

# Big Five Personality Traits and Job Performance : The Mediating Effect of Job Attitude

## 五大人格特質與工作績效：工作態度的中介效果

林坤霖<sup>1</sup> 楊麗安<sup>2</sup> 蔡新永<sup>3</sup>

### ABSTRACT

At present, the largest employers are based at the export processing zone. Amidst this economic crisis, competition between people wanting to find the most suitable jobs is becoming more and more intense. Employers are also having a hard time finding the qualified talents. Taking the employees of the Kaohsiung export processing zone as the research sample, we then explore the relationship between the big five personality traits, job attitude, and job performance. Though several studies have shown that there are meaningful relationships between personality traits and performance as well as some attitudinal variables and performance, only a few has attempted to integrate the relationship between the above mentioned variables. This study has the following questions, including whether or not the big five personality traits, job attitude and job performance are significantly related; the impact of the big five personality traits and job attitude to job performance and whether or not job attitude mediates the relationship between the big five personality traits and job performance. Finally, we provide meaningful suggestions and managerial implications to companies at the export processing zone in Kaohsiung. This study found significant relationships between some constructs of personality traits, job attitude and job performance. Also, this study discovered that job attitude, particularly job involvement and job satisfaction, constitutes a partial mediating effect in the relationship of personality traits and job performance.

**Keywords:** Job Performance, Five Factor Model of Personality, Job Attitude, Mediating Effect

### 摘要

目前，加工出口區是台灣擁有較多工作機會的地方之一。處於經濟不景氣的情況下，應徵者之間的競爭越來越激烈，對雇主而言，要尋找合乎條件的人才也突顯出其困難性。因此，採用有效且良好的招募工具是必要的，除了可以更有效率外，更可以找到企業最適切的人才，這些較優的招募工具內容必需具備可以測出較抽象的特性因子，如包括人格特質測驗或各種心裡測試內涵。雖然以往有許多研究顯示出人格特質，工作態度與工作績效間具有顯著關係，但是試著整合這些變數的研究則比較稀少。本研究透過高雄加工出口區的員工為研究樣本加以檢測，探討五大人格特質、工作態度與工作績效之間的關係、五大人格特質與工作態度對工作績效的影響及工作態度在五大人格與工作態度之間的中介效果。研究結果發現人格特質、工作態度與工作績效確實有顯著相關，工作態度中工作投入與工作滿意度構面，在人格特質與工作績效之關係中存在中介效果。

**關鍵詞：**工作績效、五大人格特質模型、工作態度、中介效果

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<sup>1</sup> 作者為正修科技大學經營管理研究所副教授，E-mail: eric@csu.edu.tw

<sup>2</sup> 作者為正修科技大學經營管理研究所研究生，E-mail: dianapoyu@yahoo.com

<sup>3</sup> 作者為正修科技大學經營管理研究所研究生，E-mail: toshiba.tsai@gmail.com

## 1. Introduction

Export Processing Zone (EPZs) also called free trade zone, it can be defined as labor intensive manufacturing centers that involve the import of raw materials and export of factory products (Sullivan and Sheffrin, 2003). Over the years, the EPZs have undergone several transformations. EPZ operations have shifted from labor-intensive traditional industries to technology- and capital-intensive high-tech industries. At the same time, the principal role of the Export Processing Zone Administration (EPZA) has evolved from administration to service. Taiwan's EPZs are also continuously improving their business environments through the renovation of older factory buildings, environmental greening and beautification, and enhancement of transportation networks and daily life amenities.

With the aim to provide an integrated model of the above stated variables, this study has the following objectives:

- (1) To explore whether or not the big five personality traits, job attitude and job performance are significantly related;
- (2) To explore the impact of the big five personality traits and job attitude to job performance;
- (3) To explore whether or not job attitude mediates the relationship between the big five personality traits and job performance and;
- (4) To provide meaningful suggestions and managerial implications to companies at the export processing zone in Kaohsiung.

## 2. Literature Review and Hypotheses

In order to carry out our research objectives, we will first have an overview of the export processing zone, and then define job performance, the five dimensions of personality in the five-factor model, and job attitude referred to in this study. Base on previous researches, this study will present the constructs and relationships of the above stated variables and present hypotheses that will explore their impact in the prediction of job performance.

### 2.1 Job Performance

The most commonly accepted theory of job performance comes from the work of Campbell and colleagues. Campbell (1990) describes job performance as an individual level variable, meaning it is something a single person does in the workplace. It is a person's behavior and commonly refers to whether a person performs his job well.

Other researchers (Meyer et al., 2004) have also indicated similar classifications of performance domain by distinguishing between discretionary and nondiscretionary behavior, which parallels task and contextual performance respectively. Thus, the job performance mentioned in our study refers to task and contextual performance at an individual level.

#### 2.1.1 Job Performance Measures

Kaplan and Norton (1992) developed the balanced score card to supplement the traditional financial performance measures with operating measures oriented toward customers, internal processes and growth activities. While Wright et al. (2002) used the dimensions support, goal emphasis, team building, work facilitation and global rating to measure job performance. For the purpose of this study, we make use of the job performance measure proposed by Lee et al. (1999), which measures job performance in three dimensions, namely, efficiency, effectiveness and quality.

### 2.2 Personality Traits

In the recent decades, researches on how personality can affect work outcomes have been receiving much attention. According to Guilford (1959), personality trait is a distinguishing, relatively enduring way in which one individual differs from another. While other researchers believe that personality traits refer to characteristic, enduring patterns of thought, emotion, and behavior that are stable over time and explain people's behavior across different situations (Costa and McCrae, 1989; Funder, 2001). Of the numerous researches concerning personality traits, the five factor model received the most attention (e.g. Barrick and Mount, 1991; De Raad and Dordema-Winsemius, 1999; John and Srivastava, 1999; Liao and Chuang, 2004). It has been widely used by many researchers especially those from the fields of psychology and social sciences. Further discussion on the five factor model is presented on the next section.

#### 2.2.1 The Five Factor Model of Personality (The Big Five)

Though several studies have been done to investigate the facets that can best represent the personality variable, by the 1980s, it was sufficiently clear to many basic personality researchers (e.g., Goldberg, 1981) that five hierarchically derived factors accounted for much of the variance in lexical descriptions of people's personalities. These five factors, comprising the five factor model of personality, also termed as the big five personality traits, believed to be a complete description of personality, were derived from factor

analysis of a large number of self- and peer reports on personality-relevant adjective and questionnaire items. As far as work performance is concerned, several studies exploring the role of personality have shown that certain personality variables (such as the big five traits) are associated with job performance (e.g., McCrae, 1987; Salgado, 1997; Mount et al., 1998; Hurtz and Donovan, 2000). Although the names for these factors differ across researchers, the following labels and characteristics are representative: (a) extroversion, (b) agreeableness, (c) conscientiousness, (d) emotional stability, and (e) openness to experience (Digman, 1990; Goldberg, 1990; and Saucier and Ostendorf, 1999). Descriptions of the big five personality trait are presented below:

- (1) Extroversion is characterized by positive emotions, and the tendency to seek out stimulation and the company of others. The trait is marked by pronounced engagement with the external world. Extroverts enjoy being with people, and are often perceived as full of energy. Moreover, extroverts are more likely to be optimistic (Costa and McCrae, 1992).
- (2) Agreeableness is a tendency to be compassionate and cooperative rather than suspicious and antagonistic towards others. Agreeable individuals value getting along with others. They are generally considerate, friendly, generous, helpful, and willing to compromise their interests with others. Agreeable people also have an optimistic view of human nature. They believe people are basically honest, decent, and trustworthy (Graziano and Eisenberg, 1997).
- (3) Conscientiousness is the tendency to show self-discipline, act dutifully, and aim for achievement. The trait shows a preference for planned rather than spontaneous behavior. Conscientious individuals tend to be goal-directed and motivated (Costa and McCrae, 1992), it has also been shown to relate to job performance (e.g., Barrick and Mount, 1991).
- (4) Emotional Stability is the tendency to exhibit well emotional adjustment, calm, tolerant of stress and self-confident. It is also the process in which the personality is continuously striving for greater sense of emotional health, both intra-physically and intra-personally (Smitson, 1974), and
- (5) Openness to experience is a general appreciation for art, emotion, adventure, unusual ideas, imagination, curiosity, and

variety of experience. People high in openness to experience tend to have active imaginations, be aware of their own feelings, and have high intellectual curiosity (Costa and McCrae, 1992).

## 2.3 Job Attitude

Ever since the Western Electric Studies, industrial psychologists have been seriously concerned with the measurement, interpretation and implications of job attitudes (Roethlisberger and Dickson, 1939). According to McMillan (2000), attitudes basically are mental predispositions or tendencies to respond positively or negatively toward a certain thing, such as persons, events, or attitude objects. As to its measurement, several researchers proposed that job attitude can be represented by three dimensions namely, job involvement, organizational commitment and job satisfaction (e.g. Robbins, 1996; Jayan and Balachandran, 2004; Dipboye et al., 1994). Also, from the meta-analyses by Brown (1996), Mathieu and Zajac (1990), it was found that these three dimensions are strongly related. Thus, this study adopts the constructs job involvement, organizational commitment and job satisfaction in measuring job attitude.

### 2.3.1 Job Involvement

As defined by Paullay et al. (1994), job involvement is the degree to which one is cognitively preoccupied with, engaged in, and concerned with one's present job. It involves the internalization of values about the goodness of work or the importance of work in the worth of the individual (Lodahl and Kejner, 1965). Or, it can also be because these people who are highly involved in their jobs genuinely care and are concerned about their work (Kanungo, 1982).

### 2.3.2 Organizational Commitment

Organizational Commitment has been conceptualized by several researchers in several manners. First, as stated by Coopey and Hartley (1991), organizational commitment is an individual's psychological bond to an organization; others like Salanick (1977) have conceptualized organizational commitment as the binding of the individual to the organization by past behavior. Recently, a three-component conception of commitment namely, affective, continuance and normative components have been developed (Meyer and Allen, 1991), and this study defines organizational commitment as the condition or degree in which an employee feels bonded to the organization affectively, continually and normatively.

### 2.3.3 Job Satisfaction

Job satisfaction has been given several meanings by various researchers; however recently, a consensus has emerged concerning its definition. March and Simon (1958) defined job satisfaction as a joint function of the level of aspiration and expected value of reward. Weiss and Cropanzano (1996) stated that job satisfaction presents a person's evaluation of his job and work context. In line with the above definitions.

Base on previous researches, two dimensions of job satisfaction namely, intrinsic and extrinsic, were proposed by Porter and Lawler (1968). As defined by Chiu and Chen (2005), intrinsic satisfaction is the degree of satisfaction an employee receives from the job itself such as job stability, job opportunities, sense of responsibility and job accomplishments. While extrinsic satisfaction refers to the degree of satisfaction an employee has with work conditions and policies which are unrelated to the job. Dividing job satisfaction into components relating to the nature of the job itself (intrinsic) and those relating to the job, but external to it (extrinsic) is an approach incorporated into some of the most widely studied models of job satisfaction (Porter and Lawler 1968; Walker et al., 1977; Bagozzi 1980). Thus, this study covers both the intrinsic and extrinsic dimensions in measuring job satisfaction.

### 2.4 The Big Five Personality Traits and Job Performance

Much of the previous researches involving the big five personality traits are primarily concerned on how each trait can affect employee performances in the workplace. Research by Van Scotter and Motowildo (1996) suggests that personality has a larger impact on contextual dimensions of performance; specifically, extroversion and agreeableness which were discovered to be strongly related to interpersonal facilitation. Hurtz and Donovan (2000) also found that emotional stability is a significant predictor of interpersonal facilitation and task performance.

On the other hand, openness to experience correlates with creativity, as measured by tests of divergent thinking (McCrae, 1987). Among the big five personality traits, a considerable amount of research indicates that conscientiousness is one of the best predictors of performance in the workplace (Salgado, 1997). It is the only personality trait that correlates with performance across all categories of jobs. However, agreeableness and emotional stability may also be important, particularly in jobs that involve a significant amount of social

interaction (Mount, Barrick and Stewart, 1998).

And according to Rosse, Miller and Barnes (1991), personality measures add a unique variance to the prediction of job performance. Overall, it can be assumed, based on previous literature, that there is considerable validity evidence that supports the use of the big five personality traits for predicting a range of performance or work-related criteria (e.g. Barrick et al., 2001; Mount and Barrick, 1998). From all the above literature, this study then examines the impact of the big five personality traits on the job performance of employees in the export processing zone thereby proposing the following hypotheses:

**H<sub>1</sub>: The big five personality traits have a significant influence on job performance.**

H<sub>1-1</sub>: The big five personality traits have a significant influence on the efficiency of job performance.

H<sub>1-2</sub>: The big five personality traits have a significant influence on the quality of job performance.

H<sub>1-3</sub>: The big five personality traits have a significant influence on the effectiveness of job performance.

### 2.5 Job Attitude and Job Performance

In the literature of job involvement, some support on the general perception that people with high levels of job involvement are likely to put more effort into their jobs and therefore tend to display higher levels of in-role performance was found (e.g. Cron 1984; Dubinsky and Hartley, 1986; Brown and Leigh, 1996). Base on the research of Lawler (1986), from the recent literatures that examined the relationship between commitment and performance, a significant relationship between individuals' commitment and performance was discovered (Hackett et al., 1991; Meyer et al., 1989).

Furthermore, in the field of industrial/organizational psychology, the relationship between job performance and job satisfaction is an area mostly researched by scholars (Judge et al., 2001). Though some stated that there is minimal relationship between job performance and job satisfaction (Brayfield and Crockett, 1955), other studies by Locke (1970), Schwab and Cummings (1970), and Vroom (1964) showed that there is at least some relationship between those variables. Hence, we propose the following hypotheses:

**H<sub>2</sub>: Job attitude has a significant influence on job performance.**

- H<sub>2-1</sub>: Job attitude has a significant influence on the efficiency of job performance.
- H<sub>2-2</sub>: Job attitude has a significant influence on the quality of job performance.
- H<sub>2-3</sub>: Job attitude has a significant influence on the effectiveness of job performance.

**2.6 The Big Five Personality Traits and Job Attitudes**

Basically, previous researches used personality traits and job attitudes interchangeably to predict work related outcomes. As defined earlier, personality refers to cognitive and behavioral patterns that show stability over time and across situations (e.g. Cattell, 1965); hence, it is reasonable to expect that personality traits can influence attitudes as most recent empirical research has demonstrated (Olver and Mooradian, 2003). From the study of Cropanzano et al. (1993), it is clearly evident that personality characteristics are associated with job satisfaction. Also, from the study of Judge et al. (2002), links between the five factor model and job satisfaction was supported. In addition, the study of Bozionelos (2003) indicated that some relationships between the big five personality traits and job involvement exist. Moreover, results from the study of Erdheim et al. (2006) indicated that the big five personality traits are significantly related to organizational commitment. Drawing from the above literature, the following hypotheses are constructed:

- H<sub>3</sub>: The big five personality traits have a significant influence on job attitude.**
- H<sub>3-1</sub>: The big five personality traits have a

- significant influence on job involvement.
- H<sub>3-2</sub>: The big five personality traits have a significant influence on organizational commitment.
- H<sub>3-3</sub>: The big five personality traits have a significant influence on job satisfaction.

Furthermore, in line with the previously proposed hypotheses, this study found it crucial to investigate on whether or not job attitude mediates the relationship between the big five personality traits and job performance. This study believes that exploring such impact will bring about light on how performance efficiency, quality and effectiveness can be enhanced and developed through job attitude. Thus, we propose the following hypothesis:

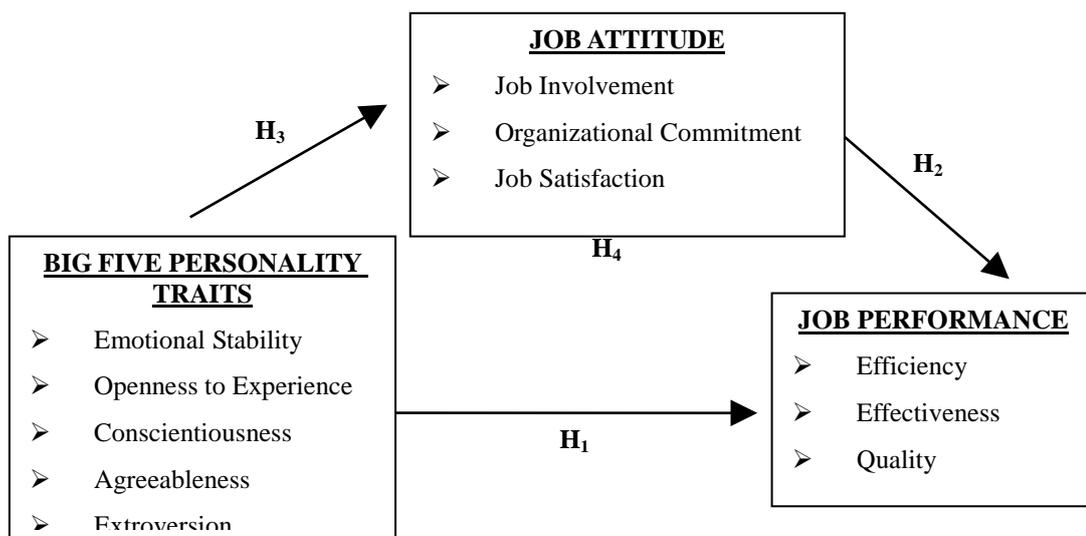
- H<sub>4</sub>: Job attitude such as job involvement, organizational commitment or job satisfaction may mediate the relationship between the big five personality traits and job performance.**

**3. Research Design and Methodology**

This chapter discusses the design and methods used in the research and is consist of four sections namely, the research framework, sample and procedure, research design and measure, and methodology.

**3.1 Research Framework**

Organizing the hypotheses stated in the previous sections, we come up with the research framework as shown in figure 1.



**Figure 1: The Research Framework**

Source: this study

### 3.2 Sample and Procedure

The target population of this study is the general workforce of the export processing zone in Kaohsiung, Taiwan. In order to encourage the employees' participation, questionnaires were translated in Chinese. With the aid of professionals engaged in the related field of research, we designed a survey questionnaire and conducted a pilot test which result yielded high reliabilities ranging from 0.698 to 0.900. On this basis, we proceeded with the dissemination of the 310 copies of official survey questionnaires using convenience sampling to companies in the export processing zone.

### 3.3 Research Design and Measures

This study basically used survey questionnaires as the main research tool. The questionnaire was divided into six parts. The first part consists of the basic information such as gender, marital status, age, educational background, etc. The second, third, fourth, fifth and sixth parts consist of questionnaire items concerning the big five personality traits, job attitude, and job performance.

#### 3.3.1 Measurement of the big five personality traits

The research of Gow, Whiteman et al. (2005) confirmed that the International Personality Item Pool (IPIP) developed by Goldberg (1993) which is widely used for personality assessment, have a very good internal consistency and relate strongly to the major dimensions of personality assessed by two leading questionnaires namely, NEO-FFI and EPQ-R. Hence, this study adopted the IPIP scales in measuring the big five personality traits by using a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree.

#### 3.3.2 Measurement of Job Attitude (Job Involvement, Organizational Commitment and Job Satisfaction)

This study measures job attitude using three constructs: job involvement, organizational commitment and job satisfaction. Measures on the said dimensions are discussed below.

*Job involvement.* According to previous researches, Kanungo's job involvement scale was found to have an inter-item consistency ranging from 0.74 to 0.90 (Blau, 1985; Elloy, Everett, and Flynn, 1991; Kanungo, 1982) and favorable discriminant validity against related constructs (Blau, 1985; Brooke et al. 1988). Thus, this study adopted the Job Involvement Questionnaire developed by Kanungo (1982) to measure the job involvement construct.

*Organizational Commitment.* Base on the

research conducted by Cohen (1996), Meyer and Allen's Organizational Commitment Scale showed good discriminant validity among commitment foci and was found to be better than those of the widespread organizational commitment questionnaire. Hence, this study measured the organizational commitment construct using the Organization Commitment Scale developed by Meyer and Allen (1996).

*Job Satisfaction.* To measure job satisfaction, a widely used highly valid questionnaire called the Minnesota Satisfaction Questionnaire (MSQ) developed by Weiss et al. (1967) was used. It was found to obtain reliability values ranging from 0.85 to 0.91 (Huber et al., 1992; Klenke-Hamel, and Mathieu, 1990).

#### 3.3.3 Measurement of Job Performance

Although job performance is usually measured by a supervisory performance rating, Scullen, Mount and Goff (2000) believes that self-rating also plays an important role in the assessment of job performance. Moreover, evidences from previous researches support the validity of self-ratings (e.g. Mabe and West, 1982; Steel and Ovalle, 1984). Thus, this study measures job performance using a self-rating scale with the dimensions (effectiveness, efficiency and quality) developed by Lee et al. (1999).

## 4. Results and Analysis

This chapter discusses the results and analysis of the research conducted. Section 1 provides a descriptive statistics of the samples; section 2 presents the reliability test and factor analysis; section 3 provides the results of the correlation analysis; section 4 presents the simple and hierarchical regression analysis used to test the hypotheses.

### 4.1 Descriptive Analysis

A total of 310 copies of survey questionnaires were disseminated, 271 were collected, 31 invalid questionnaires were sorted out, resulting to a total of 240 valid returns, which yields a valid collection rate of 77.42%. After conducting a descriptive analysis, the following findings are presented: First, we found that most of the respondents are female which make up 57.90% of the total sample; second, 60.40% of the respondents are single; third, 50% of the respondents are between ages ranging 26 to 34 years; fourth, 45.80% of the respondents are of bachelor's degree, 59.20% work as rank and file employees and 35% have an average income ranging from NT\$10,000 to NT\$30,000 and

48.30% having the income ranging from NT\$ 30,001 to NT\$60,000; fifth, we found that the distribution of respondents according to their assigned departments is among administrative, sales, and others which occupy 19.60%, 22.90%, and 25.80% of the total respondents respectively. Respondents who filled “others” for their assigned departments include quality management, production and marketing departments; and lastly, we found that a 61.30% of the respondents are serving their respective companies for not more than 5 years.

## 4.2 Reliability and Factor Analysis

This study performed reliability test on the big five personality, job attitude, and job performance constructs for internal consistency both on the pilot test and official questionnaires. On the other hand, a confirmatory factor analysis was performed on the big five personality traits, job attitude and job performance constructs of the official questionnaire items in order to verify the classification of the items in each construct. Details on the said analyses are discussed below.

### 4.2.1 Pilot Test

An initial reliability test was performed on the pilot test of 50 samples taken from a company based on the export processing zone to ensure the internal consistency of the designed questionnaire. According to Nunnally (1978), a scale with

Cronbach’s alpha coefficient of 0.7 and above is recommended. Big Five Personality Traits, Job Attitude, and Job Performance which occupy 0.900, 0.805, and 0.885.

### 4.2.2 Official Questionnaire

A confirmatory factor analysis was conducted on the personality traits, job attitude and job performance questionnaire items so as to verify whether or not corresponding items belong to the same construct. Items with factor loading lower than the suggested threshold of 0.6 were deleted. All of the items of the big five personality questionnaire, the job attitude questionnaire, and the job performance questionnaire had factor loadings greater than 0.6, which conform with the suggested threshold, had total explicable variance of greater than 50%, which makes the items sufficient to represent the original data and had Cronbach’s alpha greater than 0.7 indicating adequacy of internal consistency.

## 4.3 Correlation Analysis

In order to explore the relationship between the research constructs, a zero-order Pearson correlation analysis was performed. As shown in table 1, almost all of the constructs have significant positive relationships with each other except for the following: all other relationships obtained significant correlations at  $p < 0.05$  significant level.

Table 1: Result of Correlation Analysis of the Research Constructs

Constructs	1	2	3	4	5	6	7	8	9	10	11
1. Emotional Stability	--										
2. Openness To Experience	<b>0.328**</b>	--									
3. Conscientiousness	<b>0.138*</b>	<b>0.458**</b>	--								
4. Agreeableness	<b>0.304**</b>	<b>0.448**</b>	<b>0.339**</b>	--							
5. Extroversion	<b>0.214**</b>	<b>0.426**</b>	<b>0.331**</b>	<b>0.436**</b>	--						
6. Job Involvement	<b>0.200**</b>	<b>0.186**</b>	<b>0.233**</b>	0.017	<b>0.133*</b>	--					
7. Organizational Commitment	<b>0.243**</b>	<b>0.226**</b>	<b>0.394**</b>	<b>0.352**</b>	<b>0.364**</b>	<b>0.360**</b>	--				
8. Job Satisfaction	<b>0.214**</b>	<b>0.235**</b>	<b>0.339**</b>	<b>0.304**</b>	<b>0.270**</b>	<b>0.316**</b>	<b>0.541**</b>	--			
9. Efficiency	<b>0.320**</b>	<b>0.477**</b>	<b>0.504**</b>	<b>0.368**</b>	<b>0.283**</b>	<b>0.275**</b>	<b>0.305**</b>	<b>0.309**</b>	--		
10. Quality	<b>0.373**</b>	<b>0.296**</b>	<b>0.406**</b>	<b>0.287**</b>	<b>0.147*</b>	<b>0.294**</b>	<b>0.227**</b>	<b>0.291**</b>	<b>0.536**</b>	--	
11. Effectiveness	<b>0.378**</b>	<b>0.482**</b>	<b>0.455**</b>	<b>0.447**</b>	<b>0.328**</b>	<b>0.266**</b>	<b>0.372**</b>	<b>0.410**</b>	<b>0.724**</b>	<b>0.539**</b>	--

Note. The symbols \*, \*\*, \*\*\* denote significant levels at 0.05, 0.01 and 0.001 respectively. Numbers enclosed in parentheses represent the t values.

## 4.4 Regression Analysis

This study conducted simple and hierarchical

regression analyses to test the proposed hypotheses. Table 2 below presents the result of the regression

analysis used to test hypothesis 3 and its sub-hypotheses. It was found that emotional stability ( $\beta = 0.228, p < 0.01$ ), conscientiousness ( $\beta = 0.321, p < 0.01$ ) and agreeableness ( $\beta = -0.294, p < 0.05$ ) had significant influence on job involvement, which partially support hypothesis 3-1. On the other hand, emotional stability ( $\beta = 0.139, p < 0.05$ ), conscientiousness ( $\beta = 0.364, p < 0.001$ ), agreeableness ( $\beta = 0.219, p < 0.05$ ) and extroversion ( $\beta = 0.199, p < 0.01$ ) also had positive

significant influence on organizational commitment, thereby partially supporting hypothesis 3-2. While all of the big five personality traits except conscientiousness ( $\beta = 0.291, p < 0.001$ ) and agreeableness ( $\beta = 0.189, p < 0.05$ ) had no significant influence on job satisfaction, which partially supports hypothesis 3-3. On the basis of the above results, we then conclude hypothesis 3 to be partially supported.

Table 2: Regression Analysis on the Impact of the Big Five Personality Traits to Job Attitude Constructs

Variables	Job Involvement	Organizational Commitment	Job Satisfaction
Intercept	<b>1.437**</b> (2.908)	<b>0.902*</b> (2.606)	<b>1.109**</b> (3.121)
Emotional Stability	<b>0.228**</b> (2.756)	<b>0.139*</b> (2.401)	0.113 (1.893)
Openness to Experience	0.113 (1.020)	-0.140 (-1.811)	-0.035 (-0.445)
Conscientiousness	<b>0.321**</b> (2.908)	<b>0.364***</b> (4.708)	<b>0.291***</b> (3.659)
Agreeableness	<b>-0.294*</b> (-2.342)	<b>0.219*</b> (2.488)	<b>0.189*</b> (2.095)
Extroversion	0.079 (0.903)	<b>0.199**</b> (3.245)	0.098 (1.556)
F value	5.507	16.675	10.051
P value	<b>0.000***</b>	<b>0.000***</b>	<b>0.000***</b>
R <sup>2</sup>	0.106	0.264	0.178
Adjusted R <sup>2</sup>	0.087	0.249	0.160

Note. The symbols \*, \*\*, \*\*\* denote significant levels at 0.05, 0.01 and 0.001 respectively. Numbers enclosed in parentheses represent the t values.

Beta coefficients are presented at unstandardized values. Table 3 presents the hierarchical regression analysis used to test hypotheses 1, 2 and 4. Model 1 showed that emotional stability ( $\beta = 0.128, p < 0.01$ ), openness to experience ( $\beta = 0.188, p < 0.01$ ) and conscientiousness ( $\beta = 0.331, p < 0.001$ ) had positive significant influence on job efficiency ( $\beta = 0.128, p < 0.01$ ), which partially support hypothesis 1-1. Also, results showed that only emotional stability ( $\beta = 0.268, p < 0.001$ ) and conscientiousness ( $\beta = 0.389, p < 0.001$ ) had a positive impact on the quality of performance, giving partial support to hypothesis 1-2. Moreover, it was found that all except extroversion ( $\beta = 0.045, p > 0.05$ ) had positive impact on the effectiveness of job performance, thereby partially supporting hypothesis 1-3. On the basis of the above results, we then conclude hypothesis 1 to be partially supported.

Looking at model 2, it was found that all job attitude constructs namely job involvement ( $\beta = 0.102, p < 0.05$ ), organizational commitment ( $\beta = 0.120, p < 0.05$ ) and job satisfaction ( $\beta = 0.143, p < 0.05$ ) had positive significant influence on job efficiency, rendering hypothesis 2-1 to be fully supported. In addition, results showed that only job involvement ( $\beta = 0.157, p < 0.01$ ) and job satisfaction ( $\beta = 0.195, p < 0.01$ ) had positive influence on the quality of performance, hence, giving partial support to hypothesis 2-2. Furthermore, it was also found that organizational commitment ( $\beta = 0.145, p < 0.05$ ) and job satisfaction ( $\beta = 0.227, p < 0.001$ ) had positive significant impact on the effectiveness of job performance, giving partial support to hypothesis 2-3. Thus, base on the above results, we conclude that hypothesis 2 to be partially supported.

Furthermore, model 3 of the hierarchical regression analysis was presented to examine the mediation effect of the job attitude constructs on the relationship between the big five personality traits and job performance. As mentioned earlier, mediation effect was examined based on the conditions provided by James and Brett (1984). Concerning performance efficiency, it is shown that job involvement ( $\beta= 0.074, p < 0.05$ ) had a partial mediating effect only in the case of emotional stability ( $\beta= 0.107, p < 0.05$ ), openness to experience ( $\beta= 0.180, p < 0.01$ ) and

conscientiousness ( $\beta= 0.296, p < 0.001$ ). As to performance quality, job involvement ( $\beta= 0.132, p < 0.01$ ) had a partial mediating effect in the case of emotional stability ( $\beta= 0.240, p < 0.001$ ) and conscientiousness ( $\beta= 0.352, p < 0.001$ ). While regarding performance effectiveness, job satisfaction ( $\beta= 0.137, p < 0.01$ ) had a partial mediating effect in the case of emotional stability ( $\beta= 0.130, p < 0.01$ ), conscientiousness ( $\beta= 0.188, p < 0.01$ ) and agreeableness ( $\beta= 0.193, p < 0.01$ ). Hence, these results partially support hypothesis 4.

Table 3: Hierarchical Regression Analysis on the Mediation Effect of Job Attitude

Variables	Efficiency			Quality			Effectiveness		
	M1	M2	M3	M1	M2	M3	M1	M2	M3
Intercept	<b>0.953***</b> (-3.741)	<b>2.464***</b> (11.869)	<b>0.799**</b> (3.063)	<b>0.697*</b> (2.164)	<b>2.123***</b> (8.566)	0.479 (1.471)	<b>0.742**</b> (2.950)	<b>2.133***</b> (10.643)	0.496 (1.964)
Emotional Stability	<b>0.128**</b> (3.002)		<b>0.107*</b> (2.466)	<b>0.268***</b> (4.982)		<b>0.240***</b> (4.452)	<b>0.160***</b> (3.807)		<b>0.130**</b> (3.105)
Openness to Experience	<b>0.188**</b> (3.300)		<b>0.180**</b> (3.151)	0.030 (0.413)		0.005 (0.068)	<b>0.166**</b> (2.952)		<b>0.167**</b> (3.019)
Conscientiousness	<b>0.331***</b> (5.822)		<b>0.296***</b> (4.963)	<b>0.389***</b> (5.408)		<b>0.352***</b> (4.726)	<b>0.252***</b> (4.479)		<b>0.188**</b> (3.253)
Agreeableness	0.111 (1.712)		0.125 (1.870)	0.132 (1.614)		<b>0.172*</b> (2.064)	<b>0.207**</b> (3.234)		<b>0.193**</b> (2.974)
Extroversion	-0.007 (-0.152)		-0.016 (-0.350)	-0.077 (-1.352)		-0.078 (-1.372)	0.045 (0.463)		0.000 (-0.015)
Job Involvement		<b>0.102*</b> (2.531)	<b>0.074*</b> (2.074)		<b>0.157**</b> (3.287)	<b>0.132**</b> (2.955)		0.070 (1.809)	0.054 (1.555)
Organizational Commitment		<b>0.120*</b> (2.049)	-0.007 (-0.137)		0.038 (0.539)	-0.098 (-1.451)		<b>0.145*</b> (2.565)	0.018 (0.346)
Job Satisfaction		<b>0.143*</b> (2.414)	0.049 (0.937)		<b>0.195**</b> (2.750)	0.106 (1.635)		<b>0.227***</b> (3.965)	<b>0.137**</b> (2.718)
F value	27.349	13.385	18.230	18.061	11.873	13.424	29.811	21.017	21.694
P value	<b>0.000***</b>	<b>0.000***</b>	<b>0.000***</b>	<b>0.000***</b>	<b>0.000***</b>	<b>0.000***</b>	<b>0.000***</b>	<b>0.000***</b>	<b>0.000***</b>
R <sup>2</sup>	0.371	0.145	0.389	0.28	0.131	0.319	0.391	0.211	0.431
Adjusted R <sup>2</sup>	0.357	0.135	0.368	0.265	0.120	0.295	0.378	0.201	0.411

Note. The symbols \*, \*\*, \*\*\* denote significant levels at 0.05, 0.01 and 0.001 respectively. Numbers enclosed in parentheses represent the t values. Beta coefficients are presented at unstandardized values

### 5. Conclusions and Suggestions

This chapter provides the conclusions of the empirical study and presents suggestions for future research as well as managerial implications. This study examined the interrelationships between the big five personality traits, job attitude, and job performance. This study specifically focused on the following issues: First, we explored the relationship between the big five personality traits, job attitude, and job performance of employees in Kaohsiung Export Processing Zone. Second, this study examined whether the big five personality traits and

job attitude can have an effect on the job performance of employees. Finally, this study also explored whether or not the big five personality traits have an influence on job attitude.

#### 5.1 Conclusions

This study provides a new and compelling evidence in support of the notion that personality traits, and job performance could affect the job performances of employees working in Kaohsiung Export Processing Zone. From the above results, major findings are summarized as follows. First, the study confirmed that the big five personality traits,

job attitude, and job performance are mostly significantly related, which answers for our first objective.

Second, this study confirmed that all of the big five personality traits except extroversion, fully or partially affects job performance. This finding confirms the conclusion drawn by Barrick and Mount in their study in 1991, which stated that extroversion was a valid predictor of two occupations, managers and sales people. Since most of the respondents in this study are rank and file employees assigned in quality control, production and marketing departments, thus, extroversion did not consist of a dominant factor affecting job performance. Another explanation for such result would be the nature of the working environment of employees at the Kaohsiung export processing zone. As mentioned earlier in the research background, industries in Kaohsiung export processing zone are mostly high-tech manufacturing industries, employees working in such environment probably would be more engaged in the internal operations of the company and seldom engage in external interactions, thus, extroversion might not significantly affect work outcomes.

Third, job attitude constructs namely job involvement, organizational commitment and job satisfaction was found to partially or fully affect job performance, which conforms to previous literature (e.g. Lawler, 1986; Locke, 1970; Meyer et al., 1989) stating that the more positive an employee's attitude toward his job, the more favorable his job performance. This would mean that the performance efficiency, quality and effectiveness of Kaohsiung EPZ employees can be developed and promoted if job involvement, organizational commitment and job satisfaction is increased. These results then satisfy our second objective.

Fourth, we also confirmed that there is a partial mediating effect of job attitude, particularly job involvement and job satisfaction on the relationship between some of the big five personality traits namely, emotional stability and conscientiousness and job performance (efficiency and quality). This result can be considered to be one of our contributions to the literature emphasizing that emotionally stable and conscientious employees can bring about high performances in terms of efficiency and quality through job involvement and job satisfaction. This means that emotionally stable and conscientious employees of Kaohsiung EPZ could perform more efficiently and offer better quality performance when they are more involved or satisfied in and with their jobs. This result then

satisfies our third objective.

## 5.2 Suggestions

Reasons as to why some employees grow professionally, prosper, stay with the company and make major contributions to the success of the firm while others fail to do so is becoming a topic of concern for a variety of industry. Most companies or institutions neglect the use of personality or attitude measures in the initial employee recruitment and selection process since they are used to the traditional hiring practice of using IQ tests, bio-data scanning and personal interviews. Moreover, traditional practice of referring to the scores of IQ tests and educational background in determining talents has been widely used by almost all companies in initial recruitment procedures, and almost a few recognize the importance of intangible aspects such as personality traits and job attitude.

This study believes that factors such as personality traits, and job attitude have something to do with the level of performance attained in the workplace. Therefore, this study suggests that employees, or even job applicants, having known that certain personality traits and job attitude could bring out better performance, should spend time and effort on nurturing and developing themselves so as to possess the proper personality and job attitude for their jobs. Companies could provide training programs regarding such topics to educate and help employees develop their personalities and job attitudes as well as regulate their abilities to bring out the best performance.

## 5.3 Managerial Implications

As for our managerial implications, this study suggests managers, especially those at the human resource departments, to conduct their recruitment processes by including the use of personality trait measure instruments. As confirmed by this research, this study believes that focusing on how to develop the right personality and attitude of employees in the workplace can benefit the organization in terms of job efficiency, quality and effectiveness.

Managers could better manage their employees by developing the appropriate attitude within them; hence, to do so, superiors could provide incentives, motivation factors and encouragements to enhance employee attitudes. In addition, it is also crucial for managers to provide employees with timely feedbacks regarding their performances so as to keep employees informed and at the same time give employees the opportunity for improvement and make necessary adjustments when performance is deficient.

Furthermore, this study suggests that managers of the human resource department could place more consideration on making personality traits and job attitude as a reference for hiring. Since personality and attitude assessment tests are becoming common recruitment instruments, managers could cooperate with institutions that are licensed, certified and qualified to conduct such assessments so as to provide themselves with more useful information regarding hiring and recruitment.

#### 5.4 Research Scope and Limitations

This section presents the scope and limitations of the research to ensure that readers well understand the context of our study. A detailed description is presented below.

In order to provide readers with a clear understanding of our research, the following research scopes are presented as follows: (1) Samples used in this study were gathered from companies at the export processing zone in Kaohsiung. Companies of the export processing zone located in areas other than Kaohsiung are not included in this study. (2) Job performance mentioned in this study mainly focused on the efficiency, quality, and effectiveness of job performance.

Several limitations were identified upon completion of this research. First of all, the sample used in this study was limited to employees of the export processing zone in Kaohsiung. It would be more representative if export processing zones in other areas such as Linkuang, Taichung, Pingtung, etc. were considered. Second, the job performance data in this study was obtained using self-rated scales, and the results may contain biases and subjective responses due to the consideration of self-image. Third, questionnaire items were translated from English to Chinese so as to encourage the participation of Taiwanese respondents. Though we'd already asked several local professionals to check for the accuracy of the translations, still, there might be a possibility that the true essence of some English terms were lost. Lastly, since this research mainly focused on the study of the big five personality traits, hence, whether or not up-line managers had given similar evaluation to their subordinates were not taken into consideration.

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