***}	0.17 ^{***}	0.27 ^{***}	--		
11.Extrinsic Satisfaction	3.30	0.82	0.04	0.00	0.08	0.01	0.06	0.03	0.08	0.12 [*]	0.18 ^{***}	0.60 ^{***}	--	
12.Turnover Intention	2.26	0.96	-0.21 ^{***}	-0.19 ^{***}	-0.26 ^{***}	-0.18 ^{***}	-0.27 ^{***}	-0.16 ^{***}	-0.11 [*]	-0.19 ^{***}	-0.10 [*]	-0.27 ^{***}	-0.17 ^{***}	--

n=436.

⁺P<.10; *P<.05; **P<.01; ***P<.001.

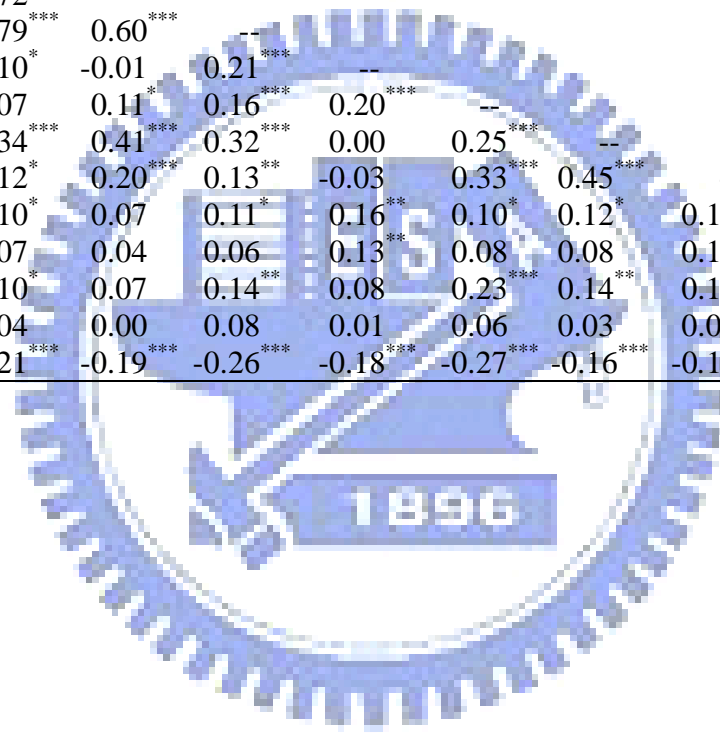
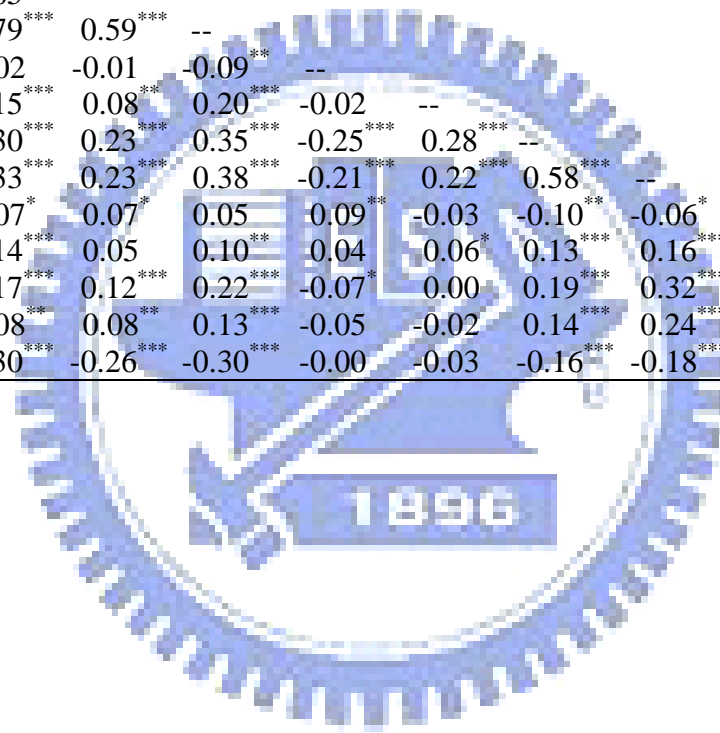


Table 10.2: Descriptive Statistics and Inter-correlations of the Variables for Private Employees

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1.Job Tenure (accumulated)	3.02	1.28	--											
2.Job Tenure (current)	2.18	1.27	0.65 ^{***}	--										
3.Age	3.46	1.60	0.79 ^{***}	0.59 ^{***}	--									
4.Gender	1.73	0.44	-0.02	-0.01	-0.09 ^{**}	--								
5.Education	2.13	0.71	0.15 ^{***}	0.08 ^{**}	0.20 ^{***}	-0.02	--							
6.Salary (monthly)	1.29	0.74	0.30 ^{***}	0.23 ^{***}	0.35 ^{***}	-0.25 ^{***}	0.28 ^{***}	--						
7.Position Level	1.46	0.83	0.33 ^{***}	0.23 ^{***}	0.38 ^{***}	-0.21 ^{***}	0.22 ^{***}	0.58 ^{***}	--					
8.Lower-order Need	4.19	0.54	0.07 [*]	0.07 [*]	0.05	-0.09 ^{**}	-0.03	-0.10 ^{**}	-0.06 [*]	--				
9. Higher-order Need	4.04	0.55	0.14 ^{***}	0.05	0.10 ^{**}	-0.04	0.06 [*]	0.13 ^{**}	0.16 ^{***}	0.46 ^{***}	--			
10.Intrinsic Satisfaction	3.77	0.74	0.17 ^{***}	0.12 ^{***}	0.22 ^{***}	-0.07 [*]	0.00	0.19 ^{***}	0.32 ^{***}	0.10 ^{***}	0.24 ^{***}	--		
11.Extrinsic Satisfaction	3.25	0.85	0.08 ^{**}	0.08 ^{**}	0.13 ^{***}	-0.05	-0.02	0.14 ^{***}	0.24 ^{***}	0.05	0.12 ^{***}	0.67 ^{***}	--	
12.Turnover Intention	2.77	0.96	-0.30 ^{***}	-0.26 ^{***}	-0.30 ^{***}	-0.00	-0.03	-0.16 ^{***}	-0.18 ^{***}	-0.06 [*]	-0.05	-0.36 ^{***}	-0.33 ^{***}	--

n=1,138.

[†]P<.10 ; *P<.05 ; **P<.01 ; ***P<.001.



We performed the T-test on the levels of needs between public and private employees. As evident in Table 11, public employees have stronger lower-order need than that of private employees ($t = -4.27, p < .001$). However, their higher-order need is about equal to the private employees' ($b = -.30, p > .05$). Therefore, Hypothesis 1 is supported. That is, public employees are stronger on the lower-order need than private employees. .

Table 11: T-test on Levels of Needs, Job Satisfaction, and Turnover Intention between Public and Private Employees

Variables	Public Employee Mean	Private Employee Mean	<i>t</i>
Lower-order Need	4.30	4.19	-4.27***
Higher-order Need	4.05	4.04	-0.30
Intrinsic Satisfaction	4.11	3.77	-9.61***
Extrinsic Satisfaction	3.30	3.25	-1.28
Turnover Intention	2.26	2.77	9.59***

n is 1138 for private employees and 436 for public employees.

* $P < .10$; * $P < .05$; ** $P < .01$; *** $P < .001$.

Additionally, we performed hierarchical regression analysis to test Hypotheses 2 and 3. The results are shown in Table 12.

According to the results in model 3 of Table 12, extrinsic satisfaction has a significantly negative effect on turnover intention ($b = -.13, P < .001$) and its interaction with sector is significant ($b = .06, p < .01$). This means that the negative relationship between extrinsic satisfaction and the turnover intention was weaker in public employees than in private employees. Hypothesis 2 is supported. This result replicates the findings of Study 1.

Extrinsic satisfaction has a significant negative effect on turnover intention

($b = -.13$, $p < .001$). Its interaction with lower-order need is insignificant ($b = -.04$, $p > .05$). This means that the negative effect of extrinsic satisfaction on turnover intention remains unchanged when lower-order need is stronger. Hypothesis 3 is not supported.

Interestingly, the results show that intrinsic satisfaction has a significantly negative effect on turnover intention ($b = -.21$, $p < .001$) and its interaction with Higher-order Needs is also negative and significant ($b = -.07$, $p < .05$). This means that for both private and public employees, those who are stronger on higher-order need are more likely to leave their jobs when they are dissatisfied intrinsically.



Table 12: Hierarchical Regression Analysis on Turnover Intention of Both Public and Private Employees

Variables	Model 1	Model 2	Model 3
Control Variables			
Job Tenure (accumulated)	-0.04	-0.08*	-0.09*
Job Tenure (current)	-0.09	-0.06*	-0.06*
Age	-0.14*	-0.07*	-0.07*
Gender	0.11*	0.13*	0.13**
Education	-0.06*	-0.04*	-0.04*
Salary	-0.03	-0.03*	-0.03
Position Level	-0.00	0.00	0.01
Main Effect			
Sector		-0.17***	-0.16***
Lower-order Need		-0.09***	-0.09**
Higher-order Need		0.08**	0.07*
Intrinsic Satisfaction		-0.22***	-0.21***
Extrinsic Satisfaction		-0.13***	-0.13***
Interaction Effect			
Intrinsic Satisfaction × Sector			-0.01
Extrinsic Satisfaction × Sector			0.06**
Lower-order Need × Sector			-0.05 *
Higher-order Need × Sector			-0.01
Intrinsic Satisfaction × Lower-order Need			0.08*
Extrinsic Satisfaction × Lower-order Need			-0.04
Intrinsic Satisfaction × Higher-order Need			-0.07*
Extrinsic Satisfaction × Higher-order Need			0.00
Model F	28.12***	41.28***	25.64***
Adjusted R ²	0.11	0.23	0.24
ΔR ²		0.08	0.01
F change		53.14***	1.92*

n=1,531.

+P<.10 ; *P<.05 ; ** P<.01 ; *** P<.001.

Hierarchical regression was again used to test Hypothesis 4. Table 13 shows that lower-order need has a negative effect on turnover intention in public employees (b=-.15, p<.01). Their extrinsic satisfaction is not related with turnover intention (b=-.04, P>.05). This means that for public employees, when the effect of

lower-order need on turnover intention is accounted, the relationship between extrinsic satisfaction and turnover intention remains insignificant. Hypothesis 4 is rejected.

Table 13: Hierarchical Regression Analysis on Turnover Intention of Public Employees

Variables	Model 1	Model 2
Control Variables		
Job Tenure (accumulated)	-0.01	-0.01
Job Tenure (current)	-0.05	-0.05
Age	-0.11*	-0.10
Gender	0.20*	0.18*
Education	-0.16***	-0.16***
Salary	-0.02	-0.02
Position Level	-0.02	0.02
Main Effect		
Lower-order Need		-0.15**
Higher-order Need	-0.03	0.05
Intrinsic Satisfaction	-0.19*	-0.18**
Extrinsic Satisfaction	-0.04	-0.04
Model F	8.83***	8.79***
Adjusted R ²	0.15	0.17
ΔR ²		0.02
F change		7.21**

n=436.

+P<.10 ; *P<.05 ; ** P<.01 ; *** P<.001.

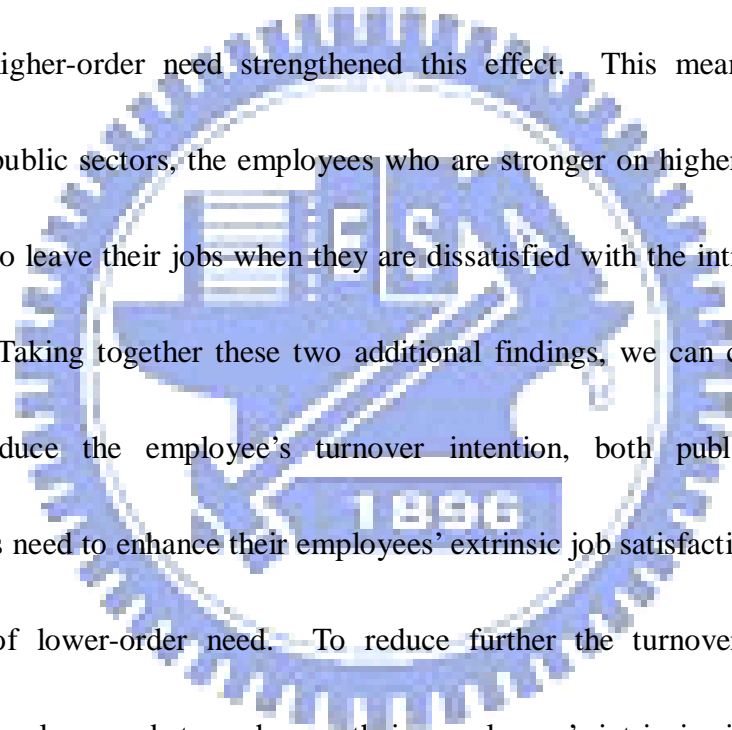
3.4 Discussion and Implications

The above findings show that the lower-order need is stronger in public employees (Gambrel & Cianci, 2003); but this need does not affect the relationship between extrinsic satisfaction and turnover intention in public employees. We can conclude that the lower-order need is *not* the cause for the weaker extrinsic satisfaction—turnover intention relationship in public employees. The remaining plausible explanation for the weaker relationship is the stagnant mobility in the job market of public employment. Public employees cannot change their jobs so easily as private employees. Moving from one job to another in public sector requires consent and approval from the higher-level management. Moving from public employment to private employment is difficult because the knowledge and experiences acquired in public services are usually not transferable and applicable to the jobs in the private sector (Gambrel & Cianci, 2003).

Additional findings of this study showed that public employees were stronger on the lower-order need than private employees (see Table 11) and the lower-order is negatively related with turnover intention (see Table 12). These results explain why the turnover rate is lower in public sector than in private sector. Public employees indeed consider less about leaving or changing their jobs than private employees. But again, the results from the testing of Hypotheses 3 and 4 rejected the idea that this

stronger lower-order need caused public employees to continue to remain on their jobs when they were dissatisfied with the extrinsic aspects of their jobs.

The study found that extrinsic satisfaction had a negative influence on turnover intention in both public and private employees (see Table 12) and lower-order need did not affect this effect. The results also showed that intrinsic satisfaction had a negative effect on turnover intention in both public and private employees (see Table 12). The higher-order need strengthened this effect. This means that in both private and public sectors, the employees who are stronger on higher-order need are more likely to leave their jobs when they are dissatisfied with the intrinsic aspects of their jobs. Taking together these two additional findings, we can conclude that in order to reduce the employee's turnover intention, both public and private organizations need to enhance their employees' extrinsic job satisfaction regardless of their level of lower-order need. To reduce further the turnover intention, the organizations also need to enhance their employees' intrinsic job satisfaction, especially in those who are stronger on their higher-order need.



4. General Discussion and Managerial Implications of the Research

4.1 Discussion

In Study 1, we found that public employees were lower on extrinsic satisfaction than private employees. This result was not replicated in Study 2. The finding of lower extrinsic satisfaction for public employees is consistent with what has been shown elsewhere in the literature (Kovach, 1990; Schneider & Vaught, 1993). This lower extrinsic satisfaction may stem from various causes, including the inflexibility in work processes and less work autonomy (Boyne, 2002). For instance, employees in public enterprises often felt dissatisfied with the inflexibility of their work procedures and the constraint on their autonomy, which often led to inefficiency and loss of competitiveness. One noted observation is that the sample of Study 1 comprised a greater percentage (27.2%) of employees from public enterprises than that (12%) of the sample in Study 2. A greater percentage of public enterprise employees (66 out of 243, see Table 1 of Study 1) in Study 1's sample could be the reason why the public employees were found to be lower on the extrinsic satisfaction. Similarly, the smaller percentage of employees from the public enterprises (53 out of 436, see Table 7 of Study 2) in the Study 2's sample could be why we did not observe similar finding in Study 2.

Both Study 1 and Study 2 found that public employees were higher on intrinsic

job satisfaction than private employees. It is likely that public employees in Taiwan feel more satisfied with the intrinsic aspect of their jobs because of their strong motivation for public service (Perry & Wise, 1990; Vandenberg, 2008).

In both Study 1 and Study 2, we found that public employees had a lower turnover intention than private employees. This finding coincides with what has been discovered in Lee, Gerhart, Weller, & Trevor (2008). In Study 2, we found public employees were stronger on the lower-order need than private employees. This result also coincides with what was found in Gambrel and Cianci (2003) and Ford and Tetrick (2008). This stronger lower-order need can explain why, in general, the public sector has a lower turnover rate than the private sector. Public employees consider less about leaving their jobs because of their stronger need for employment security (Tang, Tang, & Luna-Arocas, 2005).

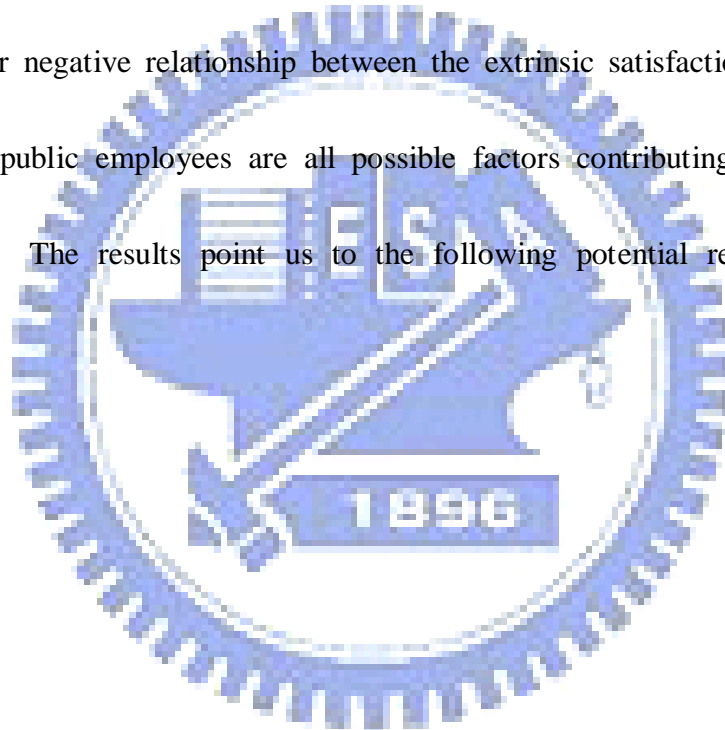
On the other hand, in both Study 1 and Study 2, we found that the negative relationship between extrinsic satisfaction and turnover intention was weaker in public employees. As what have been argued in the discussion section of Study 2, this lower-order need was not the cause for the weaker negative relationship between extrinsic satisfaction and turnover intention in public employees. This finding did not support the assumption suggesting that the weaker negative extrinsic satisfaction — turnover intention relationship in public employees is because of their

stronger lower-order need (including the need for employment safety). Another plausible cause for this weaker relationship is the stagnant job mobility in the public sector for which we have discussed in Study 2. This alternative explanation needs further validation. If future research supports this alternative explanation, a managerial implication can be derived from it is that public organizations should create better internal job transfer mechanisms to encourage their extrinsically dissatisfied employees to change their jobs within organizations in order to avoid staying on the unsatisfied jobs and become unproductive (Holtom, & tanova, 2008). Or alternatively, public organizations can work to assist or encourage their extrinsically dissatisfied employees to transfer to the private sector.

Study 1 and Study 2 found intrinsic satisfaction was negative related with turnover intention in both public and private employees. Study 2 further discovered that the employees' higher-order need strengthened this negative relationship. These findings suggest that public employees value the intrinsic aspects of their jobs equally strongly as private employees (Nowlin, 1982; Khojasteh, 1993) and they will consider quitting their jobs when they are intrinsically dissatisfied, especially for those who are stronger on higher-order need. Public organizations can work to satisfy their employees' intrinsic job satisfaction in order to reduce their turnover intentions. For those who have come to work in the public sector due to their stronger public service

motivation (a higher-order need), this satisfaction is important for keeping their commitment and loyalty to their jobs.

This research contributes to the literature by clarifying the validities of the various conjectures about the causes of lower productivity in the public sector (Drucker, 1990; Chang & Chaing, 1999; Gupta, 2005; Cho, 2007; Wu, 2007; Rousseau, & Xiao, 2008). Lower extrinsic job satisfaction, lower turnover intentions, and a weaker negative relationship between the extrinsic satisfaction and turnover intention in public employees are all possible factors contributing to their lower productivity. The results point us to the following potential remedies for the problem.



4.2 Managerial Implications

Public organizations in Taiwan should work to enhance the motivating potential of the extrinsic aspects of their jobs (Cawsey, Reed, & Reddon, 1982; Gambrel & Cianci, 2003), especially in those who are dissatisfied with their extrinsic aspects of their jobs. With enhanced motivating potential, the public sector's productivity will likely improve. A weaker negative relationship between job satisfaction and turnover intentions in public employees suggests that there could be some public employees who are dissatisfied with their jobs but are reluctant to quit (Lee, Gerhart, Weller, & Trevor, 2008). Public sector managers could work to identify these employees to either improve their extrinsic satisfaction or to help them transfer to other jobs that can make them more satisfied and, consequentially, more productive (Holtom, & Tanova, 2008). This research found that public employees had a lower turnover intention than private employees. Where excessively low turnover stifles internal mobility and prevents the infusion of new blood into the organization, measures to increase the turnover rate could be contemplated. Maintaining a healthy rate of turnover rate would likely improve productivity in the public sector.

Both Study 1 and Study 2 consistently found that, compared to public employees, private employees have a lower intrinsic satisfaction and a higher turnover

intention. Their lower intrinsic satisfaction is associated with their higher turnover intention. Private-sector managers can work to improve their employees' intrinsic satisfaction. A few examples are: providing their employees with challenging jobs to help them reach their potentials, more training opportunities to satisfy their growth need, or an internal transfer mechanism to allow them move onto the jobs that they feel more interesting. These actions will help to enhance their intrinsic satisfaction, reduce their turnover intention, and eventually lead to better organizational efficiency.



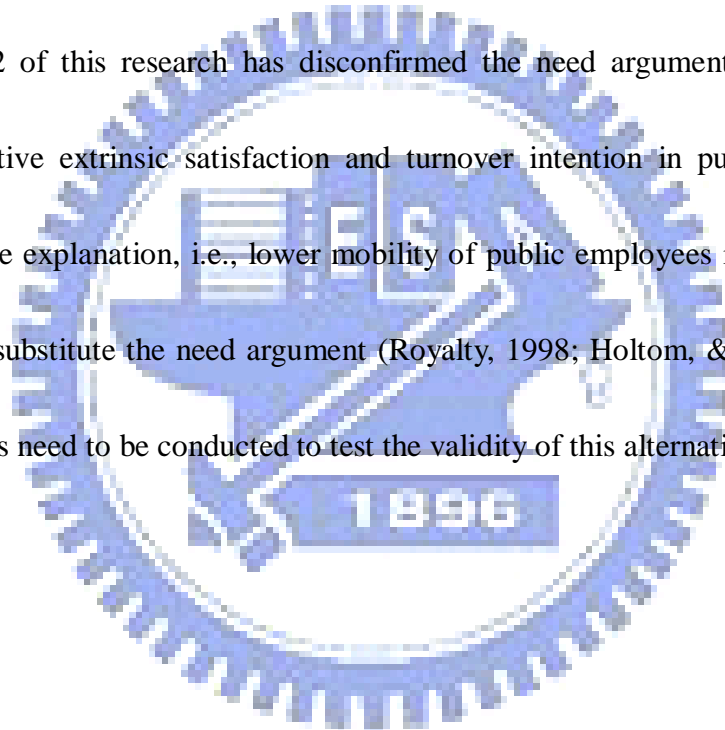
5. Limitations and Suggestions for Future Research

In this research, the data concerning the independent variables (need and satisfaction), moderating variables (sector and need), and dependent variable (turnover intention) were collected by a single questionnaire. The significant findings in Study 1 and Study 2 could have come from the common source bias (Kerlinger & Lee, 2000), an error in data collection that often inflates the relationships between the independent and the dependent variables because of their common origin. Fortunately, in our factor analysis performed on the measures of independent and dependent variables, there was no one common factor extracted from the measures of these variables. The suspicion for the common source bias was not substantiated. Still, in the future research, the measures of independent variables and dependent variables should be taken from different sources. For example, in addition to asking the employees in public or private organizations to provide information about their job satisfactions and level of need, we can ask their immediate supervisors to evaluate their turnover intentions.

This research is a cross-sectional study. The data of all the variables were collected from the subjects at one single point of time. Longitudinal data collection—taking measures on the independent variables first and then followed by

taking measures on the dependent variables after a time lapse, will provide better data for testing the cause-effect relationships in the hypotheses. A time lapse will allow the effect of independent variable on dependent variable surface in the data and analysis. Our cross-sectional data collection renders a conservative testing of the hypotheses. Should the longitudinal data be used, there would be more significance in the findings of our research.

Study 2 of this research has disconfirmed the need argument underlying the weaker negative extrinsic satisfaction and turnover intention in public employees. An alternative explanation, i.e., lower mobility of public employees in job market, is proposed to substitute the need argument (Royalty, 1998; Holtom, & Tanova, 2008). Future studies need to be conducted to test the validity of this alternative hypothesis.



Reference

- Abbasi, S.M. & Hollman, K.W. (2000). Turnover: The real bottom line. *Public Personnel Management*, 29(3), 333-342.
- Aryee, S. (1992). Public and private sector professionals. *Group and Organization Management*, 17(1), 72-85.
- Ashford, S. J., Lee, C., & Bobko, P. (1989). Content, causes, and consequences of job insecurity: A theory-based measure and substantive test. *Academy of Management Journal*, 32(4), 803-829.
- Baldwin, J.N. (1987). Public versus private: Not that different, not that consequentially. *Public Personnel Management*, 16(2), 181-193.
- Baldwin, J.N. (1991). Public versus private employees: Debunking stereotypes. *Review of Public Personnel Administration*, 11(1-2), 1-27.
- Boyne, G.A. (2002). Public and private management: What's the difference?. *Journal of Management Studies*, 39(1), 97-122.
- Cacioppe, R. & Mock, P. (1984). A comparison of the quality of the work experience in government and private organizations. *Human Relations*, 37, 923-940.
- Cawsey, T. F., Reed, P. L., & Reddon, J. R. (1982). Human Needs and Job Satisfaction: A Multidimensional Approach. *Human Relation*, 35(9), 703-726.
- Chang, Y.S. & Chaing, S.J. (1999). The impact of privatization on enterprise

performance. *Review of Securities and Futures Markets*, 11(2), 105-128.

Chen, T. (1994). *Quality of working life, job satisfaction, and turnover intention: evidence from high technology professionals*. Unpublished Master's thesis, National Chiao Tung University, Taiwan.

China Credit Information Service (PRC) Ltd. (2005). Retrieved June 12, 2008, from <http://www.credit.com.tw>.

Cho, H.J. (2007). Evaluating the performance of privatization on regional transit services: *Case study*. *Journal of Urban Planning and Development-asce*, 133 (2), 119-127.

Cho, K-H & Lee, S-H. (2001). Another look at public-private distinction and organizational commitment: A cultural explanation. *International Journal of Organizational Analysis*, 9(1), 84-102.

Chou, T.C. (1999). *Taiwan's Experiences in Privatization*. Taipei: Chuan-Hwa Credit Clearinghouse.

Dalton, D.R. & Todor, W.D. (1986). Turnover: A lucrative hard dollar phenomenon, *Academy of Management Review*, 7(2), 212-218.

DeSantis, V.S. & Durst, S.L. (1996). Comparing job satisfaction among public- and private-sector employees. *American Review of Public Administration*, 26(3), 327-343.

Dimitris, M. (2008). Work motivation in the Hellenic extended public sector: an empirical investigation. *The International Journal of Human Resource Management*, 19(9), 1,738-1,753.

Drucker, Peter F. (1990). *Managing The Nonprofit Organization: Principles and Practices*. Harper Collins.

Elangovan, A. R. (2001). Causal ordering of stress, satisfaction and commitment, and intention to quit: a structural equation analysis. *Leadership & Organization Development Journal*, 22(4), 159-165.

Fenner Jr., C. R., & Selmer, J. (2008). Public sector expatriate managers: psychological adjustment, personal characteristics and job factors. *The International Journal of Human Resource Management*, 19(7), 1237 – 1252.

Ford, M. T., & Tetrick, L. E. (2008). Safety motivation and human resource management in North America. *The International Journal of Human Resource Management*, 19(8), 1,472-1,485.

Gambrel, P. A., & Cianci, R. (2003). Maslow's hierarchy of needs: Does it apply in a collectivist culture. *Journal of Applied Management and Entrepreneurship*, 8(2), 143-161.

Grupp, F.W. & Richards, A.B. (1975). Job satisfaction among state executives in the U.S. *Public Personnel Management*, 4(2), 104-109.

Gupta, N. (2005). Partial privatization and firm performance. *Journal of Finance*, 60 , 987-1,014.

Hammer, E.R. & Tassell, D.V. (1983). On the issue of public vs. private sector motivation: Have the stereotypes been debunked?. *Public Personnel Management*, 12(3), 282-289.

Holtom, B. C. & Tanova, C. (2008). Using job embeddedness factors to explain voluntary turnover in four european countries. *The International Journal of Human Resource Management*, 19(9), 1,553 –1,568.

Hom, P. & Kinicki, A.J. (2001). Toward a greater understanding of how dissatisfaction drives employee turnover. *Academy of Management Journal*, 44(5), 975-987.

Hwang, I-S. & Kuo, J-H. (2006). Effects of job satisfaction and perceived alternative employment opportunities on turnover intention—An examination of public sector organizations, *Journal of American Academy of Business*, 8(2), 254-259.

Kerlinger, F. N. & Lee, H. B. (2000). *Foundations of Behavioral Research* (4th Ed.). New York, NY: Holt, Rinehart & Winston

Khojasteh, M. (1993). Motivating the private vs. public sector managers, *Public Personnel Management*, 22, 391-401.

Kilpatrick, F.P., Cummings, M.C., & Jennings, M.K. (1964). *Source Book of a Study*

of Occupational Values and the Image of the Federal Service. Washington, D.C.:

Brookings Institute.

Kim, S. (2005). Individual-level factors and organizational performance in government organizations. *Journal of Public Administration Research and Theory*, 15(2), 245-261.

Kovach, K.A. (1990). Comparisons of public and private subjects on reported economic measures and on facet satisfaction items for each of three organizational levels. *Journal of Collective Negotiations*, 19(4), 261-273.

Lee, T. H., Gerhart, B., Weller, I., & Trevor, C. O. (2008). Understanding voluntary turnover: Path-specific job satisfaction effects and the importance of unsolicited job offers. *Academy of Management Journal*, 51(4), 651-671.

Lee, T.W., Wise, L., & Fireman, S. (1996). An unfolding model of voluntary employee turnover. *Academy of Management Journal*, 39(1), 5-36.

Liao, S. (1978). *The relationship between leadership style, personality trait, and job satisfaction in principals of primary schools*. Unpublished Master's thesis, National Chengchi University, Taiwan.

Locke, E. A., & Latham, G. P. (1990). Work motivation and satisfaction: Light at the End of the Tunnel. *Psychological Science*, 1(4), 240-246.

Maslow, A.H.(1954). *Motivation and personality*. New York: Harper

Meyer, J. P., Allen, N.J., & Smith, C.A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of Applied Psychology*, 78(4), 538-551.

Michaels, C.E. & Spector, D.E. (1982). Causes of employee turnover: A test of the Mobley, Griffeth, Hand, and Meglino (1979) model. *Journal of Applied Psychology*, 67(1), 53-59.

Mitchell, T. R. (1997). Matching motivational strategies with organizational contexts. *Research in Organizational Behavior*, 19, 57-149.

Mitchell, V. F., & Moudgill, P. (1976). Measurement of Maslow's Need Hierarchy. *Organizational Behavior and Human performance*, 16, 334-349.

Mobley, W.H., Griffeth, R.W., Hand, H.H., & Meglino, B.M. (1979). Review and conceptual analysis of the employee turnover process. *Psychological Bulletin*, 86, 493-522.

Newstrom, J.W., Reif, W.E., & Monczka, R.M. (1976). Motivating the public employee: Fact vs. fiction. *Public Personnel Management*, 51, 67-73.

Nowlin, W.A. (1982). Factors that motivate public and private sector managers: A comparison. *Public Personnel Management*, 11, 224-227.

Parasuraman, S. (1982). Predicting turnover intentions and turnover behavior: A multivariate analysis. *Journal of Vocational Behavior*, 21, 111-121.

Perry J.L. & Wise, L. R. (1990). The motivational bases of public service. *Public Administration Review*, 50(3), 367-373.

Perry, J.L. & Porter, L.W. (1982). Factors affecting the context for motivation in public organizations. *Academy of Management Review*, 7(1), 89-98.

Porter, L.W., Steers, R.M., Mowday, R.T., & Boulian, P.V. (1974). Organizational commitment, job satisfaction, and turnover among psychiatric technicians. *Journal of Applied Psychology*, 59(5), 603-609.

Posner, B.Z. & Schmidt, W.H. (1982). Determining managerial strategies in the public sector: What kind of people enter the public and private sectors? An undated comparison of perceptions, stereotypes, and values. *Human Resource Management*, 21(2-3), 35-43.

Rainey, H.G. (1977). *Comparing Public and Private: Conceptual and Empirical Analysis of Incentive and Motivation among Business and Government Managers*. Unpublished doctoral dissertation, Ohio State University.

Rainey, H.G. & Bozeman, B. (2000). Comparing public and private organizations: Empirical research and the power of the a priori. *Journal of Public Administration Research and Theory*, 10(2), 447-469.

Rainey, H.G., Backoff, R., Levine, C. (1976). Comparing public and private organizations. *Public Administration Review*, 36(2), 233-244.

Rawls, J.R., Ullrich, R.A., & Nelson Jr., O.T. (1975). A comparison of managers entering or reentering the profit and nonprofit sectors. *Academy of Management Journal*, 18(3), 616-623.

Riipinen, K. (1996). The relation of work involvement to occupational needs, need satisfaction, locus of control, and affect. *The Journal of Social Psychology*, 136(3), 291-303.

Robbins, S. P. (1990). *Organization Theory*. Prentice Hall.

Royalty, A. B. (1998). Job-to-job and job-to-nonemployment: Turnover by Gender and Education Level. *Journal of Labor Economics*, 16(2), 392-443.

Rousseau, P.L., & Xiao, S. (2008). Change of control and the success of China's share-issue privatization. *China Economic Review*, 19 (4), 605-613.

Schneider, D.S. & Vaught, B.C. (1993). A comparison of job satisfaction between public and private sector managers. *Public Administration Quarterly*, 17(1), 68-83.

Schoonhoven, C. B. (1981). Problems with contingency theory: Testing assumptions hidden within the language of contingency theory. *Administrative Science Quarterly*, 26(3), 347-377.

Shore, L.M. & Tetrick, L. (1994). The psychological contract as an explanatory framework in the employment relationship. In C. Cooper & D. Rousseau (Eds.),

Trends in Organizational Behavior, 9, 91-109. New York: Wiley.

Smith, M.P. & Nock, S.L. (1980). Social class and the quality of work life in public and private organizations. *Journal of Social Issues*, 36, 59-75.

Solomon, E. E. (1986). Private and public sector managers: An empirical investigation of job characteristics and organizational climate. *Journal of Applied Psychology*, 71(2), 247-259.

Staw, B.M. (1980). The consequences of turnover. *Journal of Occupational Behavior*, 1(4), 253-273.

Tang, T. L-P., Tang, D. S-H, & Luna-Arocas, R. (2005). Money profiles: the love of money, attitudes, and needs. *Personnel Review*, 34(5), 603-618.

Tanova, C. & Holtom, B.C. (2008). Using job embeddedness factors to explain voluntary turnover in four European countries. *The International Journal of Human Resource Management*, 19(9), 1,553-1,568.

Tett, R.P. & Meyer, J.P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: Path analyses based on meta-analytic findings. *Personnel Psychology*, 46(2), 259-293.

The database of enterprise index in Taiwan (2008). Retrieved June 12, 2008, from <http://www.angelfire.com/nc/global>; <http://www.Query.idv.tw> <http://www.query.idv.tw/q001.aspx>

The Examination Yuan of R.O.C. Taiwan. (2007). Table 17: Number of public servants.

Retrieved September 26, 2007, from <http://www.exam.gov.tw/stadoc/53.xls>.

Vandenabeele, W. (2008). Government calling: Public service motivation as an element in selecting government as an employer of choice. *Public Administration*, 86(4), 1,089-1,105.

Weiss, D.J., Dawis, R.V., England, G.W., & Lofquist, L.H. (1967). *Manual for the minnesota satisfaction questionnaire: Minnesota studies in vocational rehabilitation*. Minneapolis: University of Minnesota, Industrial Relations Center.

Wu, H.L. (2007). Exploring the sources of privatization-induced performance changes. *Journal of Organizational Change Management*, 20 (1), 44-59.



Appendix A

研究一問卷

員工工作滿意之研究

各位女士、先生：

您好!這是一份不記名問卷，目的在了解員工工作滿意，希望藉由本研究來關心您的感受。問卷內容分為三部份，請您務必完整作答，所有問題的答案無所謂「對」與「錯」，您的寶貴意見純為學術用途，不作他用，請您撥冗賜答，您的熱心參與，是本研究的最大動力，謹致最大的敬意與謝意。

國立交通大學管理科學系博士生

王桂英 敬上 92.07.01.

第一部份:下列描述是有關員工工作上所發生的情形，請就您自己對工作上所感到滿意程度，在5、4、3、2、1中，以“○”圈選一個適當數字，數字愈大表示愈滿意，數字愈小表示愈不滿意，若您態度中立，可圈選3表示。答案沒有對與錯或好與不好，請就您的感受放心作答。

	極 為 滿 意	滿 意	普 通	不 滿 意	極 不 滿 意
1 工作給我的忙碌程度-----	5	4	3	2	1
2 工作給我單獨自主表現的機會-----	5	4	3	2	1
3 我對目前工作內容的多樣性與變化性-----	5	4	3	2	1
4 工作所給我的社會地位-----	5	4	3	2	1
5 我對主管領導員工的方式-----	5	4	3	2	1
6 我對主管做決定的能力-----	5	4	3	2	1
7 我從事的工作係不違背良心的事-----	5	4	3	2	1
8 我對工作能提供給我執業的穩定性-----	5	4	3	2	1
9 我對工作能給我貢獻社會國家的機會-----	5	4	3	2	1
10 我對工作能給我指揮別人做事的機會-----	5	4	3	2	1
11 我對工作能發揮自己能力的機會-----	5	4	3	2	1

12 我對機構落實政策的方法-----	5	4	3	2	1
13 我對工作薪資和工作量的相比-----	5	4	3	2	1
14 我對工作給我的升遷機會-----	5	4	3	2	1
15 我對工作能給我自由運用自己的判斷-----	5	4	3	2	1
16 我對工作能發展理想抱負的機會-----	5	4	3	2	1
17 本機構工作的環境(如燈光、空調等設備)-----	5	4	3	2	1
18 我與同事之間相處的情形-----	5	4	3	2	1
19 我對努力工作，所得到的讚美-----	5	4	3	2	1
20 我從工作中所得到的成就感-----	5	4	3	2	1

第二部份:下列敘述，請就您個人對離開目前服務機構的傾向，在5、4、3、2、1中，以“○”圈選一個適當數字，數字愈大表示愈同意，數字愈小表示愈不同意，若您態度中立，可圈選3表示。答案沒有對與錯或好與不好，請就您的感受放心作答。

	極 為 同 意	同 意	普 通	不 同 意	極 不 同 意
1 我曾經考慮辭職-----	5	4	3	2	1
2 我曾經打算尋找其他工作-----	5	4	3	2	1
3 我辭職的計劃已在進行中-----	5	4	3	2	1
4 我在一年內會尋找其他工作-----	5	4	3	2	1
5 我在一年內會辭職-----	5	4	3	2	1

第三部份:基本資料(請在適當內打“√”,或在線上填上答案)

- 1 目前服務機構名稱(全銜): _____
- 2 性別:
男 女
- 3 年齡:
25歲(含)以下 26-30歲 31-35歲 36-40歲
41-45歲 46-50歲 51-55歲 56歲(含)或以上
- 4 婚姻:
已婚 無婚
- 5 教育程度
專科(含)以下 大學、學院 碩士 博士 其他_____
- 6 目前工作年資(含以前工作過之機構年資)
5年(含)以下 6-10年 11-15年 16-20年 20年以上
- 7 目前擔任職務類別:(民營機構人員請填1至5選項,公家機構人員請填6至8選項)
(民營機構人員請填以下之1至5選項)
1. 操作員
 2. 文書行政助理、雇員、助理員、辦事員、領組、
 3. 專員、襄理、專業技術工作人員(工程師、管理師等等)
 4. 部門經理、副理、科長、主任等等
 5. 廠長、處長、總經理以上
- (公家機構人員請填以下之6至8選項):
6. 書記、辦事員、助理員、佐理員、科員、課員、佐級、組員等(或相當於委任)
 7. 課長、股長、專員、秘書、高級業務員等(或相當於委任、薦任之中階職務)
 8. 局長、主任、科長、主任秘書、業務長、副業務長、機關首長以上(或相當於簡任以上之高階職務)

~~~ 填答完畢! 敬祝愉快! ~~~



## Appendix B

### 研究二問卷

## 研究員工工作感受之問卷

97.07.01.

各位好:

貴單位是隨機抽樣被抽中之受訪機構，透過不記名問卷，目的在了解在職者對工作之感受。問卷內容分為四部份，請您務必完整作答。所有問題的答案無所謂「對」與「錯」，您的寶貴意見對學術貢獻很大，請您撥冗賜答。您的熱心參與，是本研究團隊的最大動力，謹致最大的敬意與謝意。

交通大學管理科學系博士生

王桂英敬上

第一部份：您內心期望的工作特性為何？請評估下列工作特性對您的重要性，在 5、4、3、2、1 中，以“0”圈選一個適當數字，數字愈大表示愈重要，數字愈小表示愈不重要，請就您的感受作答。

|    |                          | 極為重要 | 重要 | 沒意見 | 不重要 | 極為不重要 |
|----|--------------------------|------|----|-----|-----|-------|
| 1  | 有保障長期僱用的工作               | 5    | 4  | 3   | 2   | 1     |
| 2  | 工作目標和內容很確定，不會模糊不清        | 5    | 4  | 3   | 2   | 1     |
| 3  | 工作量不會干擾我的個人生活            | 5    | 4  | 3   | 2   | 1     |
| 4  | 工作性質不會讓我的工作技能和知識有不合時宜的衝擊 | 5    | 4  | 3   | 2   | 1     |
| 5  | 工作是可預測性，且能按部就班進行         | 5    | 4  | 3   | 2   | 1     |
| 6  | 工作中有機會幫助他人               | 5    | 4  | 3   | 2   | 1     |
| 7  | 工作中有機會和同事交換意見            | 5    | 4  | 3   | 2   | 1     |
| 8  | 工作中有機會接觸外界               | 5    | 4  | 3   | 2   | 1     |
| 9  | 工作中有機會和別人發展友誼            | 5    | 4  | 3   | 2   | 1     |
| 10 | 工作能讓我獲得自尊                | 5    | 4  | 3   | 2   | 1     |
| 11 | 工作能使我在組織內受到敬重            | 5    | 4  | 3   | 2   | 1     |
| 12 | 工作能使我在組織外受到敬重            | 5    | 4  | 3   | 2   | 1     |
| 13 | 同事能讚賞我的工作表現              | 5    | 4  | 3   | 2   | 1     |
| 14 | 工作中能獨立思考和行動              | 5    | 4  | 3   | 2   | 1     |
| 15 | 工作中能參與程序和方法的決策           | 5    | 4  | 3   | 2   | 1     |
| 16 | 工作中我能得到權力                | 5    | 4  | 3   | 2   | 1     |
| 17 | 工作中我可參與設定工作目標            | 5    | 4  | 3   | 2   | 1     |
| 18 | 工作中能獲得個人成長和發展            | 5    | 4  | 3   | 2   | 1     |
| 19 | 工作中能獲得成就感                | 5    | 4  | 3   | 2   | 1     |
| 20 | 工作中能從事具有創意或原創性工作         | 5    | 4  | 3   | 2   | 1     |
| 21 | 工作中能獲得自我實現               | 5    | 4  | 3   | 2   | 1     |

第二部份：下列敘述是有關您離開目前服務機構的傾向，在 5、4、3、2、1 中，以“0”圈選一個適當數字，數字愈大表示愈同意，數字愈小表示愈不同意，請就您的感受作答。

|   |              | 極為同意 | 同意 | 沒意見 | 不同意 | 極為不同意 |
|---|--------------|------|----|-----|-----|-------|
| 1 | 我曾經考慮辭職      | 5    | 4  | 3   | 2   | 1     |
| 2 | 我曾經打算尋找其他工作  | 5    | 4  | 3   | 2   | 1     |
| 3 | 我辭職的計劃已在進行中  | 5    | 4  | 3   | 2   | 1     |
| 4 | 我在一年內會尋找其他工作 | 5    | 4  | 3   | 2   | 1     |
| 5 | 我在一年內會辭職     | 5    | 4  | 3   | 2   | 1     |



第三部份：下列描述是有關您對目前工作的滿意程度，請在 5、4、3、2、1 中，以“O”圈選一個適當數字，數字愈大表示愈滿意，數字愈小表示愈不滿意。請就您的感受作答。

|    |                  | 極<br>為<br>滿<br>意 | 滿<br>意 | 沒<br>意<br>見 | 不<br>滿<br>意 | 極<br>為<br>不<br>滿<br>意 |
|----|------------------|------------------|--------|-------------|-------------|-----------------------|
| 1  | 我在工作上的忙碌程度       | 5                | 4      | 3           | 2           | 1                     |
| 2  | 工作給我單獨自主表現的機會    | 5                | 4      | 3           | 2           | 1                     |
| 3  | 我對目前工作內容的多樣性與變化性 | 5                | 4      | 3           | 2           | 1                     |
| 4  | 工作所給我的社會地位       | 5                | 4      | 3           | 2           | 1                     |
| 5  | 主管領導員工的方式        | 5                | 4      | 3           | 2           | 1                     |
| 6  | 主管做決策的能力         | 5                | 4      | 3           | 2           | 1                     |
| 7  | 我從事的工作是不違背良心     | 5                | 4      | 3           | 2           | 1                     |
| 8  | 我對工作能提供我職業的穩定性   | 5                | 4      | 3           | 2           | 1                     |
| 9  | 我對工作能給我貢獻社會國家的機會 | 5                | 4      | 3           | 2           | 1                     |
| 10 | 我對工作能給我指揮別人做事的機會 | 5                | 4      | 3           | 2           | 1                     |
| 11 | 我對工作能發揮自己能力的機會   | 5                | 4      | 3           | 2           | 1                     |
| 12 | 我對機構落實政策的方法      | 5                | 4      | 3           | 2           | 1                     |
| 13 | 我對工作薪資和工作量的相比    | 5                | 4      | 3           | 2           | 1                     |
| 14 | 我對工作給我的升遷機會      | 5                | 4      | 3           | 2           | 1                     |
| 15 | 我對工作能給我自由運用自己的判斷 | 5                | 4      | 3           | 2           | 1                     |
| 16 | 我對工作能發展理想抱負的機會   | 5                | 4      | 3           | 2           | 1                     |
| 17 | 工作環境的舒適性         | 5                | 4      | 3           | 2           | 1                     |
| 18 | 我與同事之間相處的情形      | 5                | 4      | 3           | 2           | 1                     |
| 19 | 我對努力工作，所得到的讚美    | 5                | 4      | 3           | 2           | 1                     |
| 20 | 我從工作中所得到的成就感     | 5                | 4      | 3           | 2           | 1                     |

第四部份：基本資料，請在□內打勾或填充相關資料。

- 1 性別：男 女
- 2 年齡：  
25歲(含)以下 26-30歲 31-35歲 36-40歲  
41-45歲 46-50歲 51-55歲 56歲(含)或以上
- 3 教育：高中以下 專科 大學、學院 碩士 博士 其他\_\_\_\_\_
- 4 目前工作年資(不含以前工作過之年資)  
5年(含)以下 6-10年 11-15年 16-20年 20年以上
- 5 工作生涯年資(含以前工作過之年資)  
5年(含)以下 6-10年 11-15年 16-20年 20年以上
- 6 每月平均薪資：  
5萬以下(含) 5-10萬 11-15萬 16-20萬 20萬以上
- 7 目前擔任職務  
基層人員或非主管職務 基層主管  
中階主管 高階主管
- 8 目前服務機關性質：  
民營(請繼續回答9-12題) 公營(請跳至13題回答)
- 9 你目前任職單位部門  
行銷部門 財務部門 人力資源部門 生產部門  
R&D部門 資訊部門 國外部門 其他\_\_\_\_\_
- 10 服務機構員工總人數  
50人以下 51-200人 201-500人 501-1,000人  
1,001-10,000人 10,000人以上
- 11 服務機構總資本額  
8千萬以下 8千萬元 - 5億元 5億元 - 10億元  
10億元 - 100億元 100億元以上
- 12 所服務的產業為：  
農業(例如：農林漁牧、水電燃氣業等)  
傳統製造業(例如：營造業、礦業及土石採取業、化工業等)  
高科技產業(例如：電腦周邊、半導體、生物科技等)  
金融服務業(例如：文化藝術、運輸業、保險、美容美髮等)  
其他\_\_\_\_\_
- 13 目前任職的公營單位為：  
一般行政 衛生醫療 軍警 學校教職員  
生產事業 交通事業 金融事業 其他\_\_\_\_\_

~~~ 填答完畢！ 謝謝你熱心協助！ ~~~