

Full Length Research Paper

Career decision-making self-efficacy as a moderator in the relationships of entrepreneurial career intention with emotional intelligence and cultural intelligence

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Accepted 1 September, 2011

Although, previous studies have provided some evidence that emotional intelligence (EQ) and cultural intelligence (CQ) can affect people's intention to engage in entrepreneurial activities, few have focused on the impact of EQ and CQ on entrepreneurial career intentions (ECI). Based on the data collected from university students in China and Korea, the present study investigates the relationships of ECI with EQ and CQ, and the moderating role of career decision-making self-efficacy in these relationships. The results indicate that ECI is positively related to one aspect of EQ (the use of emotions), two aspects of CQ (meta-cognitive and cognitive), and three of the five dimensions of career decision-making self-efficacy (CDMSE) (planning for the future (PF), problem solving (PS) and gathering occupational information (OI)). Further, CDMSE's moderating roles in the relationships of ECI with EQ and CQ were found.

Key words: Emotional intelligence, cultural intelligence, decision-making self-efficacy, entrepreneurial career intention.

INTRODUCTION

Occupational orientation has always been a major area of research interest, and the participants in vocational aptitude tests have typically been university students. Career choice is a common topic almost each graduate will be involved. Through the traditional career selection being employed by an organization, taken by the majority,

entrepreneurial careers have been attracting and increasing the number of university students. Some conduct entrepreneurial business because of their real interest and motivation, but others may be due to the stress of not being able to find a suitable or satisfied position in the organization.

When there is disequilibrium between the aspiration of an individual and the perceived valuation of offerings in the labor market, the individual is likely to pursue entrepreneurial opportunities (Lee and Venkataraman, 2006). In addition, some personal characteristics and intelligence may affect people's decision to pursue entrepreneurial activities and other careers (Littunen, 2000; Jiang et al., 2009). However, the relationships of entrepreneurial orientation with some personality and ability related variables such as emotional intelligence and cultural intelligence have not yet been adequately investigated in past research.

The present research examines the influences of several individual traits, emotional intelligence (EQ),

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Abbreviations: EQ, Emotional intelligence; CQ, cultural intelligence; ECI, entrepreneurial career intentions; SEA, self-emotion appraisal; OEA, others' emotion appraisal; UOE, use of emotions; ROE, regulation of emotions; CDMSE, Career decision-making self-efficacy; SA, self-appraisal; OI, occupational information; GS, goal selection; PF, planning for the future; PS, problem solving; CDMSE, career decision self-efficacy scale; CCQ, cognitive cultural intelligence; MCQ, motivational cultural intelligence.

cultural intelligence (CQ), and career decision-making self-efficacy, upon university students' entrepreneurial intention, and career decision-making self-efficacy (CDMSE) is also considered as a moderator.

Emotions in career decision making

Previous research has demonstrated that emotions play an important role in the workplace and can affect the behavior of both employees and leaders. People are typically advised not to be influenced by personal emotions when making important decisions. However, emotions are integral to cognitive systems involved in decision making and may actually lead to better decisions (Emmerling and Cherniss, 2003). In fact, Emmerling and Chemiss (2003) considered career choice as the culmination of a series of decisions, not as a single decision made at one point. During the process of career decision making, a number of aspects may be affected by emotions, such as the number of career options under consideration, tolerance for "risky" career decisions, the amount and type of self-exploration that individuals engage in during the choice process, the amount of effort individuals invest in the process, and the way in which the information related to career choice is processed.

Young et al. (1996) believed that emotions play an important role in career development for the following three reasons, which were supported by Brown et al. (2003): (a) Emotions motivate and energize action. Some career choices or actions such as entrepreneurship may be challenging and sometimes frustrating, so one needs to be energized by emotions to initiate and sustain those actions. (b) Emotions control and regulate action. Under some circumstances, the decision making on career choices or actions is based on the consideration of one's internal processes. (c) Emotions are able to access, orient, and develop narratives about careers. Because career intentions derive from issues of concern in one's life, it is expected that people would rely on their emotions in the process of constructing and developing narratives about their careers.

Emotional Intelligence (EQ)

EQ was defined by Goleman (1995) as the "abilities such as being able to motivate one and persist in the face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope." Previous research has classified EQ into the following two categories: intrapersonal intelligence and interpersonal intelligence (Palethorpe, 2006). Another four-factor model of EQ is composed of self-emotion appraisal (SEA), others' emotion appraisal (OEA), the use of emotions (UOE), and the regulation of emotions (ROE); this model

is consistent with the viewpoint of intrapersonal and interpersonal intelligence (Wong and Law, 2002). EQ theory provides a new approach to investigating social and emotional adaptation and claims that emotional skills can be acquired by learning and experience (Lopes et al., 2003). According to Brown et al. (2003), people with higher EQ are better equipped to incorporate emotional experience into thoughts and actions through the UOE and to contribute to their feeling of the effectiveness of considerations concerning career-related actions and tasks. Kafetsios et al. (2009) suggested that emotional abilities differ between followers of different career paths and that EQ abilities are unique predictors of career choice. In addition, Di Fabio and Palazzeschi (2008, 2009) indicated that individuals having difficulties in career decision making tend to have lower EQ.

EQ and entrepreneurial career intentions (ECI)

In the business context, entrepreneurship is an act of an entrepreneur who starts a new business (Shane, 2003). Krueger et al. (2000) considered entrepreneurship as a way of thinking that emphasizes opportunities over threats. Intentions have been shown to be the best predictor of planned behavior, particularly when that behavior is rare, hard to observe, or involves unpredictable time lags. Further, new businesses emerge over time and involve considerable planning, so entrepreneurship is exactly a type of planned behavior (Krueger et al., 2000; Bird, 1988; Katz and Gartner, 1988). Thus, it is appropriate to regard ECI as the initial phase of any new business.

Previous studies have confirmed that EQ can have some effect on individuals' career paths and career decision making (Kafetsios et al., 2009; Di Fabio and Palazzeschi, 2009). Thus, it is expected that EQ is to some extent linked with ECI (as a type of career intention). Previous research has also provided some evidence for the relationship between EQ (or related factors) and the features of entrepreneurship. For instance, neuroticism, which is a factor in the five-factor model of personality (Costa and McCrae, 1992) and may be described as emotional instability, is the tendency to exhibit poor emotional adjustment and experience disparaging effects such as fear, anxiety, and rashness (Brice, 2004).

In addition, it affects emotional components, increases anxiety and depression, and is related to career indecision (Feldman, 2003; Di Fabio and Palazzeschi, 2009). Employees with low EQ are more likely to experience negative emotional reactions to job insecurity and adopt negative coping strategies than their high-EQ counterparts (Jordan et al., 2002). Therefore, we propose the following hypothesis:

H1: EQ is positively related to ECI.

Cultural intelligence (CQ)

CQ refers to a person's capability to adapt effectively across cultural contexts, not just within cultures (Earley and Ang, 2003; Ng and Earley, 2006). However, it does not mean that someone who is culturally intelligent is only learning the ways in which people act and behave in a new culture. Appropriate and accurate cognition is insufficient, and high CQ requires more than an exact understanding; it requires the individual's motivation and capability to respond appropriately (Earley and Ang, 2003). More specifically, CQ addresses a set of skills, from basic to advanced, that allow an individual to become effective at eventually transferring social skills from one cultural context to another (Brislin et al., 2006). Individuals with a high level of CQ are expected to adapt new social contexts faster and more effectively. However, an individual who is effective in a particular cross-cultural situation should not be presumed to have a high level of CQ (Ng and Earley, 2006).

Brislin et al. (2006) mentioned the following four steps to developing one's CQ: (a) the identification of new behaviors, (b) the identification of reasons for behaviors, (c) the consideration of emotional implications of behaviors, and (d) the use of this new understanding and awareness for inductive reasoning for larger cultural implications. In their review of existing constructs of CQ, Ng and Earley (2006) discussed Hampden-Turner and Trompenaars' (2006) three properties and Thomas' three key elements. Hampden-Turner and Trompenaars' (2006) arguments included (a) the ability to synergize contrasting values of different cultures, (b) the ability to treat opposing values as complementary, and (c) the ability to understand the presence of, and the interplay between, the dominant and latent values within a culture. Thomas' factors were composed of (a) knowledge of culture and the fundamental principles of cross-cultural interactions; (b) mindfulness, which entails awareness of, and attention to, the new cultural environment; and (c) the behavioral ability to generate appropriate behaviors in a new cultural setting.

Further, Earley and Ang (2003) constructed CQ as a four-factor model composed of meta-cognitive, cognitive, motivational, and behavioral dimensions, which has been widely used in CQ research (Ang et al., 2007; Brislin et al., 2006). Meta-cognitive factors refer to the mental capability to acquire and understand cultural knowledge; cognitive factors refer to general knowledge and knowledge structures about cultures; motivational factors refer to the individual capability to direct energy toward learning about and functioning in intercultural situations; and behavioral factors refer to the individual capability to exhibit appropriate verbal and non verbal actions in culturally diverse interactions. These four dimensions of CQ are qualitatively different facets of the overall capability to function and manage effectively in intercultural settings and together form overall CQ.

Cultural intelligence (CQ) in the decision process

Ang et al. (2007) conducted studies consistent with Earley and Ang's (2003) four-factor model of CQ. Their studies concentrated on three intercultural effectiveness outcomes (cultural judgment and decision making, cultural adaptation, and task performance in culturally diverse settings) and found that whereas meta-cognitive CQ and cognitive CQ (CCQ) were positively related to cultural judgment and decision-making effectiveness; motivational CQ (MCQ) and behavioral CQ were positively related to two forms of cultural adaptation, that is, cultural adjustment and well-being. One meaningful finding was that cognitive capabilities such as questioning assumptions, adjusting mental models, and rich cultural knowledge schemas are especially important for making accurate judgments and decisions when situations involve cultural diversity.

According to Briley et al. (2000), cultural knowledge, one of the cognitive capabilities related to CQ, comprises of many specific knowledge structures such as categories, beliefs, and decision principles that have an effect only when they have been activated or brought to the fore of the mind and is an interpretive tool that shapes the individual's perception of and, ultimately, navigation of the world but that have an effect only when it has been brought into use. One can look for interactions between cultural backgrounds and conditions that activate cultural knowledge. For example, many of the rules and principles relevant to decisions that an individual possesses are derived from proverbs and other cultural knowledge, and hence, the search for reasons brings cultural knowledge to bear on the decision making. Previous research has found that when people search for reasons, they access decision rules, many of which are culturally conferred, which is consistent with Brislin et al. (2006) second step (developing the CQ-identification of reasons for behaviors) and the fourth step (using the new understanding and awareness of inductive reasoning for larger cultural implications). As indicated by Briley et al. (2000), the reasons that individuals offer for choices may carry culture into the decision process because these rationales may differ culturally. All of these findings signify the role of CQ in the decision-making process. Without a doubt, ECI represents a type of career choice that involves decision-making.

Cultural intelligence (CQ) and entrepreneurial career intentions (ECI)

Culturally intelligent people allow themselves the normally uncomfortable state of not knowing and do not judge a situation unless they have a better understanding (Brislin et al., 2006), which may help them to conquer impulsive decisions in an uncertain entrepreneurial environment. Work adjustment, which involves the

adaptation to new job tasks, work roles, responsibilities, and the new work environment in a new cultural setting (Black, 1988; Templer et al., 2006) that an entrepreneur may encounter, has been suggested to be related to the quality of CQ. People with high MCQ are less likely to experience difficulties with work adjustment. They are more open and persistent in adapting to new situations including work situations (Templer et al., 2006). The "open to experience" dimension of Big Five personality traits, has been proven to be closely related to CQ (Ang et al., 2006). It also has been found to potentially form stronger entrepreneurial intentions than others (Brice, 2004). CQ also implies a series of abilities or capabilities such as understanding or awareness, cognition, behaviors, mindfulness, discernment, and so forth. Busenitz and Lau (1996) suggested that cognition is affected by cultural values, social contexts, and personal variables and is related to venture creation decisions. Brislin et al. (2006) also regarded CQ as essential for expecting and dealing with the unexpected during intercultural encounters.

Mitchell et al. (2000) proposed a model of venture creation based on social cognition theory, information processing, and expertise. In this model, the three cognitive scripts and the venture creation decision influenced each other mutually and were intervened by cultural values. Thus, this model may shed some light on the research orientation linking EQ to ECI or to other career tendency-related variables.

H2: CQ is positively related to ECI.

Career decision-making self-efficacy (CDMSE)

Self-efficacy is a person's belief about his or her chances of successfully accomplishing a specific task (Bandura, 1977; Kreitner and Kinicki, 2007). It plays a significant role in task-related performance by influencing the individual's choice, effort, and persistence (Bandura, 1997).

Self-efficacy is concerned with one's judgment about what he or she can do with whatever skills he or she has been endowed, not just with the skills he or she has experienced (Kickul et al., 2009). The higher the person's self-efficacy, the more confident he or she is about success in a particular task domain (Prussia et al., 1998). Because of its importance in career decision making and interventions, CDMSE has probably received more research attention than other domains of career behavior (Chaney et al., 2007). CDMSE was initiated by Taylor and Betz (1983) and was defined as an individual's belief that he or she can successfully complete tasks that are necessary for making career-related decisions. Taylor and Betz's (1983) development of CDMSE filled a gap in the literature and provided an assessment intended to help the development of career interventions (Scott and Ciani, 2008).

Career decision-making self-efficacy (CDMSE) and entrepreneurial career intentions (ECI)

The lack of CDMSE may be one reason behind people's difficulty in making career decisions. Those with low self-efficacy may avoid engaging in career exploration or making a commitment to a career path (Taylor and Betz, 1983; Nauta and Kahn, 2007). It has been suggested that enhancing CDMSE may help those students who are at risk from vocational difficulties (O'Brien et al., 1999). Ali and Saunders (2006) revealed that vocational self-efficacy for finding and pursuing options for college, technical training, or employment, and parental support can explain substantial percentages of the variance in college expectations (Betz, 2007).

It has been proposed as early as Boyd and Vozikis' (1994) theoretical model that self-efficacy is a key antecedent of entrepreneurial intentions and behavior. Further, it has been suggested that students' ECI can be boosted by enhancing their confidence with respect to their success in entrepreneurship and increasing their perceptions and expectations of positive outcomes of entrepreneurial careers (Segal et al., 2002; Kickul et al., 2009).

Sager et al. (2006) observed that employees possessing stronger self-efficacy beliefs are more likely to make a positive self-evaluation about their capabilities and skills to perform a desired task and tend to more effectively cope with problem-focused situations such as the entrepreneurial environment. Zhao et al.'s (2005) findings provided evidence that individuals choose to become entrepreneurs (or at least formulate intentions to do so) because they are high in entrepreneurial self-efficacy, the belief that they can succeed in this role. Thus, it is appropriate to assume that CDMSE is linked with ECI. Therefore, we cannot neglect the important role that self-efficacy plays in the intention to select an entrepreneurial career.

H3: CDMSE is positively related to ECI.

Moderating role of career decision-making self-efficacy (CDMSE)

Self-efficacy has long been considered as a key moderator in the relationship between independent and dependent variables. For example, self-efficacy can moderate the relationship between transformational leadership and followers' work-related attitudes (Walumbwa et al., 2005) and that between stressors and mental well-being (Siu et al., 2007). Lang and Lee (2005) found job search self-efficacy to effectively moderate the relationship between work-role salience and job stress. The present study replicates the role of self-efficacy in the relationship between two types of intelligence - EQ and CQ - and ECI and extends it to the field of career decision making.

As mentioned earlier, EQ has some effect on one's

self-assurance and confidence. People with positive moods are more likely to remember positive information, be more self-assured, and be more helpful to others (George, 2000). Those who understand how to coordinate their own emotions are less likely to maintain a negative psychological situation and are more likely to be confident in tackling sophisticated problems. Chan (2004) found that whereas the positive mood regulation and utilization of emotions can predict perceived general self-efficacy among guidance teachers, empathic sensitivity to others' emotions can predict perceived self-efficacy toward helping others. Some personal-emotional characteristics such as depression and affective states deserve closer attention because they are known to influence self-efficacy judgments, the interest inventory, and vocationally relevant self-efficacy profile elevations (Rottinghaus et al., 2009). Rottinghaus et al.'s (2009) study suggested that, in terms of personal-emotional and career concerns, further avenues for research should include developing evidence-based interventions that address career and personal issues simultaneously, experimentally inducing positive effect, and examining implications for self-efficacy judgments for a better understanding of the practice of career assessment. In addition, other variables known to co-occur with depression and career indecision may provide further information on the relationship between depression and career choice status. Thus, it may be beneficial to consider the interface between personal-emotional and career lives and to develop interventions that can build positive emotions and self-efficacy. As discussed earlier, EQ is expected to be related to entrepreneurship intentions. Thus, it may make sense to use CDMSE as a variable mediating the EQ-ECI relationship.

CQ, the ability to adapt effectively to new cultural contexts, suggests that everyone has different adaptive competence when stepping into a strange environment. Ang et al. (2006) mentioned that self-efficacy and intrinsic motivation in cross-cultural situations are important to CQ because effective intercultural interactions require a sense of self-confidence and an interest in novel settings. Among extroverted individuals, those who are bold, forceful, and self-confident are more likely to try new things, expose themselves to novel situations, and ask questions. This provides some implications of the moderating role of self-efficacy in the relationship between CQ and ECI. Patel et al. (2008) found that students from families living in the U.S. for several generations experienced a different level of confidence when they engaged in career-related tasks than those from recently immigrated families. Based on previous research, we postulate that CDMSE plays a moderating role in both the EQ-ECI relationship and the CQ-ECI relationship.

H4: Career decision-making self-efficacy moderates the relationship between emotional intelligence and entrepreneurial career intentions.

H5: Career decision-making self-efficacy moderates the relationship between cultural intelligence and entrepreneurial career intentions.

METHODS

Data collection

In February and March of 2010, we distributed 700 questionnaires to university students in China (400) and Korea (300). The students were asked to complete the questionnaire in class. A total of 579 valid responses were obtained (an 82.7% response rate). Male accounted for 53.4% of the respondents, whereas female, 46.6%; 62.3% majored in social science, and 37.4%, in science; over 50% had at least three years of education at the university level; and excluding 25 students who provided no information on their family's income level, a large portion of students (62.8%) rated their family's income level as "somewhat low" (30.9%) or "average" (31.9%).

Measures

Emotional intelligence (EQ)

EQ was measured by using the WLEIS, the scale developed by Wong and Law (2002), and by observing the following four dimensions: SEA, the UOE, the ROE, and OEA. The WLEIS is a 16-item self-report measure with four subunits, each of which contains four items, and its response format is a 7-point Likert-type scale. The reliability of EQ was $\alpha = .899$, and all the values of Cronbach's α for all of the four dimensions were greater than .80.

Cultural intelligence (CQ)

The respondents were asked to complete the 20-item CQ measure of Ang et al. (2004). The scale reflected the following four types of CQ: meta-cognitive CQ, CCQ, MCQ, and behavioral CQ. The response format was a 7-point Likert-type scale. Cronbach's α for CQ was .905, and all the four aspects of CQ were reliable (greater than .80).

Career decision-making self-efficacy (CDMSE)

We used Betz et al.'s (1996) short form of the career decision self-efficacy scale (CDSES-SF), which was derived from the original set of 50 items (Taylor and Betz, 1983). The following five dimensions were included and evaluated: self-appraisal (SA), gathering occupational information (OI), goal selection (GS), planning for the future (PF), and problem solving (PS). The overall reliability was $\alpha = .913$, and Cronbach's α for the dimensions ranged from .614-.818.

Entrepreneurial career intentions (ECI)

Liñán and Chen (2009) introduced 6 items to measure entrepreneurial intentions. Noteworthy is that this 6-item scale is a pure-intention measure without the significant "interest" component in Chen et al. (1998) research, which asks how interested the respondent is in establishing his or her own business. We used the 6-item pure-intention measurement, and the response format was a 7-point Likert-type scale. Cronbach's α was .935.

Table 1. Means, standard deviations, correlation coefficients of variables.

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.SEA	5.06	1.15	1													
2.OEA	4.98	1.04	0.55**	1												
3.UOE	4.84	1.07	0.50**	0.45**	1											
4.ROE	4.70	1.27	0.42**	0.33**	0.43**	1										
5.McCQ	4.74	1.06	0.49**	0.46**	0.46**	0.36**	1									
6.CCQ	3.92	1.28	0.21**	0.20**	0.35**	0.30**	0.35**	1								
7.MCQ	4.60	1.15	0.30**	0.30**	0.39**	0.31**	0.46**	0.43**	1							
8.BCQ	4.86	1.18	0.31**	0.33**	0.32**	0.19**	0.46**	0.29**	0.49**	1						
9.SA	5.03	0.91	0.40**	0.38**	0.49**	0.35**	0.46**	0.22**	0.37**	0.43**	1					
10.PF	4.72	0.99	0.40**	0.31**	0.50**	0.38**	0.44**	0.47**	0.43**	0.35**	0.63**	1				
11.GS	4.98	1.03	0.39**	0.31**	0.42**	0.33**	0.41**	0.23**	0.32**	0.36**	0.60**	0.61**	1			
12.PS	4.47	1.14	0.22**	0.22**	0.35**	0.27**	0.28**	0.44**	0.28**	0.30**	0.46**	0.49**	0.39**	1		
13.OI	4.65	1.03	0.28**	0.29**	0.43**	0.29**	0.37**	0.38**	0.29**	0.32**	0.53**	0.63**	0.53**	0.47**	1	
14.ECI	3.95	1.61	0.18**	0.18**	0.35**	0.26**	0.30**	0.32**	0.27**	0.18**	0.35**	0.44**	0.35**	0.42**	0.45**	1

** p<0.01.

RESULTS

The means, standard deviations, and correlation coefficients of the variables are shown in Table 1. The results of the correlation analysis indicate that all the dimensions of EQ, CQ, CDMSE, and motivation were significantly correlated with ECI (p < .01). Although, these results were roughly consistent with the hypotheses, we conducted a regression analysis to further test. The Pearson correlation coefficients of ECI and other variables ranged from .18 (reflecting the correlations with SEA and OEA in EQ) to .45 (reflecting the correlation with OI in CDMSE).

The results of the hierarchical regression analysis of the effects of the independent variables on the dependent variable ECI are shown in Table 2. In Model 1, ECI's regression equation for the demographic variables was significant (F=18.915, p<.01). Similar with Model 1, the other three models were all significant, the values being 18.507 (p<.001), 20.979 (p<.001), and 8.350 (p<.001) from Model 2 to Model 4.

Model 1 explained 14.2% (ΔR²=.142, p<.001) of the variance of dependent variable, ECI. Gender, major, and family income were found to be significantly related to ECI; the standardized coefficients were -.137 (p<.001), -.292 (p<.001), and .088 (p<.01), respectively. Both the independent variables (EQ and CQ) and the demographic variables were controlled in Model 2, only one dimension of EQ, UOE (β=.189, p<.001), was positively related to ECI. Two dimensions of CQ - McCQ (β=.102, p<.05) and CCQ (β=.185, p<.001) - were positively related to ECI. The three factors - the use of emotions, meta-cognitive CQ, and CCQ - accounted for 15.7% (ΔR²=.157, p<.001) of the variance in ECI. From Model 3, three of CDMSE dimensions - PF, PS, and OI - were positively related to ECI, their standardized coefficients

being .123 (p<.05), .204 (p<.001), and .179 (p<.001), respectively. All together, these three aspects of CDMSE (PF, GS, and OI) explained 10.4% (p<.001) of the variance in the respondents' ECI. Model 4, the last level of the hierarchical regression analysis, showed the results of the moderating role of CDMSE in the relationship between ECI and EQ/CQ. The fourth model was significant at p<.001 (F value=8.350). Of the 40 interactions, only 8 were found to be significantly related to ECI. In terms of the 20 interactions concerning the relationship between EQ and ECI, only OEA×PF (β=-.135, p < .10), UOE×PF (β=.187, p < .01), ROE×GS (β=-.106, p<.10), OEA×PS (β=.163, p<.01), and ROE×OI (β=.100, p<.10) influenced ECIs. Three of the 20 interactions concerning the relationship between ECI and CQ were significantly related to ECI: MCQ×SA (β=-.176, p<.01), CCQ×GS (β=-.095, p<.10), and CCQ×PS (β=-.125, p<.01). The ΔR² between Model 3 and Model 4 indicated that these 8 significant interactions explained 7.9% of the variance in ECI.

DISCUSSION

This study clearly identified the four types of EQ in the model proposed by Wong and Law (2002). Only the use of emotions was positively related to entrepreneurial career intentions and supported our hypotheses. This suggests that university students who are better at using emotions may be more likely to pursue entrepreneurial activities than others. As indicated in previous research, entrepreneurial careers entail many risks and stress (Lyigun and Owen, 1998), and thus, successful entrepreneurs are those who use their emotions appropriately in different occasions, particularly during difficult periods, so that they can better set goals, be self-motivated to

Table 2. Effects of EQ, CQ, CDMSE on ECI.

Variable	Model 1	Model 2	Model 3	Model 4
Nationality	-0.004	0.132 ⁺	0.267 ^{***}	0.331 ^{***}
Gender	-0.137 ^{***}	-0.133 ^{***}	-0.109 ^{**}	-0.126 ^{***}
Major	-0.292 ^{***}	-0.353 ^{***}	-0.376 ^{***}	-0.421 ^{***}
Grade	0.096	0.051	0.056	0.063
Family income	0.088 [*]	0.036	-0.011	-0.028
Self-e appraisal (SEA)		-0.053	-0.068	-0.099 [*]
Other-e appraisal (OEA)		0.033	0.017	0.056
Use of emotion (UOE)		0.189 ^{***}	0.083 [*]	0.099 [*]
Regulation of e (ROE)		0.055	0.021	0.025
Meta-cog CQ (McCQ)		0.102 [*]	0.042	0.004
Cognitive CQ (CCQ)		0.185 ^{***}	0.102 [*]	0.132 ^{**}
Motivational CQ (MCQ)		0.056	0.052	0.077 ⁺
Behavioral CQ (BCQ)		0.001	-0.059	-0.088 ⁺
Self appraisal (SA)			-0.019	0.021
Plan for the future (PF)			0.123 [*]	0.182 ^{**}
Goal selection (GS)			0.069	0.091 ⁺
Problem solving (PS)			0.204 ^{***}	0.154 ^{**}
Occup information (OI)			0.179 ^{***}	0.145 ^{**}
SEA×SA				-0.113
OEA×SA				0.056
UOE×SA				-0.020
ROE×SA				0.097
SEA×PF				-0.071
OEA×PF				-0.135 ⁺
UOE×PF				0.187 ^{**}
ROE×PF				-0.003
SEA×GS				-0.081
OEA×GS				0.068
UOE×GS				-0.009
ROE×GS				-0.106 ⁺
SEA×PS				-0.008
OEA×PS				0.163 ^{**}
UOE×PS				-0.089
ROE×PS				-0.013
SEA×OI				0.118
OEA×OI				-0.016
UOE×OI				-0.020
ROE×OI				0.100 ⁺
McCQ×SA				0.048
CCQ×SA				0.093
MCQ×SA				-0.176 ^{**}
BCQ×SA				0.090
McCQ×PF				-0.059
CCQ×PF				0.058
MCQ×PF				-0.024
BCQ×PF				-0.056
McCQ×GS				-0.017
CCQ×GS				0.095 ⁺
MCQ×GS				0.074

Table 2. Contd.

BCQ×GS				0.047
McCQ×PS				-0.015
CCQ×PS				-0.125**
MCQ×PS				0.020
BCQ×PS				0.064
McCQ×OI				-0.060
CCQ×OI				-0.020
MCQ×OI				0.035
BCQ×OI				-0.078
R ²	0.142	0.299	0.403	0.482
ΔR ²	0.142***	0.157***	0.104***	0.079***
F	18.915***	18.507***	20.979***	8.350***

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

achieve such goals, and be self-encouraged to overcome various difficulties. Because entrepreneurship entails many difficulties, people pursuing such a career path must be able to remain calm so that they can solve urgent problems effectively. Accordingly, having a good command of their emotions is an important and necessary characteristic of successful entrepreneurs.

The two dimensions of CQ - meta-cognitive CQ and CCQ - were positively related to ECI. This suggests that university students with higher meta-cognitive CQ and CCQ are more likely to pursue entrepreneurial careers. According to Ang et al. (2007), people with high meta-cognitive CQ tend to have the strong mental capability necessary to acquire and understand cultural knowledge, which may be similar to entrepreneurs' ability to collect useful information in a relatively strange environment and acquaint them with a new situation. Individuals with high CCQ are more likely to gain general knowledge of a given culture, and this may contribute to entrepreneurs' mindset related to the cultural aspects of doing business. That is, only full of relevant knowledge and information about cultures can help entrepreneurs to manage cultural factors more effectively and communicate with others from different cultures. Similarly, university students with high CCQ may be more confident in their ability to successfully address different cultural problems in business, and to some extent, this may explain why such students tend to be more likely to pursue entrepreneurial careers than those with lower cognitive CQ.

Based on Taylor and Betz's (1983) theory and the short form of the CDMSE by Betz et al. (1996), we identified a five-factor model of CDMSE. The respondents who scored higher on PF, PS, and gathering OI showed stronger ECI than those who had lower scores. Although only three types of CDMSE directly predicted ECI, the results are roughly consistent with the findings of Nauta and Kahn (2007), who suggested that people with low self-efficacy tend to avoid exploring career options or making a commitment to a career path. The present

results also support Boyd and Vozikis' (1994) findings that self-efficacy is a key antecedent of entrepreneurial intentions and behavior. Of the three types of CDMSE that positively affected the respondents' intention to pursue an entrepreneurial career, PF may better prepare individuals for the job market and the job application process (Scott and Ciani, 2008). That is, those who score higher on PF may be more likely to welcome new challenges. Further, PS assesses a person's resilience in the face of occupational barriers. An entrepreneurial career is not always smooth, and thus, the ability to overcome career barriers is an essential characteristic of any successful entrepreneur. Having good PS skills may psychologically boost university students' ECI. In addition, their ability to gather OI can help them to learn more about the job market and identify their career interest more objectively and can also indicate the information-collecting competence of potential entrepreneurs in their future career.

Of the 20 interactions concerning the moderating effects of CDMSE on the relationship between EQ and emotional career intentions, 5 were found to be significant (2 negative and 3 positive). First, PF had a negative moderating effect on the relationship between OEA and ECI and a positive moderating effect on the relationship between ECI and the use of emotions. Thus, with the increasing level of university students' ability to PF, their ECI will not be predictable though the ability to perceive others' emotion as well as their PF-CDMSE was at a relatively low level. However, the relationship between ECI and the UOE became stronger when the respondents' self-efficacy in PF improved. Second, GS self-efficacy had a negative moderating effect on the relationship between ECI and ROE. This indicates that for individuals with high GS-CDMSE, it would be more useful to predict their entrepreneurial intentions by determining their capacity to regulate their emotions. On the other hand, for those with low GS self-efficacy, emotional regulation may not predict ECI. This suggests that

managers or evaluators assessing a person's emotion-regulating ability to determine the person's entrepreneurial characteristics or related information are suggested to first examine the individual's GS self-efficacy. Third, self-efficacy for PS had a positive moderating effect on the relationship between entrepreneurial intentions and OEA. The higher the self-efficacy to PS, the stronger the relationship between ECI and OEA is. That is, university students' ability to appraise others' emotions may be a better predictor of their ECI. This may be because students with high PS self-efficacy are more likely to develop a good command of perceiving others' emotions during the process of career selection, particularly for entrepreneurial careers. In addition, because solving problems in entrepreneurial activities requires entrepreneurs to seek help from and communicate with others, they cannot neglect others' emotions. Fourth, self-efficacy for gathering OI also had a positive moderating effect on the relationship between the ROE and ECI. When the level of OI-CDMSE increased, the respondents' ECI were better reflected by their self-efficacy to gather OI because the relationship between ECI and ROE became stronger. For example, ROE did not have a significant relationship with ECI, and thus, it was not a predictor of ECI. However, for the respondents with higher self-efficacy for gathering OI, their ability to regulate their emotions was positively related to their intention to pursue an entrepreneurial career. That is, the higher the OI-CDMSE, the greater the ability of the ROE to predict ECI.

Consequently, the moderating roles of different CDMSE types were mixed, and thus, this suggests that CDMSE is able to moderate the relationship between EQ and ECI to a certain extent. With respect to the different roles in the moderating process, four distinct aspects of CDMSE existed when EQ involved for predicting ECI. Specifically, self-efficacy for PF intervene the effects of the intelligence of SEA and UOE; GS self-efficacy interacts with ROE to show its moderating role; PS self-efficacy only focuses on the function of perception of others' emotion; and self-efficacy to gather OI displays its intervention collaborating with ROE. Because of this observed mixed result, future studies are also welcomed to re-identify CDMSE's intervention in this association, and the distinct circumstances could be considered as well.

Three (3) interactions (out of 20) were significantly related to the respondents' ECI (2 negatively and 1 positively). First, self-efficacy for SA had a negative moderating effect on the relationship between MCQ and ECI. The results imply that an increase in SA-CDMSE weakens the relationship between MCQ and ECI. As mentioned earlier, MCQ was not significantly related to ECI as a predictor. However, because of its interaction with SA self-efficacy, MCQ may predict ECI to a certain extent, even if self-efficacy for SA acts as a negative moderator. Second, GS self-efficacy was a positive

moderator in the relationship between ECI and CCQ. An increase in the respondents' self-efficacy in GS made their CCQ a better predictor of their intention to pursue entrepreneurship. This suggests that when a university student's GS self-efficacy is not high, the use of the student's CCQ to indirectly evaluate his or her entrepreneurial orientation may not be effective. Only high self-efficacy for GS and CCQ had a relatively strong relationship with ECI, which suggests that CCQ can predict ECI. Third, self-efficacy for PS had a negative moderating effect on the relationship between CCQ and ECI. This indicates that the relationship between CCQ and ECI may weaken as university students' self-efficacy in PS increases. For university students with lower PS-CDMSE, their CCQ may be a good predictor of their intention to become an entrepreneur. However, for those with higher PS-CDMSE, their CCQ should not be used as a predictor of entrepreneurial intentions because of its weak predictive ability under this condition. H5 was partially supported, and thus, no solid conclusion can be drawn. However, the above discussion is still relevant because some of the results have important implications for future research. For example, future research should focus on the distinct interaction mechanisms of SA-MCQ, GS-CCQ, and PS-CCQ under different situations to provide a better understanding of the relationship between cultural and psychological efficacy and university students' ECI. In addition, the moderating role of CDMSE in the relationship between CQ and ECI (and in other related relationships) should be retested.

Conclusion

EQ, CQ, and CDMSE were partially and positively related to ECI. CDMSE had a weak moderating effect on the EQ-ECI and CQ-ECI relationships, playing a somewhat stronger moderating role in the EQ-ECI relationship than in the CQ-ECI relationship. EQ has been used in human resource management for several years in Korea, and in general, employees with higher EQ have been welcomed because firms have considered such individuals to be better employees (for example, easy to manage). CQ has been widely considered in research involving cross-cultural conditions. However, CQ reflects an individual's adaptive capability in not only cross-cultural situations but in strange, changing, and confusing environments. When university students make occupational choices, they may be confused; when starting to work, they may face new and strange environments; and in career development, they are likely to experience changing circumstances. Because intentions can predict planned behaviors (Krueger et al., 2000; Bird, 1988; Katz and Gartner, 1988), those university students with higher ECI are likely to possess good entrepreneurial characteristics. Firms recruiting university students to fill positions requiring entrepreneurial skills can evaluate candidates by using

EQ, CQ, and CDMSE tests. In addition, in providing entrepreneurship education, universities can offer courses that can enhance students' EQ, CQ, and CDMSE.

This study cannot be considered as complete and consistent in its current form. First, this study's measurements lack equivalence between Chinese students and Korean students. Although, the reliability of the well-tested measures was satisfactory, there were some expected differences and instability in the CDMSE-SF used to measure CDMSE under different cultural contexts. Consequently, the reliability of the two dimensions of CDMSE (PS and gathering OI) was less than .70, which was only in the scope of acceptance. If all the scales used in this study were very high, the results would have been more cogent. Second, there might have been too many items in the questionnaire, which might have made the respondents impatient, inducing them to give less thoughtful answers. Third, because the sample was drawn from a single university and most of the students were majoring in social science and in their first year of undergraduate education, the results may not be generalizable to the university students in Korea.

Both EQ and CQ have recently been introduced to the world of management. Although, a large number of scholars have examined the role of these factors in management, few studies have provided notable findings. Further, no study has examined the causal relationship between EQ and ECI, let alone that between CQ and ECI, which appeared less than ten years ago. Although the present study provides some promising results, further researches examining these factors in different contexts are needed. Accordingly, these factors should be examined using data from different countries and on different types of workers.

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