EXPLORING THE EFFECT OF PROFESSIONAL COMPETENCE REGARDING CAREER DEVELOPMENT FOR RESEARCH AND DEVELOPMENT HOSPITALITY EMPLOYEES

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ABSTRACT: *This study aims to use the social cognitive career theory (SSCT) to explore the effect of professional competence to career development for research and development (R&D) employees in the hospitality industry. There are 128 R&D personnel, who have worked in the hospitality industry for over three years, selected to participate in the questionnaire survey. The structural equation modeling results show that professional competence significantly affects self confidence, self confidence affects job goals, and job goals are affected by job satisfaction. However, self confidence has direct effect on job satisfaction or indirect effect on job satisfaction through job goals. A comprehensive review of different models shows that the model in which professional competence affects self confidence and further affects job goal through job satisfaction is the most ideal model.*

KEYWORDS: Research and Development, Professional Competence, Career Development

INTRODUCTION

The development of the tourism and hospitality industry is rapid, and it has become one of indicators of economic development in Taiwan. Foodservices and the food industry are different from other manufacturing industries. The range of price acceptance and customers' different preferences are significant, the life cycles and preservation periods of goods are short, and competition among colleagues is severe. Consumers have more and complicated choices, and the prices of materials continue to increase. Johnson, Surlemont, Nicod, and Revaz (2005) pointed out that a chef's innovations and vitality are the foundation for Michelin-starred restaurants to retain their star rating. Balazs (2002) also pointed out that behind each successful chef, there must be a great team to create innovative dishes. Hence, hospitality industries must continuously develop new product R&D, and reorganize their product development strategy in order to seize market opportunities. Therefore, in terms of talents in the hospitality industry, talents with R&D capacity have become essential talents for running a business in the industry. Playing an increasingly important role, R&D talents have even become a critical factor for the success of a hospitality business. Abbey and

Discon (1983) suggested that R&D employee competence will be a key factor in the future growth of enterprises. However, since R&D employees encounter more pressure, it is difficult to obtain talents, and the turnover rate is high. The cultivation and selection of a R&D labor force in the R&D of new foodservice products are important for product success (Ko, 2015). How to minimize the employee turnover rate in the hospitality industry, and enable a good R&D team to permanently continue their R&D work, has become an issue of concern for the hospitality industry. With high innovation capacity, R&D personnel will develop better products and processes, lower production costs, and effectively reinforce corporate performance (Kafouros, Buckley, Sharp, & Wang, 2008). Considering the importance of competence levels regarding careers, competence is the ability to apply the practical situation principles and techniques of a certain activity, including a wide range of high- level skills and behaviors, which determines the ability to successfully act in complex unforeseen situations (Westera, 2001), as well as a set of personal traits, behaviors, and features, which are necessary for a successful work performance (Abraham, Karns, Shaw, & Mena, 2001). Hence, the purpose of this study is to explore personnel that are active participants in the R&D of the hospitality industry. In particular, this study intends to explore the effect of these R&D personnel's professional competence regarding their career development. Based on the Social Cognitive Career Theory (SCCT), this study proposed using R&D professional competence as an indicator for learning experience evaluation. In terms of self-efficacy, this study intends to examine the variable of an employee's self-confidence regarding their R&D professional competence in order to evaluate a model involving the employee's job goal and job satisfaction.

LITERATURE REVIEW

Competence

The "competence" based human resource management model is commonly adopted in current human resource fields in Europe and the U.S. Professional competence is defined as the degree to which employees can apply their work conditions to their professional knowledge, skills, motives, and traits (Kane, 1992), and includes high-level skills, such as critical thinking, teamwork, communication, and permanent learning (Litchfield, Oakland, & Anderson, 2002). Spencer and Spencer (1993) suggested that competence functions as support, and it can be objectively used for selection and recruitment, performance management, educational training, career development, and successor planning. Spencer and Spencer (1993) separated competence into competence with explicit characteristics and competence with implicit characteristics. Explicit characteristics are visible, and include

knowledge and skills, which are more susceptible to change due to environmental changes and may change as a result of training and education. Horng and Lin (2009) pointed out that creative cooking includes professional skills, smell, flavor, taste, color, plate presentation, decoration, utensils, ingredient selection, and overall evaluation. Hu (2010) suggested that a creative cooking competence model should include culture, aesthetics, technology, products, services, management and creativity. Ko (2015) pointed out that product knowledge capacity, activeness and endurance, management capability, innovation and change, and characteristic maturity are R&D professional competence that foodservice R&D personnel must be equipped with. Implicit characteristics include motivation and personality characteristics, which are more difficult to change. R&D should be based on personal traits related to competence, such as responsibility, motivation, communication, positive thinking, and facing challenges. Kirton (1976) pointed out that characteristics of R&D ability include originality, low efficiency, and resistance to control. James (1991) also pointed out that R&D employees should be offered more duties and independence.

Career development

Career development is the process of occupational development, and is continuous, progressive, dynamic, and predictable. Pietrofeso and Splete (1975) indicated that career development means individuals' continuous and dynamic process of job and position related roles and activities in life. It is significantly influenced by individuals' self-concept, psychology, physical state, social and physical factors, and interaction Career includes career preparation, career selection, career decision, career adaptation, career satisfaction, and career transfer. Lent, Brown, and Hackett's (1994) social cognitive career theory (SCCT) suggests that personal input, such as personality traits, can affect the formation of self-efficacy beliefs, which in turn affect the career decision- making process. Self–efficacy refers to people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performance; a goal defined as the determination to engage in a particular activity or to effect a particular future outcome. Goals achieve their self-motivating quality by linking self-satisfaction to goal fulfillment and to the enactment of behavior that meets internally-set standards (Bandura, 1986). The SCCT is mainly made up of three intertwined models. The first model - the model of interest development, proposes that one's interest could reinforce one's career choice intentions and encourage one's fondness for particular work. The second model - the model of career choice, proposes that career choices may result from one's fondness of a particular field and one's behavior may result from a learning experience in the past. Therefore, this model's hypothesis is that self-efficacy has direct effect on students' chosen goals. That is to say, one's fondness for a certain field my lead to one's intentions to choose a career in this field in the future. The last model – the model of

performance, proposes that career achievements are a way to show professional performance after one chooses a particular field as the targeted career (Lent, Brown& Hackett, 1994). An individual who perceives better skills or abilities would show more confidence, perform better, and have better achievements (Rothwell, Herbert, & Rothwell, 2008).

Empirical Research on Professional competence and Career Development

Certification is a significant predictor of perceived professional confidence, and work experience is a significant predicator of job confidence, which highlights the importance of continued professional growth (Chu and Sung, 2014). Judge, Locke, and Durham (1997) proposed the construct of core self- evaluation, which consists of four traits, such as self-esteem, self-control, neuroticism, and generalized self–confidence (Hollenbeck and Hall, 2004). Research on self-confidence and job satisfaction is less seen in the hospitality industry. In terms of the health care industry, Davis and Bove (2008) noted that a health provider's professional confidence can promote effective interaction between provider and patient. Ko (2012) found that the cooks' professional competence influences work selection and career development confidence. The process of an employee's career development is the stable progress of the employee's competence, which includes new knowledge, work experience in an organization, and participation in the company's activities. As an employee's competence grows, the possibilities for a career increase (Chreptaviciene & Starkute, 2010). As such, professional competence would affect an employee's self confidence in the employee's profession.

Luthans, Luthanas, and Luthans (2004) discussed that confidence is a positive psychological capital, which has great effect on organizational performance. Employee confidence is important for the success of organizations and for the effectiveness of individual, especially strong work- related performance (Stajkov & Luthans, 1998 a, b). Individuals with strong confidence may lead to performance effects by using their skill for the effort demanded to achieve optimal performance (Bandura, 1982). The meta- analysis by Judge and Bono (2001) showed a positive relationship between general confidence and job performance. Job satisfaction is one of the most important topics widely studied in the area of management and organization psychology (Mueller, Hattrup and Hausmann, 2009). Job satisfaction has been utilized to assess various job outcomes, such as job performance, turnover, and organizational commitment (Judge, Thorensen, Bono, & Patton, 2001). In the concept of a traditional career, success is measured by objective criteria (such as status, the position taken, obtained income, etc.). However, the contemporary success of a career is defined by more subjective criteria - satisfaction with the activity performed, implementation of inner potential, implementation of life goods, and the realization of a later career are related to the quality of a person's competence and its development (Chreptaviciene & Starkute, 2010). Studies show that

hospitality employees are less satisfied with their current job due to low professional career development potential and the absence of motivating factors in the hospitality industry (Kong, Cheung, and Song, 2011). A good way to retain employees with better professional competence is by helping them to increase their job satisfaction and develop their own careers in the hospitality industry (Barnett and Bradley, 2007). From the view point of international human resources management, job satisfaction and confidence research across counties has practical benefit to multinational corporations, as they require understanding of their valuable human resources (Muelller et al., 2009). Luthans, Zhu, & Avolio (2006) also showed the significant correlation between general self-efficacy and job satisfaction in US organizations. Thus, self confidence positively affects job outcome, including job goal choice and job satisfaction.

Hence, the purpose of this study is to explore the relationship between R&D competence and career development. Based on the Social Cognitive Career Theory (SCCT), this study proposes using R&D professional competence to evaluate a learning experience. Furthermore, one's self confidence in professional abilities would be the self-efficacy variable, and the influence of self-efficacy on current R&D personnel's job goal and job satisfaction is evaluated. A description of the research hypotheses is given below, and the research framework is as shown in Figure 1.
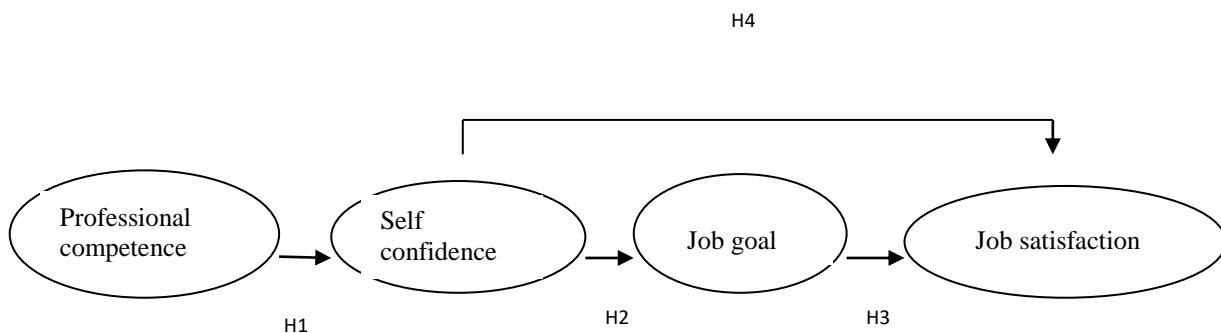

Figure 1. The research framework

H1: R&D professional competence significantly affects self confidence.

H2: Self confidence significantly affects job goal.

H3: Job goal significantly affects job satisfaction.

H4: Self confidence significantly affects job satisfaction.

H4-1: Self confidence significantly and directly affects job satisfaction.

H4-2: Self confidence significantly and indirectly affects job satisfaction.

RESEARCH METHOD

Participants

Pretest subjects were the R&D employees of hospitality and food related R&D firms. The researcher distributed 100 questionnaires to R&D employees of fast food chain restaurants, the immediate and fresh food industry, and the chain foodservice industry, and 92 valid questionnaires were retrieved. Regarding the formal questionnaires, by convenience sampling including restaurant employees in hotel, fast food chain restaurants, and the chain foodservice industry, this study distributed 220 formal questionnaires, including 128 retrieved valid questionnaires, for a return rate of 58.2%.

Measures

The questionnaire assessed professional competence, self confidence, job goal, and job satisfaction using four scales and personal background variables. Items in all scales were rated using a five-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). This study used the following four scales:

The construction of professional competence for R & D employees is based on the findings of Ko (2015). The questionnaire is made up of five aspects. The first aspect "product knowledge and capacity" includes five items. The second aspect "activeness and endurance" includes five items. The third aspect "management capacity" includes four items. The fourth aspect "innovation and change" includes five items. The last aspect "maturity" includes five items. Part I consists of 24 items. Part II is about self confidence. Items in this study were based on previous studies, and items collection was constructed by Ko (2012). The scale is comprised three items. Part III, regarding job goal, has four items and was designed by referring to Ko (2007). Part IV, regarding job satisfaction, consists of three items. Personal background variables include gender, age, level of education, experience of working in the hospitality industry, and experience of working in R&D.

Data analysis

The collected data were analyzed using Statistical Package for Social Sciences (SPSS), version 18.0. Descriptive statistics: participant demographic information was summarized using descriptive statistics.

The two-step procedure, which consists of measurement model analysis and structural model

analysis, was used for structure equation modeling (SEM) (Anderson and Gerbing, 1988). This study used Maximum Likelihood (ML) and estimated the parameters, since LISREL assumes multivariate normality of data (Version 8.54). In the first step of the measurement model analysis, this study first examined the reliability and discriminant validity among the variables, and then assessed the hypothesized theoretical model and estimated parameters for the next structural model analysis (Bollen, 1989). The overall fit index of the model is, as follows: chi-squared statistic (χ^2), chi-squared statistic adjusted by the degrees of freedom (χ^2/df), root mean square error of approximation (RMSEA), the goodness- fix index (GFI), normed-fit index (NFI), and comparative fit index (CFI) were evaluated. The value of the χ^2/df ratio should be less than 5; but less than 3 is better (Joreskog and Sorbom, 1993). An RMSEA value at or below 0.08 shows good fit, while 0.08 to 0.1 demonstrates mediocre fit (Browne and Cudeck, 1992). Good fit is indicated by a GFI above 0.9 and CFI values above 0.90; however, acceptable model fits are indicated by a GFI above 0.8 (Bagozzi and Yi, 1988; Kline, 2005).The fit indices of NFI values over 0.90 indicate a good fit.

RESULTS

Participant demographic information

Of the 128 valid questionnaires, females accounted for 62.3% of the total, while males accounted for the remaining 37.7%. Respondent ages were predominantly within the 31 to 50 year old range (65.9%). Approximately 68.1% of the respondents had graduated with master and university. Most respondents (45.2%) had 4-12 years of work experience, and 3-12 years of R&D experience (30.5%).

Measurement model and means of the main variable scales

Using Anderson and Gerbing's (1988) two-step approach, the measurement model was analyzed using CFA to confirm the research constructs. CFA matches the traditional scale development process providing an alternative measure of the internal and external consistency of the scale items (Sethi and King, 1994). CFA showed that the measurement model used in this study demonstrated good fit, χ^2=144.22, χ^2/df= 1.69, RMSEA=0.074, GFI= 0.87, NFI= 0.94, and CFI= 0.97. As shown in Table 1, Cronbach's α of each measurement scale was higher than 0.8. The composite reliability of each measurement scale ranged from 0.811 to 0.882, demonstrating internal consistency between corresponding constructs. Of the average variance extracted (AVE) of all constructs, 0.5 surpassed the minimum value (Fornell and Lacker, 1981). Discriminant and convergent validity were ensured.

Table 1 shows the mean value of each factor in relation to the constructs in this study: R&D competence, self confidence, job goals, and job satisfaction. The mean value of each factor under competence ranged from 3.89 to 4.46 on the 5 point scale. In R&D competence, respondents ranked "Activeness and endurance" as the highest R&D competence, followed by "Product knowledge and capacity" and "Innovation and change". The factor of "Management capacity" had the lowest reported rating. However, 3.8 was the mean score in the self-confidence aspect; while "my R&D ability still has huge room for improvement" received the highest score. In the job goal aspect, 3.8 was also the mean score. In particular, "working in R&D suits me very well" received the highest score. Overall, job satisfaction received the lower scores, with a mean score if 3.4. "I feel that my future career prospects are full of hope" received the highest score; while "satisfaction with getting a promotion at work" received a relatively lower score.

Table 1. Properties of the measurement model

Constructs	Standardized factor loadings	Cronbach's α	Composite Reliability	Average Variance Extracted	Mean
R & D professional competence (RDC)[a]		0.875	0.882[b]	0.601	4.4
C1: Product knowledge and capacity	0.67				4.48
C2: Activeness and endurance	0.85				4.46
C3: Management capacity	0.70				4.01
C4: Innovation and change	0.82				4.38
C5: Characteristic maturity	0.82				4.26
Self confidence (SF)		0.808	0.811	0.588	3.8
SF1: I am confident of my R&D ability.	0.76				3.63
SF2: I constantly improve my R&D ability in order to adapt myself to future changes.	0.76				3.87
SF3: My R&D ability still has huge room for improvement	0.78				3.94
Job goal (JG)		0.833	0.833	0.555	3.8
JC1: Working in R&D suits me very well.	0.75				3.94

JC2: I believe that working in R&D creates a good social impression.	0.72		3.84
JC3: Working in R&D has huge and positive effect on my personal image.	0.74		3.72
JC3: I feel that choosing to work in R& D is the right decision.	0.77		3.82

Job satisfaction (JS)		0.872	0.872	0.695	3.4
JS1: I am satisfied with my salary.	0.83				3.33
JS2: I am satisfied with getting a promotion at work.	0.82				3.28
JS3: I feel that my future career prospects are full of hope.	0.85				3.47

[a] Twenty – four measurement items of professional competence load onto five factors.

[b] Reliability of five factors of professional competence.

The relationships among all constructs

The relationships among the three constructs are as shown in Table 2. The measure of R&D competence was positively related to the items of self confidence, job goal, and job satisfaction.

Table 2. Means, standard deviations, and correlations among constructs [a]

Variables	Mean	R& D competence	Self confidence	Job goal	Job satisfaction
R& D competence	4.4	1			
Self confidence	3.8	0.484**	1		
Job goal	3.8	0.412**	0.587**	1	
Job satisfaction	3.4	0.290**	0.641**	0.641**	1

[a] N =128, two-tailed test, ** $P<0.005$

SEM with LISREL 8.54 was used to examine the hypothesized relationships in the contextual relationship structure of career development for R&D employees. According to the SCCT, it can be inferred that, self-confidence can directly affect job satisfaction; and indirectly affect job satisfaction through job goal, and both have direct and indirect effects concurrently. The evaluation and comparison of the three models is as shown in Table 3. As CFI, IFI, NFI, and

GFI indices do not show significant differences, the RMSEA values were considered. The result was that Model 1 is the inadequate model (RMSEA is higher than 0.08) and Model 3 is the best. That is, self-confidence would directly affect job satisfaction or affect job satisfaction through job goal. Model 3 is presented in Figure 2.

Table 3. Summary of model comparisons

Model	χ^2	df	CFI	IFI	RMSEA	SRMR	NFI	GFI
Model 1 (direct)	99.54	42	0.96	0.96	0.104	0.072	0.93	0.88
Model 2 (Indirect)	157.48	87	0.97	0.97	0.080	0.068	0.94	0.86
Model 3(Total)	149.96	86	0.97	0.97	0.077	0.067	0.94	0.86

N=128. CFI = Bentler's comparative fit index; IFI = incremental fit index; RMSEA = root mean square error of approximation; SRMS = standard root mean square residual; NFI = Normed fit index; NNFI = non-normed fit index; GFI= goodness-of-fit index

Figure 2 shows that those with better R&D competency are more confident of their own abilities and performance, and demonstrate higher self-efficacy. Additionally, there is a positive relationship between self confidence and job goal (or job satisfaction). Job goal is an intervening variable between self-confidence and job satisfaction.
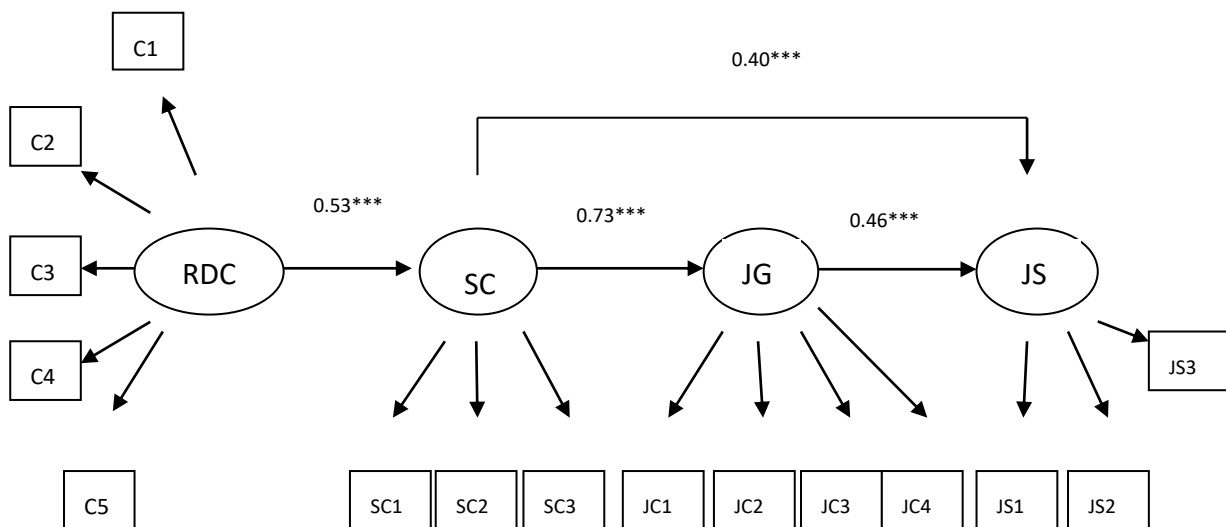

Figure 2. Structural equation model with parameter estimates (* P<0.001).**

Table 4 summarizes the test results of all hypotheses. A positive relationship between R&D competence and self confidence is found, supporting hypothesis 1. As shown by this result, those with higher R&D professional competence are more confident about their abilities and performance, and demonstrate higher self-efficacy. Additionally, Hypothesis 2 and 4, which predicated a positive relationship between self confidence and job goal (or job satisfaction) are supported. Hypothesis 3, is supported, as job goal was found to have positive effect on job satisfaction. This result indicates that R&D competence affects self-efficacy (self confidence), while self-efficacy affects job goal choices (job goal) and job performance (job satisfaction).

Table 4. Results of the hypothesized path

Hypothesized path	Standardized coefficient	Hypotheses results
H1: R & D competence->Self confidence	0.53***	Supported
H2: Self confidence -> Job goal	0.73***	Supported
H3: Job goal -> Job satisfaction	0.46***	supported
H4: Self competence -> Job satisfaction(total)	0.74***	Supported
H4-1: Self competence -> Job satisfaction(direct)	0.40***	Supported
H4-2: Self competence-> Job satisfaction(indirect)	0.34***	supported

*** $P<0.001$

Conclusion & Discussion

Conclusion

The study findings indicate that, overall, R & D employee exhibit good R&D competence. However, questionnaire respondents' job goal and job satisfaction scores are not satisfactory, which implies room for improvement. According to the Social Cognitive Career Theory (SCCT), self confidence may directly affect job goal and job satisfaction, as well as indirectly affect job satisfaction through job goal.

Discussion and Suggestion

Based on the previous analytical results, R&D employees' self-report of professional competence is more satisfying. In particular, employees show the best ability in product knowledge and capacity, as well as activeness and endurance. In the hospitality industry,

R&D professional competence may not be identical to general professional competence. R&D professional competence requires more patience and perseverance among other personality traits, as well as the ability to face constant challenges at work. R&D personnel enjoy challenges, continuous learning, and trying new things. R&D personnel should be willing to accept new information and change, and have stable characteristics (Ko, 2015). Furthermore, R&D personnel require relevant food and beverage R&D skills, such as having knowledge of food ingredients, cooking procedures, and cost control. In the model of competence levels and career stages, the first level is behavior competence, which requires the most elementary competence for operational performance‘ while the second competence level necessary for work improvement is based on skillfully learnt behaviors and certain knowledge. The third integrated competence level distinguishes the changes of internal and external work conditions, and the forth is holistic competence, creation of a new work, and qualification transfer into a new activity situation (Chreptavicience & Starkute, 2010). According to Marano (2013), a modern chef requires science and art, and should learn cooking culture. Professional competence crucially influences job satisfaction, and ongoing professional development is clearly important to employees (Beck and Murphy, 1996). Nasrase, Stoian, and Ion (2011) indicated that creative thinking helps to increase the capability of market competitive analysis.

R&D professional competence does affect self confidence; however, both self-confidence and job goal have an average score 3.8, which is below the satisfactory score of 4. Moreover, questionnaire respondents' satisfaction with working in R&D only received 3.4, which is actually a distressing result, as it indicates that R&D personnel in the hospitality industry seem not very satisfied with their work. One possible explanation is that R&D work is more a feature of high-tech industries, and is less valued in the hospitality industry, which makes it difficult to improve employees' job satisfaction. Teamwork is a main ability in R&D (James, 1991), meaning the fun of R&D can only be enjoyed when one is working in a team and collaborating with others. However, an observation made while questionnaire copies were handed out showed that most companies in the hospitality industry have very few employees working in R&D, and some companies even have only one R&D employee, making it difficult for R&D employees to enjoy their work. James (1991) pointed out that research personnel are normally given high motivation, more responsibilities, work space, and independence.

Based on the Social Cognitive Career Theory, this study substantiated that learning experience (professional competency) has significant effect on self-efficacy (self confidence). In addition, self confidence would directly and indirectly affect job satisfaction, and job goal is an intervening factor in the relationship. An understanding of the importance and

meaningfulness of competence is necessary for confidence in one's powers and sense of autonomy. A person's autonomy at work can be influenced by the highest-levels of abilities and competence, meaning the higher the competence level, the higher the autonomy level achieved (Chreptaviciene & Starkute, 2010). Employee competence has become one of the most important advantages in the process of the creation of an organization's value, as well as one of the important factors influencing employee's career (Chreptaviciene & Starkute, 2010). In the career process, constant growth and employee's changing competence initiates the emergence of new activities, abilities, and skills, or the creation of new works. Developing or forming careers have numerous factors, which can be divided into internal (person's goals, expectations, education) and external (economical context, the influence of society and family) (Adamson & Doherty, 1998).

Bandura(1989) and Locke & Latham (1990) have provided important analyses of the specific mechanisms through which personal goals affect performance. Goals are seen as helping to regulate energy expenditures, promote task persistence, and direct people's attention to the important outcomes and aspects of their behavior (Lent, Brown, and Hackett, 1994). Bandura (1986) also indentified a variety of factors that can moderate the relation of self efficacy to performance behavior; for example, performance goals and feedback are clear. Formal training and education are considered essential for enhancing self-efficacy and professionalism and developing effective treatment interventions. However, direct experience with clients has been found to be a major source of professional development (Ronnestad and Skovholt, 2003).

Research work requires a researcher to devote a lot of time, yet research results may not be immediately attainable. Research work generally requires higher-level skills, and, mastery of professional skills is relatively important; whereas, enthusiasm and self confidence are indispensible. A researcher must continuously pursue further studies, and participate in occupational competence- related events and seminars in order to improve self-efficacy in professional competency, boost confidence in the job market, and create job stability, and job satisfaction. Managing the careers of employees is a highly critical issue for employees. Davidson, McPhail, and Barry (2011) highlighted that training and skills development will be as important in the future as they have been in the past. Human resource departments are frequently required to arrange training programs for employees based on the employees' needs (Schein, 1981).

On the company side, recruiting professional talented researchers is a difficult job. In addition to hiring research talent with professional competence, companies must put down deep roots and further discover hospitality industry R&D personnel from schools through academia-industry collaboration and internship schemes. Moreover, in order to reach goals at

work and obtain job satisfaction, in addition to R&D personnel's own attitudes, a company's compatible hardware and software facilities are very important. Training and rewards provided by a company can particularly generate stronger momentum for the continuation of research work. Future studies may need a larger research scope to consider the influence of other relevant factors. However, the career competencies required by employees may differ based on their career stage. Therefore, a longitudinal study assessing the development of career competence of employees may yield valuable information.

The possible limitations of this study are, as follows. First, as the study participants were drawn from the population of R&D employees for the hospitality industry in Taiwan, the generalizability of the results to R&D employees elsewhere is unknown. Second, this study employed questionnaires based on self-reporting, thus, the researcher had to assume participants were answering honestly. In addition, this study relied on R&D personnel to distribute questionnaires to colleagues or related R&D employees. Foodservice employees could also pass the questionnaires to the R&D personnel of their companies. Thus, it was difficult to obtain a large number of samples. Third, other factors, including job environment and personal characteristics, may influence career development. Interviews and focus groups may also prove practical in identifying additional psychological variables that might mediate or moderate the results reported herein.

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