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The paradox of promoting creativity in the Asian classroom: An empirical investigation

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The Paradox of Promoting Creativity in the Asian Classroom: An Empirical Investigation

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ABSTRACT. To shed light on the paradox of promoting creativity in the Asian classroom, the authors conducted 3 studies. The 1st study found that novice teachers classified student behaviors as desirable but uncreative (DBU) versus creative but undesirable (CBU). The 2nd study found that conservative–autocratic teachers were more likely to encourage DBU behaviors in class, whereas liberal–democratic teachers were more likely to encourage CBU behaviors in class. The 3rd study found that cultural individualism–collectivism had a positive impact on liberal–democratic teaching attitude but a negative impact on conservative–autocratic teaching attitude. In turn, liberal–democratic teaching attitude had a positive impact on the tendency to promote CBU behaviors, whereas conservative–autocratic teaching attitude had a positive impact on the tendency to promote DBU behaviors.

Key words: Confucian tradition of learning, conservative–autocratic, individualism–collectivism, liberal–democratic

PROMOTING CREATIVITY is gaining more emphasis in the Asian classroom. However, promoting creativity gives rise to other problems for the teacher. As lecturers in the field of teacher education, we receive occasional e-mails from former students that keep us informed of these issues. One day, the first author received the following e-mail from Elizabeth, who was teaching in a primary school in Singapore:

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> I've a problem with this pupil in my class. I notice that he is very creative but often has some mischief up his sleeves. He has a competitive spirit in him, thinking he's good in everything. He can be rather rebellious, stubborn, and attention-seeking. He gets bored easily, and is often distracted in class. However, he's a creative boy. First, he can draw very well and loves art. Second, whenever there's a project on Science, making models, he can invent a very outstanding toy. He loves anything to do with using hands. But when it comes to daily work, he's not interested, and it came to a point that he didn't even complete his homework. He will mumble when I'm teaching, disturbing his classmates. I was out of my wits on what to do with him. What would you advise me to do?

What is especially noteworthy in Elizabeth's e-mail is not the creative student per se, although she has spent the bulk of her e-mail describing his traits (e.g., competitive, rebellious, stubborn) and behaviors (e.g., draws very well, invents an outstanding toy). Instead, the problem is the strained relationship that exists between him and the class as a whole: The creative student "disturbs his classmates," and his teacher is "out of her wits on what to do with him."

A Paradoxical Phenomenon of Creativity

Elizabeth's e-mail highlights a certain anomaly in education: Asian students in China, Hong Kong, Taiwan, Japan, South Korea, and Singapore are encouraged to be creative ("Now, Please Think," 1999). This push for creativity is even written into schools' mission statements. For example, the set of desired outcomes for students in Singapore is as follows:

> At the end of the basic 12 years of education, students should be resilient and resolute, have an entrepreneurial and creative spirit and be able to think independently and creatively. (Ministry of Education, 1998)

Although there is considerable focus on promoting creativity in the Asian classroom, a paradoxical finding is that many teachers dislike personality traits associated with creativity. For example, Westby and Dawson (1995) asked elementary school teachers to rate their favorite and least favorite students on the basis of personality characteristics associated with creative children. They found that judgments for the favorite student were negatively correlated with creativity, whereas judgments for the least favorite students were positively correlated with creativity.

In another study, Scott (1999) found that creative children were seen as more disruptive than average children by both teachers and undergraduates. In addition, she discovered that teachers were significantly more likely than undergraduates to rate creative children as more disruptive than average children.

Our review has unearthed a curious phenomenon: Teachers (especially in the East) are encouraged to promote creativity in the classroom, yet many studies indicate that they do not like creative students. We have termed this phenomenon the paradox of promoting creativity in the Asian classroom (Ng & Smith, 2004). In this article, we embark on an empirical investigation of this paradox, which consists of a series of related studies.

In the first study, we make a distinction between two characteristics of creativity. One characteristic is creative but undesirable (CBU), and the other is desirable but uncreative (DBU). In the second study, we examine the characteristics' association with two teaching attitudes. One attitude is the liberal–democratic teaching attitude, and the other is the conservative–autocratic teaching attitude. In the final study, we look at how culture influences these teaching attitudes and characteristics of creativity. We relate the empirical findings in these studies to the paradox of promoting creativity in the Asian classroom.

Characteristics of Creativity

Why do teachers dislike the creative students whom they are supposed to be nurturing? According to Torrance (1963), it is because creative students tend to have traits that are "obnoxious." Examples of these obnoxious traits include a basic lack of courtesy, a stubborn refusal to take "no" for an answer, as well as a personal tendency to be negativistic and critical of others (Davis, 1986).

Other characteristics of the creative individual, although not deserving the label "obnoxious," nonetheless may not be those most highly valued in the typical classroom. For example, MacKinnon (1963) found that adjectives associated with the highest level of creativity in a group of architects were determined, independent, and individualistic. Sternberg (1985) offered his own list of characteristics associated with creativity, including impulsivity and risk-taking.

Given the educational goal of maintaining order and discipline in the classroom, it is not surprising that creative traits such as impulsivity, risk-taking, and individualistic are not high on the teacher's list of desirable student characteristics (Westby & Dawson, 1995). Instead, descriptors such as responsible, sincere, reliable, dependable, good-natured, and tolerant tend to be high on this list of desirable student characteristics. Interestingly, these descriptors were associated with the lowest levels of creativity in MacKinnon's (1963) study of creativity in architects.

From these studies, we can make a distinction between the two characteristics of creativity, CBU and DBU. CBU characteristics increase the social friction between self and significant others. For example, the creative student in Elizabeth's class "has a competitive spirit in him, thinking he's good in everything. He can be rather rebellious, stubborn, and attention-seeking." These CBU characteristics increase the social friction between this student and his classmates.

DBU characteristics decrease the social friction between self and significant others. Whereas the student with CBU characteristics antagonizes significant others by behaving in an individualistic and self-centered manner in class, the student with DBU characteristics remains on friendly terms with significant others by behaving in a conforming and submissive manner in class.

Studies on implicit theories of creativity support our distinction between CBU and DBU characteristics. According to Sternberg (1985), implicit theories

are the constructions of laypeople, derived from their belief systems about creativity. They differ from explicit theories of creativity, which are the constructions of experts who draw on the data collected from people performing tasks presumed to measure creative functioning. Because implicit theories of creativity already exist in people's minds, albeit in a largely unsystematized manner, they need to be discovered rather than invented.

In studies on implicit theories of creativity, which were frequently conducted in the West, respondents typically were asked to give synonyms of creativity, to list behaviors that were observed in creative individuals, or to check the characteristics of creative students from a checklist of trait adjectives. For example, Runco (1984) asked 32 teachers to suggest characteristics of creative students, and Montgomery, Bull, and Baloche (1993) asked 101 teachers to rate the importance of 95 creative characteristics derived from content analysis of 67 courses on creativity. In such studies, creative characteristics such as artistic, curious, imaginative, independent, innovative, and intelligent, typically emerged, suggesting that the views of laypeople and experts on creativity (e.g., Barron & Harrington, 1981) overlap to a large extent.

A few studies on implicit theories of creativity have been conducted in the East, with similar results. For example, Rudowicz and Yue (2002) investigated the compatibility of Chinese and creative personalities in a group of undergraduates from Mainland China, Hong Kong, and Taipei. Their respondents could make a clear distinction between personality traits belonging to these two categories. Specifically, in all samples, creative characteristics (e.g., inventive, curious, flexible, quick in doing things) clustered on factors such as "innovative/dynamic," "intellectual abilities," and "social style." By contrast, Chinese characteristics (e.g., gives in, diligent, responsible, modest, conforming) clustered on factors such as "obedience/social acceptance" and "discipline/dutifulness."

A study on implicit theories of creativity in teachers by Chan and Chan (1999) supported our contention that a distinction can be made between DBU and CBU characteristics. These researchers asked 204 Hong Kong primary and secondary school teachers to list the attributes of either uncreative or creative students. Their responses were categorized into 33 uncreative and 42 creative attributes, which bear resemblance to our distinction between DBU and CBU characteristics. For example, the most frequently mentioned uncreative characteristics were conventional, timid, lack of confidence, and conforming, and socially undesirable attributes, such as arrogant, attention-seeking, opinionated, rebellious, and self-centered, were listed as typical characteristics of creative students.

Our review showed that it is possible to make a distinction between CBU and DBU characteristics of creativity. To verify this claim, which is supported by research on implicit theories of creativity, we conducted a study on two groups of novice teachers. We presented the first group with a list of student characteristics. Half were CBU characteristics, and the rest were DBU characteristics. We asked the participants to rate how typical each characteristic was of the creative

student. We presented the second group with the same list of characteristics, but, this time, we asked them to rate how likely they were to encourage this characteristic in the classroom. In each case, we expected to be able to make an empirical distinction between the CBU and DBU characteristics of creativity.

STUDY 1

Method

Participants

We recruited two groups of participants for this study. The first group consisted of 63 novice teachers, and the second group consisted of 70 novice teachers. These novice teachers, who had no prior teaching experience, were enrolled in a 1-year postgraduate diploma course on teaching. After graduation, they would serve as teachers in primary and secondary schools. At the time of this study, the participants were attending classes taught by different lecturers at the National Institute of Education in Singapore. The first author approached these lecturers for permission to distribute a short survey at the end of class to their students.

Instruments

The first group of participants responded to a one-page survey containing 12 student characteristics that a teacher could encounter in the classroom. Six of the characteristics were CBU characteristics, and six were DBU characteristics. To prevent response set, these characteristics of creativity appeared randomly in the list. Examples of CBU characteristics included "stands out from the class by behaving in an individualistic way" and "likes to challenge and argue with what the teacher says in class." Examples of DBU characteristics included "listens to what the teacher says and follows instructions closely" and "does not grumble when teacher gives extra homework to class." Participants rated the extent to which each characteristic is typical of the creative student, based on a 5-point scale ranging from 1 (*not typical of the creative student*) to 5 (*typical of the creative student*).

The second group of participants also responded to a one-page survey that contained the same set of student characteristics. This time, we told participants to rate the extent to which they would encourage a certain behavior in the classroom, based on a 5-point scale ranging from 1 (*unlikely for me to encourage this behavior in class*) to 5 (*likely for me to encourage this behavior in class*).

Results

To determine whether an empirical distinction could be made between CBU and DBU characteristics, we conducted an exploratory factor analysis on the data

collected from the first group of participants. Using principal axis factoring with oblique rotation, we extracted two factors with eigenvalues greater than 1, which accounted for 36% of the total variance. Factor items and loadings are shown in Table 1. The first factor consisted of CBU characteristics, whereas the second factor consisted of DBU characteristics. To gauge the internal reliability of the two scales formed by these items, we calculated Cronbach's alphas. The CBU and DBU scales were internally reliable, with Cronbach's alphas of .76 and .70, respectively.

To determine whether there was a greater tendency to encourage behavior with DBU characteristics compared with behavior with CBU characteristics, we conducted a paired-sample *t* test on the data collected from the second group of participants. The results were highly significant, $t(69) = 10.97$, $p < .0001$. There was a greater tendency for participants to encourage DBU behaviors ($M = 24.26$) compared with CBU behaviors ($M = 18.17$). Table 2 displays the ranks of these student behaviors according to mean level of encouragement. As can be seen, our participants gave higher mean scores for encouraging DBU behaviors compared with CBU behaviors.

Summary

We argued that a distinction could be made between CBU and DBU characteristics of creativity. To verify this argument, we conducted a study on two

TABLE 1. Items and Factor Loadings of Student Characteristics

Item	Factor 1	Factor 2
Creative but undesirable student characteristics		
Stands out from the class by behaving in an individualistic way.	.75	
Is skeptical and will not hesitate to point out teacher's error in class.	.67	
Likes to challenge and argue with what the teacher says in class.	.61	
Poses many questions that are difficult if not impossible to answer.	.57	
Does not seem to know own limitations; instead, tries to do what others think is impossible.	.51	
Behaves in a self-centered and opinionated way in class.	.46	
Desirable but uncreative student characteristics		
Is hardworking and hands in assigned work on time.		.75
Does not grumble when teacher gives extra homework to class.		.66
Listens to what the teacher says and follows instructions closely.		.53
Behaves in a quiet, attentive, and studious manner in class.		.46
Gets along well with the other students in class.		.43
Does not create any disciplinary problems for the teacher.		.35

TABLE 2. Rank of Desirable but Uncreative Behaviors and Creative but Undesirable Behaviors (in Descending Order), by Mean Level of Teacher Encouragement

Item	Level of encouragement
Behavior with desirable but uncreative characteristics	
Is hardworking and hands in assigned work on time.	4.34
Does not create any disciplinary problems for the teacher.	4.26
Listens to what the teacher says and follows instructions closely.	4.24
Gets along well with the other students in class.	4.19
Does not grumble when teacher gives extra homework to class.	3.76
Behaves in a quiet, attentive, and studious manner in class.	3.47
Behavior with creative but undesirable characteristics	
Is skeptical and will not hesitate to point out teacher's error in class.	3.46
Stands out from the class by behaving in an individualistic way.	3.24
Poses many questions that are difficult if not impossible to answer.	3.19
Likes to challenge and argue with what the teacher says in class.	2.94
Does not seem to know own limitations; instead, tries to do what others think is impossible.	2.89
Behaves in a self-centered and opinionated way in class.	2.46

groups of novice teachers. We gave each group a short survey to complete, which contained a random list of CBU and DBU characteristics. We performed an exploratory factor analysis on the data collected from the first group of novice teachers. We found a clear two-factor solution, with the CBU and DBU characteristics loading on their respective factors. We performed a paired-sample t test on the data collected from the second group of novice teachers. We found that there was a greater tendency for participants to encourage behavior with DBU characteristics compared with behavior with CBU characteristics.

STUDY 2

In the first study, we found that it is possible to make an empirical distinction between CBU and DBU characteristics of creativity. The manifestation of these characteristics in the classroom is influenced by a host of factors. One important factor concerns the basic attitude of teachers toward their students, which shapes their teaching approach in the classroom (Biggs & Moore, 1993).

Some teachers possess a conservative–autocratic attitude toward students (Ng, 2002). They believe in the traditional authority of the teacher and expect students to respect and obey them, rather than challenging what they say. Little emphasis is placed on developing students' individual autonomy. Instead, misbehaving students are scolded or punished to inculcate a sense of discipline. As a result, conservative–autocratic teachers adopt an instructor-centered approach by making key decisions that affect student learning and behavior (Cuban, 1982).

In contrast, other teachers possess a liberal–democratic attitude toward students (Ng, 2002). Liberal–democratic teachers believe that every student has an inner potential to be realized. They strive hard to assist their students in realizing their creative potential by encouraging them to set their own goals. They also use reason and moral persuasion to deal with misbehaving students, instead of scolding or punishing them. As a result, liberal–democratic teachers adopt a learner-centered approach by empowering students to make key decisions in class (Pedersen & Liu, 2003).

In short, conservative–autocratic teachers have a stern view of students and believe in the importance of inculcating student discipline. Such teachers have a low tolerance for aberrant behavior in the classroom. Hence, we expected conservative–autocratic teachers to promote student behaviors that are DBU in nature. By contrast, liberal–democratic teachers have a benign view of students and believe in the importance of nurturing student potential. Such teachers have a high tolerance for aberrant behavior in the classroom. Hence, we expected liberal–democratic teachers to promote student behaviors that are CBU in nature.

Method

Participants

We recruited two groups of participants for this study. The first group consisted of 46 novice teachers enrolled in a 1-year postgraduate diploma course on teaching in Singapore. This group of participants had no teaching experience. The second group consisted of 61 experienced teachers enrolled in a 3-month counseling course in Singapore. This group of participants had an average teaching experience of 15.31 years. Participants from the two groups were given a few minutes at the end of class to complete a short survey, which consisted of two instruments.

Instruments

Characteristics of creativity. This scale contained the 12 student characteristics of creativity arranged in a random order. Participants were told to rate the extent to which they would encourage a certain behavior in the classroom, based on a 5-point scale ranging from 1 (*unlikely for me to encourage this behavior in class*) to 5 (*likely for me to encourage this behavior in class*).

Teacher's attitude toward student (TATS). This scale was developed by Ng (2002) to measure two teaching attitudes: liberal–democratic (L-D) and conservative–autocratic (C-A). It consists of eight L-D items and eight C-A items arranged in a random order to prevent response set. Examples of L-D items are "Teachers should 'open negotiation' with students, e.g., on how much work (s)he can give them" and "Teachers should reason with misbehaving students instead of punishing them." Examples of C-A items are "Teachers should have absolute authority in class; students should obey the teacher without fail" and "Training students to behave properly is more important than developing their creativity." Participants rated the extent to which they agreed with these items, based on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Psychometric properties of the TATS scale were reported by Ng. The C-A subscale had an internal reliability of .76, and the L-D subscale had a slightly lower reliability of .62. Exploratory factor analysis using principal axis factoring with oblique rotation revealed a two-factor solution, with the C-A items loading on one factor and the L-D items loading on the other factor. The C-A subscale correlated positively and significantly with conservative values such as conformity, security, tradition, and power (Schwartz, 1992). The L-D subscale correlated positively and significantly with liberal values such as self-direction, stimulation, universalism, and hedonism. In a recent study, Ng and Hor (2005) found that both emotional intelligence and creativity were negatively associated with the C-A attitude but positively associated with the L-D attitude, providing further support for the construct validity of the TATS scale.

Results

Table 3 displays the means and standard deviations of the experienced and novice teachers on measures of the two teaching attitudes and encouragement of characteristics of creativity. We conducted a series of independent-samples t tests to determine whether there were significant differences between the two groups of participants on the four measures. The experienced teachers (M = 28.77) scored significantly higher than the novice teachers (M = 24.87) on the C-A measure, $t(105) = 3.79$, $p < .0001$. The experienced teachers (M = 26.58) also scored significantly higher than the novice teachers (M = 24.00) on the DBU measure, $t(104) = 5.15$, $p < .0001$. We found no significant difference between experienced and novice teachers on the L-D and CBU measures. These results were unexpected and suggest two differences between experienced and novice teachers. First, experienced teachers are more conservative–autocratic than novice teachers. Second, experienced teachers are more likely than novice teachers to promote DBU behaviors in the classroom.

Table 4 displays the internal reliabilities and intercorrelations for the measures of the two teaching attitudes and encouragement of characteristics of creativity. The internal reliabilities ranged from .53 for CBU behavior to .82 for C-

A attitude. C-A attitude was negatively correlated with L-D attitude, $r = –.21$, $p < .05$, and with CBU behavior, $r = – .31$, $p < .001$. It was positively correlated with DBU behavior, $r = .45$, $p < .001$. L-D attitude was positively correlated with CBU behavior, $r = .33$, $p < .001$, but had a negligible correlation with DBU behavior, $r = .06$, *ns*. Finally, DBU and CBU behaviors were negatively correlated, but this was not significant, $r = –.15$, *ns*.

To determine whether the teaching attitudes predicted the encouragement of characteristics of creativity, we conducted two standard regression analyses. In the first analysis, we entered DBU behavior as the dependent variable and C-A attitude and L-D attitude as the independent variables. We obtained the following result: $r = .48$, $F(2, 103) = 15.15$, $p < .0001$. C-A attitude was a significant predictor of DBU behavior, $\beta = .49$, $p < .0001$. However, L-D attitude was not a significant predictor of DBU behavior, $\beta = .16$, *ns*.

TABLE 3. Means and Standard Deviations of Experienced and Novice Teachers on Measures of Teaching Attitude and Student Behavior

	Experienced teachers		Novice teachers	
Measure	*M*	*SD*	*M*	*SD*
Attitude				
Conservative–autocratic	28.77	4.95	24.87	5.68
Liberal–democratic	29.40	3.48	29.21	3.93
Behavior				
Desirable but uncreative	26.58	2.71	24.00	2.35
Creative but undesirable	17.78	3.71	18.66	2.53

TABLE 4. Internal Reliabilities and Intercorrelations of the Two Teaching Attitudes and Student Behaviors

Measure	α	1	2	3	4
Attitude					
1. Conservative–autocratic	.82	1.00			
2. Liberal–democratic	.62	–.21*	1.00		
Behavior					
3. Desirable but uncreative	.68	.45***	.06	1.00	
4. Creative but undesirable	.53	–.31***	.33***	–.15	1.00

*$p < .05$. **$p < .01$. ***$p < .0001$.

In the second analysis, we entered CBU behavior as the dependent variable and C-A attitude and L-D attitude as the independent variables. We obtained the following result: $r = .41$, $F(2, 103) = 10.66$, $p < .0001$. L-D attitude and C-A attitude were both significant predictors of CBU behavior: For L-D attitude, $\beta = .28$, $p < .01$; for C-A attitude, $\beta = -.25$, $p < .01$.

Summary

Overall, the results were in accordance with our expectations. Conservative–autocratic teachers tended to promote student behaviors that are DBU in nature: C-A attitude was a significant predictor of DBU behavior ($\beta = .49$, $p < .0001$). Liberal–democratic teachers tended to promote student behaviors that are CBU in nature: L-D attitude was a significant predictor of CBU behavior ($\beta = .28$, $p < .01$). On the other hand, conservative–autocratic teachers tended to discourage such behaviors in class: C-A attitude was a significant predictor of CBU behavior ($\beta = -.25$, $p < .01$).

In addition, there were two unexpected findings. First, experienced teachers were more conservative–autocratic than novice teachers. The former scored significantly higher than the latter on C-A attitude, $t(105) = 3.79$, $p < .0001$. Second, experienced teachers were more likely than novice teachers to promote DBU behaviors in the classroom. The former scored significantly higher than the latter on DBU behavior, $t(104) = 5.15$, $p < .0001$.

STUDY 3

Creativity researchers generally agree that creativity does not occur in a social vacuum. Instead, the sociocultural milieu influences the development and expression of creativity (Csikszentmihalyi, 1988; Lubart, 1999). Creativity researchers can enhance their understanding of creativity by incorporating culture into their framework of analysis. In this final study, we attempted to do this by looking at how culture influences the two teaching attitudes (L-D and C-A) and characteristics of creativity (DBU and CBU).

Individualism–Collectivism and Creativity

In contemporary cross-cultural psychology, no construct has a greater impact and appeal on the field than individualism–collectivism (Triandis, 2001). Cross-cultural psychologists have used this construct to understand, explain, and predict cultural similarities and differences across a wide range of human behavior.

Individualism–collectivism refers to the degree of emphasis on the individual in relation to the social group (Triandis, 1995). Highly individualistic societies (e.g., America and Australia) place a greater emphasis on the individual

compared with the social group. In such societies, members are socialized from a young age to develop their uniqueness as a person, as well as to stand on their own feet. They are expected to pursue their own interests and passions in life, rather than complying with the social group. In contrast, highly collectivistic societies (e.g., China and Japan) place a greater emphasis on the social group compared with the individual (Ng, 2001a). In such societies, members are socialized from a young age to fit in with the social group. Conflict with other group members is strenuously avoided to maintain social order and harmony.

In an influential article, Markus and Kitayama (1991) argued that individualistic members are more likely to construe themselves in an independent manner, that is, they tend to view themselves as separate entities from the social group. In contrast, collectivistic members are more likely to construe themselves in an interdependent manner, that is, they tend to view themselves as being part and parcel of the social group. Markus and Kitayama reviewed various research indicating that these construals of self had a significant impact on the behavior of the individual.

Creativity researchers can adapt this line of investigation in their own research on creativity. For example, in a controversial book, Ng (2001a) argued that creators are dogmatic people. His argument is as follows: A creative act, by definition, involves the introduction of novel elements into an established domain, and as such it threatens the conventional manner of doing things; therefore, there will be much social resistance from the community. Instead of succumbing to this insidious pressure to conform, the creator must be ready for conflict and confrontation.

Put in a more succinct and pungent manner, to be an effective creator, one must be dogmatic. If one is not dogmatic—if one does not stubbornly cling to one's radical idea—one will not be able to resist the insidious pressure from the community to conform. As Albert Einstein remarked:

> Great spirits have always found violent opposition from mediocre minds. The latter cannot understand it when a person does not thoughtlessly submit to hereditary prejudices, but honestly and courageously uses his intelligence. (Ng, 2001a, p. 135)

Ng (2001a) argued that dogmatic creators are more likely to be found in an individualistic culture because its members are psychologically prepared for conflict and confrontation (i.e., they have a more "combative personality"). By contrast, dogmatic creators are less likely to be found in a collectivistic culture because its members are not psychologically prepared for conflict and confrontation (i.e., they have a less combative personality). According to Ng, individualistic members with combative personalities are examples of creative people who are not "nice," whereas collectivistic members without combative personalities are examples of "nice" people who are not creative.[1]

To support this provocative thesis, Ng (2001b) developed two theoretical models of behavior. The first model asserted that cultural individualism–collectivism has a positive impact on independent self-construal. In turn, independent

self-construal has a positive impact on positive perception of conflict, confrontational style of conflict, as well as creative behavior. The second model asserted that cultural individualism–collectivism has a negative impact on interdependent self-construal. In turn, interdependent self-construal had a positive impact on negative perception of conflict, nonconfrontational style of conflict, as well as conforming behavior. Ng tested these hypotheses in a cross-cultural study involving 386 respondents from an individualistic culture (Caucasian students from Australia) and a collectivistic culture (Chinese students from Singapore). Structural equation modeling (SEM) analyses using LISREL 8.0 (Joreskog & Sorbom, 1993) provided empirical support for the two theoretical models of behavior.

The Paradox of Promoting Creativity in the Asian Classroom

On the basis of Ng's (2001a, 2001b) provocative thesis that creators are dogmatic people, nice people are not creative, and creative people are not nice, we argue that there is a paradox in promoting creativity in the Asian classroom. We trace this paradox to the peculiar conception of learning in the Confucian tradition, which promotes the idea of human perfectibility as a moral purpose through individuals' lifelong dedication to learning (Tu, 1985). Indeed, the opening sentence of *Confucius: The Analects* refers to the significance and joy of learning: "Is it not pleasant to learn with a constant perseverance and application?" (Lau, 1979, p. 59)). Close scrutiny of this classic in Chinese literature reveals that the term "learning" pervades the entire text, thus qualifying it to be called a "book of learning."

This dedication to learning is not aimed at mere literacy but, more important, at cultivating one's moral character, so that one can be *neisheng* or "sagely within" and *waiwang* or "kingly without" (Lee, 1996). That is, Chinese learners are not only exhorted to seek inner self-cultivation and virtue (*neisheng*) but also to contribute their learning back to society by assuming "meritorious service" (*waiwang*). Confucius puts it in this way:

> The officer, having discharged all his duties, should devote his leisure to learning. The student, having completed his learning, should apply himself to be officer. (Lau, 1979, p. 155)

Cheng (1996) observed that when a Chinese parent sends a child to school, it is not merely to ensure that the child acquires literacy. In addition, the parent is concerned with providing the child with the moral way to develop as a person in society. This emphasis on moral development implies that the teacher should not be merely an effective instructor who transmits information accurately to students. It is also crucial for the teacher to serve as a moral exemplar for students to emulate (Liu, 1973).

This Confucian notion of the teacher as moral exemplar is brought out clearly in a study of British and Chinese secondary school students by Jin and Cortazzi (1998). The British students characterized a good teacher as one who is able to

arouse the students' interest, explain clearly, use effective instructional methods, and organize a range of activities, which are very much the teaching skills taught in typical Western teacher-training programs (Biggs, 1996). The Chinese students, on the other hand, preferred their teacher to have deep knowledge, to be able to answer questions, and to be a good moral model.

In the Confucian tradition, the teacher serves as a moral exemplar to students. In return, students show their reverence for their teacher by behaving with meekness and obedience. As Jin and Cortazzi (1998) observed, whereas in Britain it is the good students who obey and pay attention to what the teacher says, in China, this is something that both teacher and students alike take for granted of all students. This is expressed in Biggs's (1996) notion of the docile student in the East. Biggs uses this term not in a negative, derogative sense but in its original sense of being teachable: Chinese students enter the classroom believing that their teachers are exemplars in learning who have valuable knowledge that is their duty as students to learn. In return, the teacher also has a high expectation of the students' diligence, perseverance, endurance of hardship, concentration, and self-cultivation.

Although there is a good fit between the teacher as moral exemplar and the student as docile learner in the Confucian tradition, nevertheless it results in the paradox of promoting creativity in the Asian classroom. This is because, when students behave in a creative manner, two tendencies are set in motion simultaneously (Ng & Smith, 2004). Specifically, there is a decrease in student tendency to engage in those DBU behaviors that characterize nice individuals who are not creative in proportion to the increase in student tendency to engage in those CBU behaviors that characterize creative individuals who are not nice. The more creative students become, the more difficult it is to control and manage them, especially for those teachers who are steeped in the Confucian tradition of learning. This is because they have been socialized to instruct docile students who behave in a desirable but uncreative manner. By contrast, teachers have not been socialized to instruct skeptical students who behave in a CBU manner.

A Cultural Model of Creativity in the Classroom

On the basis of the foregoing analysis, we propose a cultural model of creativity in the classroom, which is shown in Figure 1. In this model, we assert that there is a meaningful relationship among cultural individualism–collectivism, the two teaching attitudes, as well as the characteristics of creativity. This meaningful relationship is depicted in two sets of hypotheses. First, we hypothesized that cultural individualism–collectivism has a positive impact on L-D attitude (H1A). On the other hand, we hypothesized that it has a negative impact on C-A attitude (H1B). Second, we hypothesized that L-D attitude has a positive impact on the tendency to promote CBU behaviors in class (H2A). On the other hand, we hypothesized that C-A attitude has a positive impact on the tendency to promote DBU behaviors in class (H2B).

Method

Participants

We recruited two groups of participants for this study. The first group consisted of 76 novice teachers in Singapore (collectivistic sample), and the second group consisted of 59 novice teachers in Australia (individualistic sample). Participants from these two groups completed a short survey at the end of their class. The survey consisted of the two instruments described in Study 2.

Results

To verify the cultural model of creativity in the classroom, we performed SEM. In this analysis, we used the nationality of the respondent as an indicator of cultural individualism–collectivism. Specifically, we coded Singapore as 1 to indicate a lower degree of cultural individualism–collectivism; we coded Australia as 2 to indicate a higher degree of cultural individualism–collectivism. The use of nationality as a proxy measure of culture stems from the observation that East Asian communities tend to be more collectivistic in nature, whereas European–American communities tend to be more individualistic in nature (Ng, 2001a; Triandis, 1995).

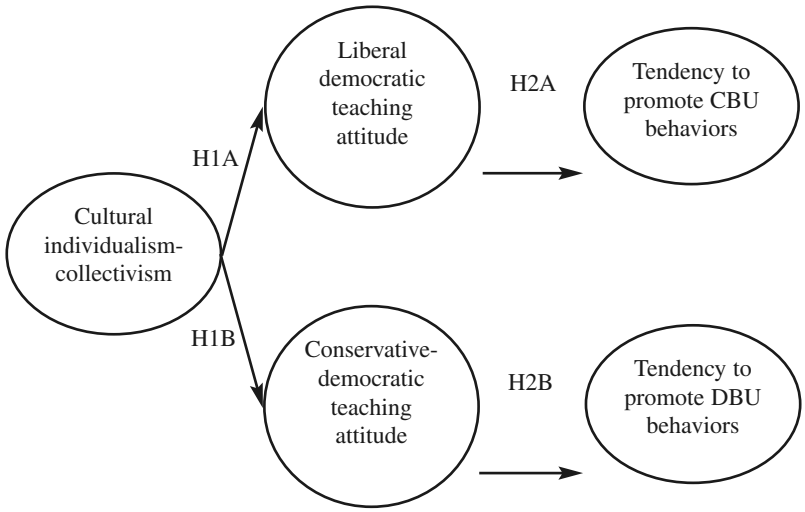

FIGURE 1. A cultural model of creativity in the classroom. *Notes*. DBU = desirable but uncreative, and CBU = creative but undesirable. Refer to text for descriptions of hypotheses H1A, H1B, H2A, and H2B.

To measure L-D attitude, we used two parceled indicators formed by randomly dividing the eight L-D items in two equal parcels of four. Similarly, to measure C-A attitude, we used two parceled indicators formed by randomly dividing the eight C-A items in two equal parcels of four. To measure the tendency to promote CBU behaviors, we used two parceled indicators formed by randomly dividing the six CBU items in two equal parcels of three. Similarly, to measure the tendency to promote DBU behaviors, we used two parceled indicators formed by randomly dividing the six DBU items in two equal parcels of three. Parceling reduces the number of indicators per construct. A parceled indicator also has a distribution that approximates normality, as it is made up of a few randomly clustered items (Finch & West, 1997).

A structural equation model consists of the measurement and structural models. The measurement model provides information on how well a certain indicator measures a theoretical construct. Figure 2 shows the results for the measurement model of SEM. As can be seen, all the parceled indicators had standardized factor loadings ranging from .38 to .99. These loadings were highly significantly different from zero at $p < .0001$. Hence, we concluded that the parceled indicators were good measures of the theoretical constructs in this study.

The structural model of SEM provides information on how well the theoretical model fits the empirical data. Figure 2 shows the results for the structural model of SEM. H1A was supported: Cultural individualism–collectivism had a positive and significant impact on L-D attitude ($\gamma = .21$, $p < .05$). H1B was supported: Cultural individualism–collectivism had a negative and significant impact on C-A attitude ($\gamma = -.23$, $p < .01$). H2A was supported: L-D attitude had a positive impact on the tendency to promote CBU behaviors in class ($\beta = .43$, $p < .01$). H2B was supported: C-A attitude had a positive impact on the tendency to promote DBU behaviors in class ($\beta = .22$, $p < .05$). With regards to the model as a whole, $\chi^2(24, N = 135) = 38.78$, $p < 0.05$. Although this indicates a poor fit, chi square is known to be affected by large sample sizes, and we used other fit indices to test the validity of the model. As shown in Figure 2, these fit indices fall within the acceptable region, with goodness of fit index (GFI) = .94, adjusted goodness of fit index (AGFI) = .90, comparative fit index (CFI) = .94, standardized root mean square residual (*RMR*) = .08, and root mean square error of approximation (*RMSEA*) = .068.

Summary

We predicted that conservative–autocratic teachers in a collectivistic culture would encourage student behaviors that are desirable but uncreative in nature, whereas liberal–democratic teachers in an individualistic culture would encourage student behaviors that are creative but undesirable in nature. The SEM results were in accordance with our expectation. Specifically, cultural individualism–collectivism had a positive impact on L-D attitude ($\gamma = .21$, $p <$

.05) but a negative impact on C-A attitude ($\gamma = -.23$, $p < .01$). In turn, L-D attitude had a positive impact on the tendency to promote CBU behaviors ($\beta = .43$, $p < .01$), whereas C-A attitude had a positive impact on the tendency to promote DBU behaviors in class ($\beta = .22$, $p < .05$). Overall, there was a good fit between the theoretical model and the empirical data, as indicated by a variety of fit indices: GFI = .94, AGFI = .90, CFI = .94, standardized *RMR* = .08, and *RMSEA* = .068.

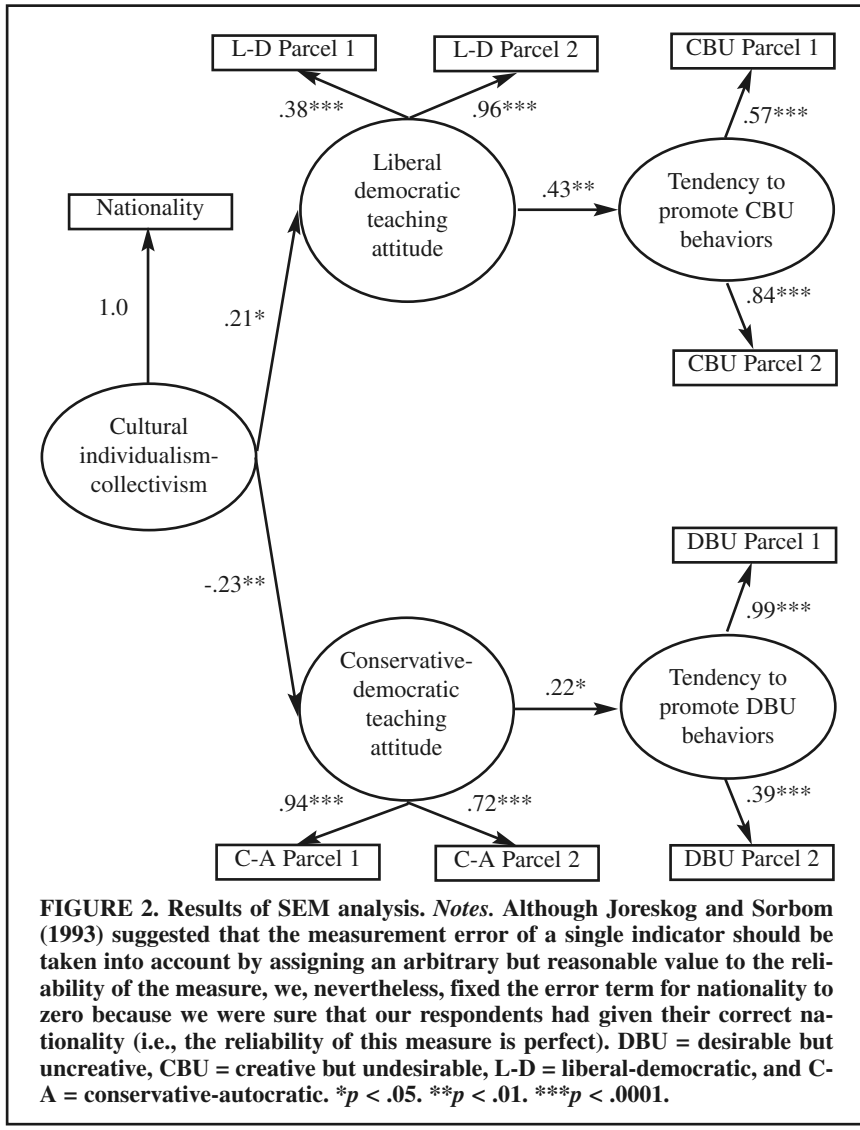

FIGURE 2. Results of SEM analysis. ***Notes.*** **Although Joreskog and Sorbom (1993) suggested that the measurement error of a single indicator should be taken into account by assigning an arbitrary but reasonable value to the reliability of the measure, we, nevertheless, fixed the error term for nationality to zero because we were sure that our respondents had given their correct nationality (i.e., the reliability of this measure is perfect). DBU = desirable but uncreative, CBU = creative but undesirable, L-D = liberal-democratic, and C-A = conservative-autocratic. *$p < .05$. **$p < .01$. ***$p < .0001$.**

GENERAL DISCUSSION

In this article, we have attempted to shed light on the paradox of promoting creativity in the Asian classroom. This paradox refers to a certain anomaly in education: Teachers in the East are encouraged to nurture creativity in students. Yet many studies reveal that, in general, teachers do not like creative students. We trace this paradox to the peculiar conception of learning in the Confucian tradition, which emphasizes the moral development of the learner. This emphasis on moral cultivation in the classroom implies that the teacher should serve as a moral exemplar for students. In return, students should show reverence for the teacher by remaining docile and teachable. This Confucian tradition of learning creates a paradox for the teacher who nurtures creativity in the Asian classroom. In a creative classroom, there is a decrease in student tendency to engage in those DBU behaviors that characterize nice individuals who are not creative in proportion to the increase in student tendency to engage in those CBU behaviors that characterize creative individuals who are not nice.

We conducted an empirical investigation of this paradox in three related studies. In the first study involving two different groups of novice teachers, we showed that an empirical distinction could be made between CBU and DBU characteristics of creativity. Specifically, exploratory factor analysis of data from the first group of novice teachers revealed a clear two-factor solution. One factor consisted of CBU student characteristics, and the other factor consisted of DBU student characteristics. A paired-sample t test of data from the second group of novice teachers suggested that there was a stronger tendency to encourage behavior with DBU rather than CBU characteristics in the classroom.

Building on this finding, we conducted a second study with novice and experienced teachers. We predicted and found that conservative–autocratic teachers were more likely to encourage student behaviors that are DBU in nature, whereas liberal–democratic teachers were more likely to encourage student behaviors that are CBU in nature. In addition, we found that, compared with novice teachers, experienced teachers were more conservative–autocratic and more likely to promote DBU behaviors in the classroom.

In the final study, we predicted and found that cultural individualism–collectivism had a positive impact on L-D attitude but had a negative impact on C-A attitude; L-D attitude had a positive impact on the tendency to promote CBU behaviors in class, whereas C-A attitude had a positive impact on the tendency to promote DBU behaviors in class. These significant findings supported the cultural model of creativity in the classroom that we developed on the basis of our analysis of the paradox of promoting creativity in the Asian classroom. In addition, the findings indicate that the sociocultural milieu is an important influence on the development and expression of creativity, and researchers can enhance their understanding of creativity by incorporating culture in their framework of analysis.

Although our investigation has yielded significant results, it contains several limitations. First, we collected most of our data from novice teachers, so our findings can be generalized only to novice teachers. Future research should be conducted to see whether these results could be generalized to experienced teachers. In particular, research should examine why experienced teachers are more conservative–autocratic and more likely to promote DBU behaviors in the classroom, compared with novice teachers. This was an unexpected finding, but it is in line with the research of Ng (2002), who reported that experienced teachers were more conservative–autocratic, whereas novice teachers were more liberal–democratic.

At the present moment, we can only speculate that novice teachers begin with an idealistic image of the enthusiastic educator who infuses his or her students with *carpe diem*. However, as teachers are increasingly exposed to a school system that emphasizes student discipline and character, they gradually acquire a more C–A attitude toward students. We would like to stress that this is only a post hoc explanation. To ascertain its validity, a longitudinal study would need to be conducted on a group of novice teachers in the East. The researchers' aim would be to ascertain whether the experience of teaching in a discipline-oriented school system has a significant impact on teaching attitude. The specific question would be: Do respondents become more conservative and autocratic toward students as they progress from being a novice teacher to an experienced teacher?

Second, we developed a cultural model of creativity in the classroom and tested it on respondents from an individualistic (Australia) and collectivistic (Singapore) culture. Although we found support for this theoretical model of behavior, more research is needed to refine the model. This research should not be based on a comparison across cultural grouping (e.g., Chinese and American); it should be based on a comparison within cultural grouping (e.g., Japanese and Korean). This is because there are many within-group differences between the two divergent, broadly defined cultural groupings of East Asian collectivism and European–American individualism (Fiske, Kitayama, Markus, & Nisbett, 1998). Finally, we relied only on self-reports to measure the key constructs in this research. Other measures, especially of a behavioral nature, should be used. For example, a videotape analysis of an actual lesson could provide realistic information about teaching attitudes and student behaviors in class.

Despite these limitations, taken as a whole, the findings support our basic contention that there is a paradox in promoting creativity in the Asian classroom. To assist Asian students to be creative, this paradox must be resolved. Failure to do so can reduce the effectiveness of any initiative to promote creativity in the Asian classroom. For example, teachers may experience "culture shock" in the creative classroom and quit because they cannot cope with highly creative but disruptive students in class. Given that the Confucian tradition of learning is the origin of this paradox, we need to revisit this root source of the problem.

Ho, Peng, and Chan (2002) argued that the Confucian tradition of learning

is highly authoritarian in character. This can be seen most clearly in the hierarchical relationship between teacher and student. Teachers are supposed to act as stern disciplinarians in class, instead of allowing their authority to be challenged by students, as captured in this saying, "Rearing without education is the fault of the father, teaching without strictness is the negligence of the teacher." In turn, students are supposed to be meek, diligent, and listen to everything that their teachers say, without being skeptical of it. The authoritarian character of learning in the Confucian tradition constrains, even inhibits, the student's freedom of action, self-assertion, and development of individuality. It impedes free exchange between teachers and students essential for creative teaching and learning. Ultimately, it results in a closing of the Asian mind.

Ng (2004) proposed a way to resolve the paradox of promoting creativity and open up the closed Asian mind at the same time. Creative teachers should specifically minimize rank and hierarchy in the Asian classroom by relating to students in a reciprocal and egalitarian manner. Ng based this proposal on research in self-determination theory, which states that the individual has three basic psychological needs, namely, for competence, relatedness, and autonomy (Deci & Ryan, 2000). If the social environment meets these psychological needs, then the individual would behave in a self-determined manner (Ryan, 1995). Research indicates that the self-determined student is very engaged in the learning process, is intrinsically motivated, adopts a mastery goal in learning, processes information in a conceptual way, thinks in a flexible manner, has a high preference for challenging tasks, and engages in task-involved and creative behavior (Reeve, 1996).

It is important that the self-determined student exercises reflective rather than reactive autonomy. Reflective autonomy refers to the freedom to self-govern, that is, to make informed choices based on an awareness of one's personal needs and values (Koestner & Losier, 1996). Because it is a reflective weighing of outside inputs along with consideration of one's own interests and feelings, this form of autonomy is procommunal in character. By contrast, reactive autonomy refers to freedom from governance of others, predicated on independence and nonreliance on others. Because it is a psychological reaction against external influence on behavior, this form of autonomy is anticommunal in character. In accordance with this characterization of the two constructs, Hodgins, Koestner, and Duncan (1996) provided empirical evidence indicating that, unlike reactive autonomy, reflective autonomy does not undermine but actually promotes interpersonal connectedness and positive experiences with significant others.

From the self-determination perspective, to nurture creative students who are optimally engaged in the learning process and exercise their autonomy in a reflective rather than reactive manner, the creative teacher should strive to meet their psychological needs for competence, autonomy, and relatedness. This goal can best be attained by the L–D teacher in a learner-centered classroom rather than by the C–A teacher in an instructor-centered classroom. Adopting a L–D at-

titude rather than a C–A attitude allows the creative teacher to exercise friendly authority over students. In turn, this friendly authority enables the creative teacher to guide students along the middle path, between the extremes of DBU behavior on the one hand and CBU behavior on the other hand.

A vivid illustration can be seen in the critically acclaimed movie *Dead Poets Society*. There are two relevant characters in this powerful story about a group of students. One character is Mr. Nolan, the headmaster of Welton Academy. He serves as a fictitious example of the teacher who adopts a C–A attitude toward students, which is seen when he spanks a mischievous student for his antics. In contrast to the no-nonsense headmaster is Mr. Keating, a Welton alumnus who has returned to the school to teach poetry. He serves as a fictitious example of the teacher who adopts a L–D attitude toward students. This is seen in his unorthodox teaching methods, which range from exhorting students to "suck the marrow out of life" and getting them to stand on the teacher's desk, to warning students of the dangers of conformity by making them march in the courtyard of the school.

Which teacher exercises greater influence over students? Initially, it appears to be Mr. Nolan, but on closer inspection it turns out to be Mr. Keating. As Ng (2004) observed, Mr. Noland's students may obey his instructions, but they are not likely to treat his desire as their desire. This is because he adopts a C–A attitude, which decreases their love and affection for him as a person. By contrast, Mr. Keating's students not only obey his instructions, they are likely to treat his desire as their desire. This is because he adopts a L–D attitude, which increases their love and affection for him as a person. The friendly authority that Mr. Keating exercises over his students enables him to attenuate the negative aspects of creativity in the classroom. For example, Mr. Keating successfully reproaches a student for engaging in a silly prank during a school assembly by pointing out that "sucking the marrow out of life does not mean choking on the bones." In contrast, Mr. Nolan's spanking of the student had no transforming effect on the miscreant, save for a sore bum.

Can the Asian teacher minimize rank and hierarchy by relating to students in a reciprocal and egalitarian manner? Although it may seem like a difficult if not impossible task for educators in the East because of the prevalence of Confucian-oriented pedagogy in this culture, there is reason to believe that this attitudinal change can be accomplished. Biggs (1996) observed that, despite the relatively little interaction and lack of response to the teacher in the Asian classroom, there was much teacher–student interaction outside class, with a lot of informal discussions and collective activities. Biggs attributed this phenomenon to the complex nature of social roles and relationships in a collectivistic culture. Within the Asian classroom, a ritualized and hierarchical relationship is specifically in operation, so the Asian teacher is likely to behave in a formal and reserved manner toward students. However, outside the Asian classroom, there are fewer norms and social rules, so the Asian teacher is likely to behave in a warm

and genial manner toward students. All this suggests that it is possible for the Asian teacher to nurture creative students who exercise reflective autonomy and use their talents to serve society. Confucius would be pleased to hear this.

NOTE

[1]No value connotation is associated with the use of "nice." That is, "nice" does not mean "morally better." Instead, "nice" means being able to get along with other people with a minimal amount of social friction.

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