

This article was downloaded by: [College of William & Mary]

On: 03 April 2012, At: 14:48

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Creativity Research Journal

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/hcrj20>

Creativity and Confucianism Among American and Korean Educators

Kyung Hee Kim^a, Hang Eun Lee^b, Ki-Byung Chae^a, Lori Anderson^a & Christopher Laurence^a

^a School of Education, The College of William and Mary

^b The Korea Invention Promotion Association

Available online: 09 Nov 2011

To cite this article: Kyung Hee Kim, Hang Eun Lee, Ki-Byung Chae, Lori Anderson & Christopher Laurence (2011): Creativity and Confucianism Among American and Korean Educators, *Creativity Research Journal*, 23:4, 357-371

To link to this article: <http://dx.doi.org/10.1080/10400419.2011.621853>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.tandfonline.com/page/terms-and-conditions>

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Creativity and Confucianism Among American and Korean Educators

Kyung Hee Kim

School of Education, The College of William and Mary

Hang Eun Lee

The Korea Invention Promotion Association

Ki-Byung Chae, Lori Anderson, and Christopher Laurence

School of Education, The College of William and Mary

The purpose of this study was to examine differences in creative styles and Confucian ideas between Koreans and Americans and to examine the relationship between creativity and Confucianism. A total number of 579 educators (227 American and 352 Korean) participated in this study. Eastern-Western Perspective Scale was used to measure participants' level of Confucianism and the Torrance Tests of Creative Thinking-Figural was used to measure participants' level of creative potential. The results indicate that Koreans have strikingly more Confucian ideals than Americans, whereas Americans have more creative strengths and are more adaptively creative than Koreans. The results also indicate higher levels of Confucianism relate to lower levels of creativity. The Confucian elements that show negative relationships with creativity are suppression of expression, gender inequality, gender role expectations, and filial piety.

Multiple factors influence the creativity of a single individual. Although some factors affecting creativity are unique to an individual, most factors affecting creativity have a relationship to a person's macrocosm, including intrapersonal or social factors such as the environment or culture in which that person exists (Ivcevic, 2009; K. H. Kim, 2007). Thus, a focus on enhancement of an individual's personal domain and creativity skills is insufficient to enhance overall creativity if the individual's cultural setting does not foster creative growth and expression. Many cross-cultural studies illustrate the interaction of culture and creativity (e.g., Lim & Plucker, 2001; Lubart, 1990, 1999; Paletz & Peng, 2008; Rudowicz & Hui, 1997; Seo & Lee, & Kim, 2005; Yue & Rudowicz, 2002).

CREATIVITY IN DIFFERENT CULTURES

Creativity may not exist in the same form across cultures because creativity seems to be differently understood and associated with other cultural values in various contexts (Paletz & Peng, 2008). Cultural supports for novelty, risk-taking, and individuality influence creativity and innovation implementation (L. K. Williams & McGuire, 2005). Asian culture emphasizes collectivism rather than individualism, which might influence Asians' creative styles (Ee, Seng, & Kwang, 2007) and levels of creativity. Different cultural values shape creativity differently by reflecting social norms and cultural standards. For example, when evaluating artistic creativity, the standards of Eastern cultures are more likely to be consistent, whereas those of Western culture are more likely to be flexible, reflecting the artists' or judges' personal preference (Li, 1997). Japanese students are less likely to express their own ideas than their American counterparts, and they also tend to use general titles

Correspondence should be sent to Kyung Hee Kim, School of Education, The College of William and Mary, 301 Monticello Avenue, Williamsburg, VA 23187. E-mail: kkim@edu

rather than abstract or descriptive ones (Saeki, Fan, & Van Dusen, 2001).

Some studies found people from East Asian societies tend to be less creative than people from the more individualistic Western societies (e.g., K. H. Kim & Sergent, 2004; Rudowicz & Ng, 2003; Saeki et al., 2001). This may indicate some characteristics of East Asian culture present blocks to creativity.

In East Asian cultures, Confucianism is the core of the cultural framework (Chaves, 2002; A. E. Kim & Park, 2003). East Asian culture is deeply affected by Confucianism because it serves as society's core values, traditions, and ethical and moral foundation for business and social interactions, and it deeply affects people's thinking styles (Diriik, 1995; Greer & Lim, 1998; Hahm, 2003; Martinsons & Martinsons, 1996). Therefore, this study explored the principles of Confucianism and how the principles affect the creativity of individuals.

CONFUCIANISM AND CREATIVITY

Confucian teaching emphasizes the four principles of education, family system, hierarchical social relationships, and benevolence (Chen & Chung, 1994). Confucianism can be combined with the smaller components (see K. H. Kim, 2007), and creativity literature has explored the connections between creativity and the smaller components of Confucianism.

Creativity and Emphasis on Education

As a result of Confucianism, East Asian people are highly motivated toward the acquisition of education, including a strong desire to obtain higher degrees and diplomas (Martinsons & Martinsons, 1996; Sorensen, 1994). This emphasis on education is usually thought of as positive, but Confucianism's extreme emphasis on education has some negative consequences in East Asian society: Extreme competition for acceptance into prestigious universities results in undermining psychological and emotional freedom (Ivcevic, 2009), as well as health issues such as high levels of stress, anxiety (Dineen & Niu, 2008; Sung et al., 1992), depression (Crittenden, Fugita, Bae, Lamug, & Lin, 1992), and even suicide (Sung et al., 1992; Wollam, 1992). Unhealthy emotional and psychological conditions prohibit the development of creative potential (Fong, 2006). Additionally, Confucianism's strong emphasis on acquisition of correct knowledge on education constrains generating new idea and new knowledge and may negatively affect creativity (Ho & Ho, 2008).

Rote-learning and memorization. The educational system may support or stifle creative potential or

creative expression (Ivcevic, 2009). The extreme competition for higher education has fostered a rigid standardized examination system (Joo & Grow-Maienza, 1997), which emphasizes the rote learning and memorization that can restrict students' creative thought (Ivcevic, 2009; Leung, Maddux, Galinsky, & Chiu, 2008). The exclusive reliance on standardized testing for educational assessment and on transmission of systemic knowledge limits creativity (Jeon, 2000; Jian, 2009; J. Kim & Michael, 1995; K.-I. Kim, 1999). Recently, however, Asian countries have started putting more effort on developing creative thinking rather than sustaining rote learning in their education (Cheng, 2011)

Belief in hard work and a devaluing of play. East Asian parents believe good grades come from hard work, effort, diligence, endurance, perseverance, and persistence (R. M. Haynes & Chalker, 1998; Henderson, 1990; Park & Kim, 1999). As a result of the emphasis on hard work, most East Asian parents do not accept childhood as a time for play or having fun (Fielding, 1997; Rudowicz & Hui, 1997). They devalue play, which creates a work-play dichotomy. However, playfulness is one of the psychological attributes that flourish creativity (Dineen & Niu, 2008). Limited value placed on play can stifle a child's creativity (Bishop & Chace, 1971; Vygotsky, 1992). Play stimulates a child's imagination (Van Hoorn, Nourot, & Alward, 1993); creative expression and insights (Richards, 1996); and fantasy (Hennessey & Amabile, 1987), and play can be an effective form of self-education for creative children who learn more effectively in nonauthoritarian settings (Amabile, 1979; Torrance, 1962, 1977).

Creativity and Family System

Overemphasis on loyalty/obedience to the company and the state. The hierarchical family system emphasizes family loyalty and obedience to elders, and has been transferred to all social organizations (e.g., family, business, and schools). Confucian society, itself, is a large family in which the obedience of the son to the authority of the father is essential (Fah, 2002). This family system reflects as company loyalty; diligence for self manifests as working hard for one's workplace; and domestic paternalism acts to control employees (A. E. Kim & Park, 2003). However, overemphasis on following rules and traditions at work (Van Gundy, 1987) and power distance (William & McGuire, 2005) present organizational barriers to creative innovation. Recently, however, Asian businesses have shifted their emphasis from loyalty and obedience to creative problem solving and decision making (W. M. Williams & Yang, 1999).

Overemphasis on filial piety and dependence. The concept of filial piety is so specific to Confucian culture that no comparable concepts are found in other cultures (Hwang, 1999). Filial piety, or consanguineous affection, is the most essential value in East Asian peoples' minds and is a foundation principle of their lives (Q. Liu, 2003). The concept of filial piety consists of filial and obedience, and Confucianism urges the unquestioned authority of the father and the unquestioning obedience of the son (Bi & D'Agostino, 2004). Filial piety and obedience lead students to automatically accept their parents' or elders' conventional thinking. Thus, filial piety and obedience in a family, and sacrificing autonomy and independence for the benefit of the group, discourages divergence and limits creative thinking (Davis, 1999).

Strict parenting. East Asian parenting practices, although warm, are very restrictive, with narrow limits to acceptable behavior (e.g., Bond, 1992; Gelfand, Nishii, & Raver, 2006) arising from an emphasis on family relationships and the responsibility to bring honor to family (Ee & Seng, 2008). The expectation of respect for the authority of elders in a family is critical, and parents are authoritative figures who enforce dependence and submissiveness from their children. However, the dependence of parents might deprive their children of important experience that they need to accomplish their creative achievements (Howe, 1999). The parental style that provides children the sense of safety for negotiation within family and feeling of self-governing, as well as promoting family rules positively affect development of creativity (Guay, 2008; Mouchiroud, 2008; Mouchiroud & Bernoussi, 2008). On the other hand, negative influences on creativity within a family include: parental vigilance (Getzels & Jackson, 1961) and controlling home environments (Papalia & Olds, 1986). Thus, East Asian parenting practices may have a negative relationship with a child's creativity.

Creativity and Hierarchical Social Relationships

Confucianism recognizes five classifications of human relationships: ruler/subject, father/son, husband/wife, older brother/younger brother, and friends. These relationships are assumed to be unequal and complementary (Fan, 2002; Herr, 2003; Hwang, 2001). Confucianism presumes age-related hierarchy that values respect for older people, and age is presumed to correlate with wisdom, respect, and power (Bae & Orlinsky, 2006). The hierarchy also regulates men above women, and teachers above students. Although the hierarchy has some advantages for society as a whole, it also inflicts rigidity and systemizes inequitable obligations, all of which

hinders creativity development. Cultures that impose order, accountability, and alignment tend to force people to avoid uncertainty and resist change. On the contrary, cultures that have less cohesion accept diverse idea expressions and support creative expressions (Gelfand et al., 2006). For example, in the workplace, creativity is enhanced by leadership open to communication and supportive of creating new ideas, rather than stressing controlling and close monitoring (Choi, Anderson, & Veillette, 2009).

Inequality between men and women. The Confucian hierarchy dictates an inequitable status for women (Fah, 2002), which forces women into submissive roles (Chung, 1994; Park & Kim, 1999). The rigid gender relationship that values masculinity inhibits creativity in both men and women because both sensitivity and independence are essential for creativity (Dobre, Dragomir, & Preda, 2009; Maslow, 1976), and these are seen as exclusively feminine or masculine virtues and discouraged in the opposite sex. Other gender traits that affect creativity are intellectual autonomy and acceptance of nontraditional gender roles (Grant, 1973).

Obedience to teachers. The Confucian hierarchy dictates respect for elders and teachers (Bathory et al., 1992). Students accept the information from teachers and rarely express their opinions or ask questions, which fosters passive students and silent classrooms (S. Chan, 1999). Within the relationship in the Confucian hierarchy, individual autonomy including freedom of action and self-assertion cannot be cultivated (F. Haynes, 2007; Ho & Ho, 2008), and teachers overcontrol classrooms, inhibiting their students' creativity (Fleith, 2000). The interaction between teachers and students in the Confucian hierarchy does not cultivate creativity or innovation (Martinsons & Martinsons, 1996), and results in sanctions against questioning and exploration, all of which limit the development and expression of creativity (Fielding, 1983).

Creativity and Benevolence

Benevolence includes traits such as self-restraint, self-discipline, personal duty, and positive interpersonal behavior (Fan, 2002; Hwang, 2001; S. Liu, 2009). The principle of benevolence brought about negative consequences to creativity due to suppression of emotion, minimization of verbal interaction, self-effacement, and conformity.

Suppression of emotion. One of the guiding principles for human relationships in Confucianism is

suppression of emotional expression with stress of conformity (Averill, Chon, & Hahn, 2001; Ee & Seng, 2008), and even affectionate expression is considered inappropriate (Yi, 1993). However, suppression of emotional expression inhibits creativity (Averill et al., 2001). In the creative process, individuals' feelings can simultaneously tie to creative experience (Amabile, Barsade, Mueller, & Staw, 2005), and to expressions of their feelings as their creative outlets (Verhaeghen, Joormann, & Kahn, 2005). Suppression of emotion might create obstacles to cultivating creativity by discouraging people to express their feelings, which is one of the characteristics of creative individuals (David, 1999). The development of creativity in children is enhanced by the expression of feelings and impulses (Lytton, 1971) and by providing children the freedom to express both positive and negative feelings (Domino, 1969).

Minimization of verbal interaction. Confucianism restricts verbal interactions, especially in men. Parents discourage a child's exploratory activity, by restricting behavior such as telling about their surroundings (Bond, 1992). Confucianism places more value on written words than discussion because of its emphasis on orthodox knowledge as a written form and training in composition, rather than in oral discourse (Ho & Ho, 2008). Also, because Confucianism's modest behaviors link to avoid appearing different and to fear embarrassment by making mistakes, it keeps students silent in the classroom (Martinsons & Martinsons, 1996). This may manifest in lower performances in verbal tests of intelligence, and a corresponding decrease in creativity (Fielding, 1997).

Self-effacement. People in Confucian culture have a fear of losing dignity, prestige, and self-respect. This is called self-effacement and is linked to the Confucian value of modest behavior. Modest behavior is a highly respected virtue and also emphasizes avoidance of being different from others. In Confucian cultures, individuals are not supposed to be narcissistic (Martinsons & Martinsons, 1996). However, healthy narcissism is related to creativity, and creative individuals have a greater degree of normal narcissism than others (Solomon, 1985).

Conformity, collectivism, and conformity. Confucianism emphasizes collective good and harmony (Park & Kim, 1999), conformity, and acting predictably within a situational context. Adherence to group interests is often justified at the expense of individual interests (Chung, 1994). The collectivistic context tends to discourage creative behaviors (Ng, 2001). Social pressures

that emphasize conformity and the avoidance of appearing different or eccentric limit the development and expression of creativity (Averill et al., 2001). Conformity and uniformity conflict with the creativity and initiative that are required in scientific work (Cummings, 1994). New creative ideas will not flourish if social systems are rigid or discourage independence and novelty (Rudowicz & Hui, 1997). Creativity-friendly environments allow individuals to engage in their tasks without feeling pressured to conform to norms within dynamic interaction with others (Haynes, 2004). The anticreativity effects of socialization and conformity are seen in the United States and other cultures. A large drop in creativity and curiosity occurs when socialization and conformity is first taught, which occurs in western society beginning in the fourth grade (Axtell, 1966; Marcon, 1995; Torrance, 1968; F. E. Williams, 1976). However, nonconformity tends to be a drive in creative individuals (Whitmore, 1980).

Social responsibility and conformity. The characteristics of creative individuals clash with the traditional concept of social responsibility in Confucian cultures. Although the concepts of creativity are similar to Westerner concepts, Confucian cultures tend to emphasize the negative behaviors and characteristics of creative individuals (D. W. Chan & Chan, 1999; Lim & Plucker, 2001; Rudowicz & Hui, 1997; Rudowicz & Yue, 2000): Creative individuals (a) are seen as indifferent to other's opinions, (b) cause conflicts when working in groups, and (c) tend to be headstrong and rude. The emphasis on the negative characteristics of creative individuals can be a critical obstacle to development of creativity in Confucian cultures (Lim & Plucker, 2001). The stigma placed on those who appear different extends to people's views about creative behavior, which enforces self-limiting creative expression. Thus, Confucian culture might suppress creative impulses externally and create internal barriers to creativity.

ADAPTIVE STYLE, INNOVATIVE STYLE, AND CREATIVE STRENGTHS

Kirton (1999) indicated that individuals have relative preferences for solving problems independent of their creative ability, and adaptors create original ideas that fit existing paradigms, whereas innovators create original ideas that challenge existing paradigms. The principals of Confucianism may affect Innovative and Adaptive styles of creativity differently. K. H. Kim (2006b) suggested that one's creative styles and creative potential can be measured by using the Torrance Test of Creative Thinking (TTCT, see the instrument section for

details). K. H. Kim (2006b) reported that creative potential, measured by the TTCT, consists of at least two factors: The innovative factor is associated with fluency and originality, whereas the adaptive factor is associated with elaboration and abstractness of titles. Innovators are found to be more fluent, more original, more drawn to risk taking, and more extraverted than adaptors (Isaken & Puccio, 1988; K. H. Kim, 2006b; K. H. Kim, Cramond, & Bandalos, 2006; Kwang & Rodrigues, 2002; Kwang et al., 2005; Torrance & Horng, 1980). In addition, *resistance to premature closure* and *creative strengths* are related to an additional factor that measures creative personality (K. H. Kim, 2010).

Research Questions

The research questions for this study were: Is there a relationship between Confucianism and creativity? If so, how does Confucianism influence adaptive style, innovative style, and creative strengths between cultures and gender?

METHODS

Participants

A total number of 579 educators (227 American and 352 Korean) participated in this study. These educators were all enrolled in a TTCT-scoring workshop or a creativity-training workshop. Thus, the participants were tested on the first day of their multiday training sessions to limit the influence of the training. Most of them were teachers at an elementary school, a middle school, a high school, or a college; employees of educational institutes; or undergraduate and graduate students in education programs in the United States or in Korea.

Participants included 214 men and 365 women, and their age ranged from 18 to 62, with a mean age of 36.7 years ($SD=9.8$). American educators consisted of 38 men and 189 women, and their age ranged from 18 to 57 with a mean age of 29.5 ($SD=9.1$). Due to this unequal men-to-women ratio for the American sample, the interaction effects between culture and gender were not examined in the analysis. Korean educators consisted of 176 men and 176 women, and an age range of 22–62, with a mean age of 39.8 ($SD=8.3$). Seventy-three Americans and five Koreans did not indicate their ages, even after the administrators reminded them to indicate their age as soon as they received the instruments. The significant differences in missing ages between the nationalities might be reflective of Western

culture's emphasis on youth, which contrasts with Confucianism's inherent respect for age.

Instrumentation

Two instruments were used in this study: The Eastern–Western Perspective Scale (EWPS; K. H. Kim, 2004) was used to measure participants' degrees of Confucian ideals, and TTCT-Figural (Torrance, 2008) was used to measure participants' creative potentials.

EWPS. The EWPS measures the extent to which respondents' views align with Confucian ideals. To compare levels of Confucian ideals with levels of creative potential, the Confucianism categories from the literature review were used to group the content items on the scale where Confucianism was broken down into elements that were then compared to creativity research (see K. H. Kim, 2004, for details). A total of 49 items are based on the four principles of Confucianism: importance of education (9 items) including devaluing play/work–play dichotomy and emphasis on education; family system (13 items) including filial piety, obedience, and loyalty to the authority; hierarchical relationships (11 items) including gender inequality and gender role expectations; benevolence (16 items) including conformity, self-effacement, and suppression of expression. As shown in the example of the EWPS found in the appendix, each item is answered on a Likert scale of 1 to 5, with 1 meaning the least Confucian and 5 meaning the most. Thus, higher total scores of the EWPS indicate a more Confucian perspective, and lower total scores of the EWPS indicate a less Confucian perspective (except for certain reversed items, specifically 4, 6, 42, & 45). The internal consistency reliability of this scale was .917.

TTCT-Figural. The TTCT was developed by Torrance in 1966. It has been renormed five times: in 1974, 1984, 1990, 1998, and 2008. The TTCT has two different versions: the TTCT-Verbal and TTCT-Figural (see K. H. Kim, 2006a, for details). In this study, only the TTCT-Figural was used. The product–moment reliability coefficients range from .92 to .94 (Torrance, 1990). Clapham (2004), Torrance, Ball, and Safter (1992), and Treffinger (1985) reported high test–retest reliability over short time for fluency, originality, and elaboration. Torrance (1998) reported interrater reliability of TTCT figural above .90. The TTCT-Figural has been reported as a reliable and valid measure of creative potential (Cooper, 1991; Treffinger, 1985). The TTCT is the most researched and analyzed (Swartz, 1988; Treffinger, 1985); the most referenced

TABLE 1
Descriptions of the Subscales of the Torrance Test of Creative Thinking–Figural

Factor	Subscale	What the Subscale Measures	
Innovative thinking	Fluency	A number of relevant ideas	
	Originality	Unique and unusual ideas	
Adaptive thinking	Elaboration	Detailed and reflective thinking, motivation to be creative	
	Titles	Abstract thinking, capturing the essence of the information	
Personality traits	Closure	Intellectual curiosity, open-mindedness	
	Strength	<i>Checklist</i>	
		<i>Description</i>	
		Emotional expressiveness	Emotionally expressive
		Movement or action	Energetic
		Storytelling articulateness	Talkative
		Expressiveness of titles	Verbally expressive
		Humor	Humorous
		Fantasy	Imaginative
		Extending or breaking boundaries	Unconventional
		Richness of imagery	Lively or passionate
		Colorfulness of imagery	Perceptive
		Synthesis of incomplete figures/lines or circles	Connecting seemingly irrelevant things together
	Internal/unusual visualization	Seeing things from a different angle	

(Lissitz & Willhoft, 1985); and the most widely used (Davis, 1997) of all creativity or divergent-thinking measures. It has been translated into over 35 languages (Millar, 2002). The TTCT-Figural consists of five norm-referenced measures of fluency, originality, elaboration, abstractness of titles, and resistance to premature closure, and thirteen criterion-referenced measures of creative strengths, as Table 1 shows.

RESULTS

Relationships Between Confucianism and Creativity

Canonical correlation allows for investigation of relationships between a set of dependent variables and a set of independent variables with relatively few restrictions. The elements of Confucianism were the independent group of variables, and the types of creativity were the dependent variables. The analysis produced three canonical correlations, and two of the roots were significant. These two roots accounted for 42.28% of the variation. The first root ($Rc = .47$, Wilks' $\nu = .73$, $F(30, 1662) = 6.37$, $p < .001$) accounted for 28.78%. The second root ($Rc = .20$, Wilks' $\nu = .94$, $F(18, 1134) = 2.07$, $p = .005$) accounted for 13.50% of the variation.

Table 2 shows the canonical loadings and standardized canonical coefficients for the significant functions for both the criterion and predictor variables. The coefficients showed that creative strengths and adaptive style were mostly and negatively related dependent variables with the first criterion function, and innovative style was the positively related dependent variable with the first criterion function, which shows both creative strengths and adaptive style are very different from

innovative style. Suppression and gender inequality were the most related independent variables with the first predictor function. For the second function, innovative style was the most related dependent variable with the second criterion function, and obedience was the most related independent variable with the second predictor function, as Table 2 shows.

To interpret and understand the relationship between the dependent and independent variables, SPSS MANOVA canonical correlation command regressed each dependent variable on the set of independent

TABLE 2
Canonical Loadings and Standardized Canonical Coefficients for the Dependent and Independent Variables

Variables	Function 1		Function 2	
	Canonical Loading	Canonical Coefficient	Canonical Loading	Canonical Coefficient
Dependent Variable				
Adaptive	-.68	-.32	.21	-.33
Innovative	.15	.35	.94	.99
Strengths	-.93	-.79	.34	.40
Independent Variable				
Devaluing play	.61	.17	.30	.17
Emphasis on education	.17	-.08	.02	-.20
Filial piety	.47	.18	.04	-.09
Obedience	.03	-.50	.67	.67
Loyalty	.27	-.06	.32	-.06
Role expectations	.53	.05	.56	.38
Gender inequality	.71	.40	.31	.14
Conformity	.61	.25	.44	.33
Self-effacement	.68	.19	.32	.20
Suppression	.75	.35	-.08	-.89

TABLE 3
Canonical Correlation Results on Importance of Each Independent Variable to the Dependent Variables

Dependent Independent	Adaptive			Innovative			Strengths		
	β	<i>t</i>	Sig.	β	<i>t</i>	Sig.	β	<i>t</i>	Sig.
Devaluing play	-.002	-.05	.961	.06	1.15	.252	-.075	-1.50	.134
Emphasis on education	-.013	-.30	.763	-.06	-1.18	.239	.03	.70	.485
Filial piety	-.09*	-2.16	.031	-.02	-0.39	.698	-.08	-1.85	.065
Obedience	.20**	4.00	.000	.09	1.80	.072	.26**	5.49	.000
Loyalty	.04	0.88	.381	-.004	-0.10	.924	.02	0.39	.693
Role expectations	-.13*	-2.41	.016	.02	0.32	.748	.03	0.59	.558
Gender inequality	-.10	-1.85	.065	.06	1.09	.277	-.17**	-3.26	.001
Conformity	-.02	-0.42	.671	.09	1.88	.061	-.10	-2.07	.039
Self-effacement	-.003	-0.06	.948	.07	1.26	.208	-.08	-1.54	.124
Suppression	-.18**	-3.03	.003	-.15*	-2.49	.013	-.21**	-3.73	.000

variables, and the importance of each independent variable was determined by the β values. Table 3 shows the regression results representing the importance of each independent variable on the dependent variable. Strengths was the criterion variable that was the most related to the first function; suppression was the predictor variable that was the most related to the first function. An analysis of the relationship between these variables showed that obedience ($\beta = .26, p < .001$) was significantly positively related to strengths, followed by suppression ($\beta = -.21, p < .001$), but negatively. gender inequality was also significantly negatively related to Strengths ($\beta = -.17, p < .001$).

Obedience ($\beta = .20, p < .001$) was significantly positively related to adaptive followed by suppression ($\beta = -.18, p = .003$), but negatively. Role expectations ($\beta = -.13, p = .016$) and filial piety ($\beta = -.09, p = .031$) were also significantly negatively related to adaptive.

Innovative was the criterion variable that was the most related to the second function; obedience was the predictor variable that was the most related to the second function. Analysis of the direct relationship of these two variables from the regression results showed

that suppression was significantly negatively related to Innovative ($\beta = -.15, p = .013$).

Differences in Confucianism by Culture and by Gender

Differences in Confucianism between Americans and Koreans. The means and standard deviations of the EWPS total scores for the entire group, Americans, and Koreans are reported in Table 4. Koreans had a significant higher mean EWPS Total score than Americans; $t(577) = 16.24, p < .001$. The multivariate analysis of variance (MANOVA) result showed a significant culture effect; Wilks's $\Lambda = .48, F(10, 568) = 62.68, p < .001$. The effect size of multivariate $\eta^2 = .52$ indicated that 52% of multivariate variance of the 10 elements of the EWPS were associated with cultural differences. Analyses of variance (ANOVA) were conducted as follow-up tests to the MANOVA, and each ANOVA was tested at the .005 ($\alpha = .05/10$) level using Bonferroni adjustment. The results showed that Koreans agreed to all of the 10 elements of the EWPS significantly more than Americans ($p > .005$). The biggest differences (most

TABLE 4
Descriptive Statistics for the Four Principles of Confucianism and Each Element of the Principles (N= 579; 227 for Americans and 352 for Koreans)

Four Principles of Confucianism	Confucianism Factor	American (SD)	Korean (SD)	Total (SD)
Eastern-Western Perspective	Scale Total	119.4 (16.3)	146.6 (21.5)	135.9 (23.7)
I: Importance of education	Devaluing play	2.9 (0.5)	3.3 (0.6)	3.2 (0.6)
	Emphasis on education	3.0 (0.6)	3.2 (0.6)	3.0 (0.6)
II: Family system	Filial piety	3.1 (0.6)	3.5 (0.8)	3.3 (0.8)
	Obedience	2.4 (0.6)	2.7 (0.6)	2.6 (0.6)
	Loyalty	2.9 (0.6)	3.2 (0.6)	3.1 (0.6)
III: Hierarchical relationship	Role expectations	1.9 (0.5)	2.7 (0.7)	2.4 (0.8)
	Gender inequality	2.1 (0.7)	2.8 (0.8)	2.5 (0.8)
IV: Benevolence	Conformity	1.8 (0.7)	3.2 (0.9)	2.7 (1.0)
	Self-effacement	2.5 (0.5)	3.2 (0.7)	3.0 (0.7)
	Suppression	2.2 (0.5)	2.7 (0.6)	2.5 (0.6)

TABLE 5
Descriptive Statistics for the Four Principles of Confucianism and Each Element of the Principles ($N = 579$; 214 for Men and 365 for Women)

Four Principles of Confucianism	Confucianism Factor	Male (SD)	Female (SD)	Total (SD)
Eastern–Western Perspective Scale Total		149.5 (23.9)	127.9 (19.7)	135.9 (23.7)
I: Importance of education	Devaluing play	3.4 (0.6)	3.0 (0.5)	3.2 (0.6)
	Emphasis on education	3.2 (0.7)	3.1 (0.6)	3.1 (0.6)
II: Family system	Filial piety	3.6 (0.9)	3.2 (0.6)	3.3 (0.8)
	Obedience	2.6 (0.7)	2.5 (0.6)	2.6 (0.6)
	Loyalty	3.2 (0.6)	3.0 (0.6)	3.0 (0.6)
III: Hierarchical relationship	Role expectations	2.8 (0.8)	2.2 (0.6)	2.4 (0.8)
	Gender inequality	3.0 (0.9)	2.1 (0.6)	2.4 (0.8)
IV: Benevolence	Conformity	3.0 (0.8)	2.5 (1.1)	2.7 (1.0)
	Self-effacement	3.3 (0.7)	2.8 (0.6)	3.0 (0.7)
	Suppression	2.8 (0.6)	2.4 (0.5)	2.5 (0.6)

Koreans agree, but most Americans disagree) among the 10 elements of the EWPS between Americans and Koreans were (in order) conformity (Mean difference [ΔM] = 1.32), gender role expectations ($\Delta M = 0.89$), self-effacement ($\Delta M = 0.78$), gender inequality ($\Delta M = 0.63$), filial piety ($\Delta M = 0.47$), and suppression of expression ($\Delta M = 0.46$).

Differences in Confucianism between men and women. The means and SDs of the EWPS total scores for the entire group, men, and women are reported in Table 5. Men had a significant higher mean EWPS Total score than women; $t(577) = 11.76$, $p < .001$. The MANOVA result showed a significant gender effect (Wilks' $\Lambda = .67$, $F[10, 568] = 27.83$, $p < .001$). The effect size of multivariate $\eta^2 = .33$ indicated 33% of multivariate variance of the 10 elements of the EWPS were associated with gender differences. The ANOVA results showed that, except for two elements—emphasis on education ($\Delta M = 0.09$) and obedience ($\Delta M = 0.11$)—men agreed to all of the eight elements of the EWPS significantly more than women ($p > .005$). The biggest differences (most men agree, but most women disagree) among the 10 elements of the EWPS between women and men were (in order) gender inequality ($\Delta M = 0.77$), gender role expectations ($\Delta M = 0.66$), self-effacement ($\Delta M = 0.60$), conformity ($\Delta M = 0.54$), filial piety ($\Delta M = 0.46$), and suppression of expression ($\Delta M = 0.45$).

TABLE 6

Descriptive Statistics for Adaptive Style, Innovative Style, and Creative Strengths ($N = 579$; 227 for Americans and 352 for Koreans)

	American (SD)	Korean (SD)	Total (SD)
Adaptive style	114.5 (17.5)	104.4 (22.6)	108.4 (21.3)
Innovative style	102.7 (18.5)	110.9 (19.4)	107.6 (19.4)
Creative strengths	135.4 (52.2)	105.4 (42.1)	117.2 (48.5)

Differences in Creativity by Culture and by Gender

Differences in adaptive creative style, innovative creative style, and creative strengths between Americans and Koreans. The means and SDs for adaptive creative style, innovative creative style, and creative strengths for the entire group, Americans, and Koreans are reported in Table 6. The MANOVA result showed a significant cultural effect; Wilks' $\Lambda = .83$, $F(3, 575) = 40.04$, $p < .001$. The effect size of multivariate $\eta^2 = .17$ indicated 17% of multivariate variance of the creativity variables were associated with cultural differences. The ANOVA results showed Americans had significantly higher scores than Koreans on adaptive creative style; $F(1, 577) = 32.18$, $p < .001$; and creative strengths; $F(1, 577) = 57.97$, $p < .001$. However, Koreans had significantly higher scores than Americans on Innovative creative style; $F(1, 577) = .25.55$, $p < .001$.

Differences in adaptive creative style, innovative creative style, and creative strengths between men and women. The means and SDs for adaptive creative style, innovative creative style, and creative strengths for the entire group, men, and women are reported in Table 7. The MANOVA result showed a significant gender effect; Wilks' $\Lambda = .85$, $F(3, 575) = 33.70$, $p < .001$. The effect size of multivariate $\eta^2 = .15$ indicated 15% of multivariate variance of the creativity variables were

TABLE 7

Descriptive Statistics for Adaptive Style, Innovative Style, and Creative Strengths ($N = 579$; 214 for Men and 365 for Women)

	Male (SD)	Female (SD)	Total (SD)
Adaptive style	100.9 (22.6)	112.7 (19.2)	108.4 (21.3)
Innovative style	109.0 (20.2)	106.8 (18.9)	107.6 (19.4)
Creative strengths	94.4 (39.4)	130.5 (48.5)	117.2 (48.5)

associated with gender differences. The ANOVA results showed women had significantly higher scores than men on adaptive creative style; $F(1, 577) = 44.47, p < .001$; and creative strengths; $F(1, 577) = 85.24, p < .001$. However, there was no significant difference in Innovative creative style; $F(1, 577) = 1.67, p = .197$; between men and women.

DISCUSSION

Relationship Between Confucianism and Creativity

This study found higher levels of Confucianism are related to lower levels of creative potential in general, which is consistent with previous studies (Kim, 2004, 2010). The Confucian elements that show significantly negative relationships with creative potential are suppression of expression, gender inequality, gender role expectations, and filial piety.

Suppression of expression has significant negative relationships with all of adaptive and innovative styles and creative strengths. Suppression of expression includes item 12 (*It should not be easy to fall in love*), item 20 (*Showing emotion is a sign of immaturity*), and item 46 (*Eccentricity has no positive components*). The negative relationship between suppression of expression and creativity is consistent with previous studies in that suppression of expression resists and corrupts the development of creativity (Averill, 1999; Averill & Nunley, 1992; Domino, 1969; Lytton, 1971; MacKinnon, 1978; Smith & Carlsson, 1990). It may be that an individual needs freedom of expression to express creative ideas and product, which is contradictory to this element of Confucianism.

Gender inequality has negative relationships with adaptive style (almost significantly) and creative strengths (significantly). Gender inequality includes item 14 (*An obedient woman is better than a willful woman*), item 9 (*A man should be the head of the household*), and item 22 (*Kitchen work is a woman's job*). Similarly, gender role expectations has a significantly negative relationship with adaptive style. Gender role expectations includes item 7 (*It is inappropriate for husband to hug his wife in front of his parents*), item 8 (*A man who talks to his wife about his life outside the home is not considered a real man*), and item 41 (*A married man should put his parents' wishes above his wife's*). The negative relationships between creativity and gender inequality as well as gender role expectations are consistent with previous studies in that valuing masculinity and rigid gender roles inhibit creativity (Eriksson, 1989; Fielding, 1983; Grant, 1973; Jellen & Urban, 1986; William & McGuire, 2005). Creativity requires expression of male and female characteristics within the individual, and this

characteristic is contradictory to Confucianism's prejudice against gender role expectations and gender inequality.

Filial piety has negative relationships with adaptive style (significantly) and creative strengths (almost significantly). Filial piety includes item 30 (*Elderly parents should live with their children, who will take care of them*) and item 36 (*Throughout a person's life his or her parents should always come first*). The negative relationship between creativity and filial piety is consistent with previous literature in that filial piety and strict obedience in a family reduce autonomy and independence, discourage divergence, and limit tendency to be creative (Davis, 1999). It may be that an extreme emphasis on filial piety results in an avoidance of risk taking, and risk taking is necessary for creativity.

This study also found both creative strengths and adaptive style are very different from innovative style, which indicates that the TTCT measures at least two different subconstructs of creative potential. Obedience is the only element of Confucianism that is significantly positively related to both adaptive style and creative strengths. This is rather surprising finding if one expects individuals with higher obedience to be less creative. However, because obedience is not related to innovative style, it might imply individuals with higher obedience work better within the existing paradigm, and they are good at following the rules, as the descriptions of adaptors (Kirton, 1999) indicate. Obedience includes item 25 (*I expect my employees to follow my directions rather than suggesting new ideas*), item 32 (*People with greater seniority should have a much stronger voice in a company than those with less seniority*), item 43 (*You should obey your boss and never voice disagreements*), and item 44 (*Students should not question what they are taught by their teachers*).

Differences in Confucianism by Culture and by Gender

Differences in Confucianism between Americans and Koreans. As expected, Korean educators have strikingly more Confucian ideals than American educators. Most Americans either strongly disagree or disagree to the following sample questions, and most Koreans either strongly agree or agree with them. The differences between those two cultures are discussed of diminishing magnitude below.

The biggest differences between the two cultures exist in their attitudes regarding Conformity, e.g., item 33 (*I should be like everyone else*); item 34 (*I would rather be normal than be creative and a little different*); and item 38 (*Conflict should be avoided at all times*). This might be reflective of Americans' individualism and Koreans' collectivism beliefs.

Significant cultural differences exist also in gender role expectations, e.g., item 7 (*It is inappropriate for husband to hug his wife in front of his parents*); and item 8 (*A man who talks to his wife about his life outside the home is not considered a real man*), and in their attitudes regarding gender inequality, e.g., item 9 (*A man should be the head of the household*), item 22 (*Kitchen work is a woman's job*), item 15 (*I would worry if my daughter never married*), and item 18 (*A woman's place is in the home*). This might be indicative of the stark difference in female social roles between Confucian and American societies.

Significant cultural differences exist also in their attitudes regarding self-effacement (e.g., item 1 (*Affection should be kept within the heart rather than expressed*) and item 3 (*The better you are, the more self-effacing you should be*). This is linked to the Confucian value of modest behavior that is a highly respected virtue in East Asian countries (Martinsons & Martinsons, 1996).

Significant cultural differences exist also in their attitudes regarding Filial Piety, e.g., item 30 (*Elderly parents should live with their children who will take care of them*) and item 23 (*Children should always obey their parents*). This is consistent with Hwang's (1999) interpretation in that one of the present versions of filial piety is the mutual interdependence of family members. Most parents consider educating and taking care of their children as their duty, and, as a result, most children assume the obligation of filial piety and are willing to repay the duty by taking care of their aging parents.

Significant cultural differences exist also in their attitudes regarding suppression of expression, e.g., item 20 (*Showing emotion is a sign of immaturity*) and item 49 (*When I make decisions, group opinions are more important than personal ones*). This might reflect Confucianism's emphasis on collectivism and selflessness, as opposed to the individualistic attitudes that typify Americans.

Differences in Confucianism between men and women. Male educators have more Confucian ideals than female educators. The differences in Confucianism between men and women are notable, but not as much as the differences between Americans and Koreans. The discussions of the significant differences in the elements of Confucianism between men and women are, in order of magnitude, gender inequality, self-effacement, and filial piety. Among Korean educators, men show more Confucian ideas than women, which may be explained by the male-dominant aspects of Confucianism. Men benefit from gender role elements of Confucianism, and naturally favor such beliefs. This is supported by the biggest gender differences found in

gender inequality and in gender role expectations of the third Confucianism principle. No significant gender differences were found in emphasis on education (mostly agree) and in obedience (mostly disagree), which indicates most educators agree to the importance of education, but disagree to obedience, regardless of gender. This might be reflective of changes of ideas on obedience from traditional societies to modern societies.

Differences in Creativity by Culture and by Gender

American educators are more adaptively creative and have more creative strengths than Korean educators, although Korean educators are more innovatively creative than American educators. Research supports cultural differences in adaptive style in that American students exceed Japanese students on elaboration and abstractness of titles (Saeki et al., 2001). In general, the result in this study is consistent with previous research (Bond, 1992; Fielding, 1997; J. Kim & Michael, 1995; K. H. Kim, 2010; K. H. Kim & Sergent, 2004; Rudowicz & Ng, 2003; Saeki et al., 2001) in that there is a tendency for people from Confucian societies to exhibit less creativity than people from Western societies, even though these studies did not examine innovative style, adaptive style, and creative strengths separately.

Adaptive Style, Innovative Style, and Creative Strengths

Female educators are more adaptively creative and have more creative strengths than male educators, although there is no significant difference in innovative style between men and women. This indicates, overall, that women are more creative than men, which is consistent with K. H. Kim's (2004) result among Koreans. Further, the finding that women are more adaptively creative than men is consistent with Torrance (1974) in that women tend to score higher in the area of elaboration, although he had not identified abstractness of titles and creative strengths as components of creativity at that time. However, research on gender differences in creativity is inconclusive, as noted earlier.

The findings indicate American educators as opposed to Korean, and women as opposed to men, are more adaptively creative and have more creative strengths, and Confucianism has little relationship with innovative style. Previous studies (Cheng, Kim, & Hull, 2010; K. H. Kim, 2009; K. H. Kim & Lee, 2007; Lee & Kim, 2010; Saeki et al., 2001) found relationships between TTCT adaptive style and various factors such as personality type, bilingualism, culture, age, and gender, although no relationships were found (Cho, Nijenhuis, van Vianen, Kim, & Lee, 2010) between TTCT innovative

style and these factors. Intelligence test scores relate only to adaptive style, and not innovative style (Cho et al., 2010; K. H. Kim, 2005). These findings indicate that adaptive style may operate as a part of society and thus may be more influenced by language, society, and culture, gender, intelligence, and age, than is innovative style. Conversely, innovative style may always be innovative regardless of social constructs and thus is less influenced by society.

Implications

If the culture devalues or discourages creative growth and expression, then individual creativity cannot flourish. Neither the best creative techniques nor the strongest creative personality can compensate for an environment or culture that crushes creativity (K. H. Kim, 2007). Although contemporary Confucian societies put considerable effort into cultivating creativity in classrooms and elsewhere, there is evidence that teachers in those societies still disfavor their creative students (Kwang & Smith, 2004). Therefore, especially because all of the participants of this study were educators, it is important for educators to understand students' environments and the cultural influences on each student's creativity in order to encourage full development of creative potential.

Suppression of expression, gender inequality, gender role expectations, and filial piety corresponded significantly and negatively with creativity. It is important to recognize and respect each child's cultural differences and to the extent Confucianism restrains creativity, parents and educators can oppose those influences. To the extent that Confucianism results in suppression of expression, children from Confucian cultures can be encouraged to express themselves verbally, emotionally, creatively, and in all sorts of novel ways. Gender inequality and gender role expectations are best influenced by introducing examples and relationships to challenge those Confucian influences. Filial piety can be an admirable trait for a child to exhibit, but to encourage creativity, Confucian parents need to take special effort to invite discourse, dissent, and debate with their children. Efforts should be made to encourage children to take risks and to step outside traditional roles.

Obedience is the sole Confucian element to correspond positively with creativity, specifically adaptive style and creative strengths. This may indicate that while autonomous, risk taking, independent thought, specifically innovative style, is required for the process of creativity, creative products also require following the existing rules and detailed work, adaptive style. Individuals who are adaptively creative should work with individuals who are innovatively creative, and vice versa, in

order to achieve successful creative products, because attainment of creative products requires both adaptive and innovative thinking.

Limitations

There are several limitations in this study. One limitation is that scoring originality on the TTCT test requires culture-specific Originality Lists (K. H. Kim, 2006a). Korean originality lists have not been developed, thus the present study may not be able to adequately determine if the originality scores are influenced by culture. We noticed, while scoring the TTCT for these American and Korean samples, some responses that were unusual in one culture were common in the other. Another limitation is that the unequal men-to-women ratio for American sample made the examinations of the interaction effects between culture and gender not meaningful. The last limitation is that the characteristics of the participants in this study were homogeneous: All of them consisted of educators. This might limit generalization of the results only to educators.

REFERENCES

- Amabile, T. M. (1979). Effects of external evaluation on artistic creativity. *Journal of Personality and Social Psychology, 37*, 221–233.
- Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative Science Quarterly, 367*–403.
- Averill, J. R. (1999). Creativity in the domain of emotion. In T. Dalgleish & M. Power (Eds.), *Handbook of cognition and emotion* (pp. 765–782). Chichester, England: Wiley.
- Averill, J. R., Chon, K. K., & Hahn, D. W. (2001). Emotions and creativity, East and West. *Asian Journal of Social Psychology, 4*, 165–183.
- Averill, J. R., & Nunley, E. P. (1992). *Voyages of the heart: Living an emotionally creative life*. New York: Free Press.
- Axtell, J. (1966). Discontinuities in the perception of curiosity in gifted preadolescents. *Gifted Child Quarterly, 10*, 78–82.
- Bae, S. H., & Orlinsky, D. E. (2006). Gender, marital status, and age in the professional development of psychotherapists in Korea. *Asian Journal of Women's Studies, 12*(1), 36–62.
- Bathory, Z., Vari, P., Tamir, P., Miyake, M., Im, I.-J., Yeoh, O. C. et al. (1992). Profiles of educational systems of countries participating in practical skills testing. *Studies in Educational Evaluation, 18*, 301–318.
- Bi, L., & D'Agostino, F. (2004). The doctrine of filial piety: A philosophical analysis of the concealment case. *Journal of Chinese Philosophy, 31*, 451–467.
- Bishop, D. W., & Chace, C. A. (1971). Parental conceptual systems, home play environment, and potential creativity in children. *Journal of Experimental Child Psychology, 12*, 318–338.
- Bond, M. H. (1992). *Beyond the Chinese face: Insights from psychology*. Hong Kong: Oxford University Press.
- Chan, D. W., & Chan, L. (1999). Implicit theories of creativity: Teachers' perception of student characteristics in Hong Kong. *Creativity Research Journal, 12*, 185–195.

- Chan, S. (1999). The Chinese learner—A question of style. *Education and Training, 41*, 294–304.
- Chaves, J. (2002). Confucianism: The conservatism of the east. *Intercollegiate Review, 38*(2), 44–50.
- Cheng, V. M.Y. (2011). Infusing creativity into Eastern classrooms: Evaluation from student perspectives. *Thinking Skills and Creativity, 6*, 67–87.
- Chen, G.-M., & Chung, J. (1994). The impact of Confucianism on organizational communication. *Communication Quarterly, 42*, 93–105.
- Cheng, Y.-L., Kim, K. H., & Hull, M. F. (2010). Comparisons of creative styles and personality types between American and Taiwanese college students and the relationship between creative potential and personality types. *Psychology of Aesthetics, Creativity, and the Arts, 4*, 103–112.
- Cho, S. H., Nijenhuis, J. T., van Vianen, A. E. M., Kim, H. B., & Lee, K. H. (2010). The relationship between diverse components of intelligence and creativity. *Journal of Creative Behavior, 44*, 125–137.
- Choi, J. N., Anderson, T. A., & Veillette, A. (2009). Contextual inhibitors of Employee creativity in organizations: The insulating role of creative ability. *Group and Organization Management, 34*, 330.
- Chung, J.-S. (1994). Women's unequal access to education in South Korea. *Comparative Education Review, 38*, 487–505.
- Clapham, M. M. (2004). The convergent validity of the Torrance Tests of Creative Thinking and Creativity Interest Inventories. *Educational and Psychological Measurement, 64*, 828–841.
- Cooper, E. (1991). A critique of six measures for assessing creativity. *Journal of Creative Behavior, 25*, 194–204.
- Crittenden, K. S., Fugita, S. S., Bae, H., Lamug, C. B., & Lin, C. (1992). A cross-cultural study of self-report depressive symptoms among college students. *Journal of Cross-Cultural Psychology, 23*, 163–178.
- Cummings, W. K. (1994). From knowledge seeking to knowledge creation: The Japanese university's challenge. *Higher Education, 27*, 399–415.
- Davis, G. A. (1997). Identifying creative students and measuring creativity. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (pp. 269–281). Needham Heights, MA: Viacom.
- Davis, G. A. (1999). *Creativity is forever*. Dubuque, IA: Kendall/Hunt.
- Dineen, R., & Niu, W. (2008). The effectiveness of Western creative teaching methods in China: An action research project. *Psychology of Aesthetics, Creativity, and the Arts, 2*, 42–52.
- Diriik, A. (1995). Confucius in the borderlands: Global capitalism and the reinvention of Confucianism. *Boundary, 2*, 229–273.
- Dobre, C., Dragomir, A., & Preda, G. (2009). Consumer innovativeness: A marketing approach. *Management, 4*(2), 19–34.
- Domino, G. (1969). Maternal personality correlates of son's creativity. *Journal of Consulting and Clinical Psychology, 33*, 180–183.
- Ee, J., & Seng, T. O. (2008). Cultural influences of the East & West: Implications on the educational reforms in the Singapore context. *KEDI Journal of Educational Policy, 5*(1), 49–62.
- Ee, J., Seng, T. O., & Kwang, N. A. (2007). Examining the psychological attributes of Australian tertiary adaptors and innovators. *Korean Journal of Thinking and Problem Solving, 17*, 27–39.
- Eriksson, G. I. (1989). Developing creative thinking through an integrated arts program for talented children. *Gifted Education International, 6*, 8–15.
- Fah, Y. C. (2002). The spirituality of Chinese social obligations. *Transformation, 19*(1), 34–36.
- Fan, R. (2002). Reconsidering surrogate decision making: Aristotelianism and Confucianism on ideal human relations. *Philosophy East and West, 52*, 346–372.
- Fielding, R. M. (1983). Creativity revisited: Strategies for developing creative potential. *Journal of the Institute of Art Education, 7*(2), 51–60.
- Fielding, R. M. (1997). A socio-cognitive perspective on cross-cultural attitudes and practices in creativity development. *Australian Art Education, 20*, 27–33.
- Fleith, D. S. (2000). Teacher and student perceptions of creativity in the classroom environment. *Roeper Review, 22*, 148–153.
- Fong, T. T. (2006). The effects of emotional ambiguity on creativity. *Academy of Management Journal, 49*, 1016–1030.
- Gelfand, M. J., Nishii, L. H., & Raver, J. L. (2006). On the nature and importance of cultural tightness-looseness. *Journal of Applied Psychology, 91*, 1225.
- Getzels, J. W., & Jackson, P. W. (1961). Family environment and cognitive style: A study of the sources of highly intelligent and of highly creative adolescents. *American Sociological Review, 26*, 351–360.
- Grant, T. N. (1973). A study of masculinity-femininity in creative male adolescents and their parents. *Dissertation Abstracts International, 33*(4), 3304B. (University Microfilms No. 73-1478).
- Greer, S., & Lim, T. P. (1998). Confucianism: Natural law Chinese style? *Ratio Juris, 11*(1), 80–89.
- Guay, F., Ratelle, C. F., & Chanal, J. (2008). Optimal learning in optimal contexts: The role of self-determination in education. *Canadian Psychology, 49*, 233–240.
- Hahm, C. (2003). Law, culture, and the politics of Confucianism. *Columbia Journal of Asian Law, 16*, 254–301.
- Haynes, R. M., & Chalker, D. M. (1998). The making of a world-class elementary school. *Principal, 77*(3), 5–6, & 8–9.
- Haynes, F. (2004a). The politics of creativity: artists-in-schools and research funding. *Australian Art Education, 27*, 28–44.
- Haynes, F. (2004b). What do art teachers want from creativity. *Art Education Journal*.
- Haynes, F. (2007). *Creativity, the arts, and toxic institutions*. Paper presented at the Philosophy of Education Society of Australasia, Wellington, New Zealand.
- Henderson, Z. P. (1990). Myth of native ability hurts American education. *Human Ecology, 19*(1), 29–30.
- Hennessey, B. A., & Amabile, T. M. (1987). *Creativity and learning*. Washington, DC: National Education Association of the United States.
- Herr, R. S. (2003). Is Confucianism compatible with care ethics? A critique. *Philosophy East and West, 53*, 471–489.
- Ho, D., & Ho, R. (2008). Knowledge is a dangerous thing: Authority relations, ideological conservatism, and creativity in Confucian-heritage cultures. *Journal for the Theory of Social Behaviour, 38*(1), 67–86.
- Howe, M. J. A. (1999). Prodigies and creativity. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 431–446). New York: Cambridge University Press.
- Hwang, K.-K. (1999). Filial piety and loyalty: Two types of social identification in Confucianism. *Asian Journal of Social Psychology, 2*, 163–183.
- Hwang, K.-K. (2001). The deep structure of Confucianism: A social psychological approach. *Asian Philosophy, 11*, 179–204.
- Isaksen, S. G., & Puccio, G. J. (1988). Adaptation-innovation and the Torrance Tests of Creative Thinking: The level style-issue revisited. *Psychological Reports, 63*, 659–670.
- Ivcevic, Z. (2009). Creativity map: Toward the next generation of theories of creativity. *Psychology of Aesthetics, Creativity, and the Arts, 3*, 17–21.
- Jellen, H. G., & Urban, K. K. (1986). The TCT-DP (Test for Creative Thinking-Drawing Production): An instrument that can be applied to most age and ability groups. *Creative Child and Adult Quarterly, 11*, 138–155.

- Jeon, K.-W. (2000). An evaluation of gifted preschoolers in the creative thinking program in South Korea. *Gifted Education International, 14*, 277–295.
- Jian, H. (2009). A contrastive study of cultural diversity of learning styles between China and the United States. *International Education Studies, 2*, 163–166.
- Joo, C.-A., & Grow-Maienza, J. (1997, March). *Ideal goals for schools and real emphases: Perspectives of undergraduates in Korea compared to those of teacher candidates in the United States*. Presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.
- Kim, A. E., & Park, G.-S. (2003). Nationalism, Confucianism, work ethic, and industrialization in South Korea. *Journal of Contemporary Asia, 33*, 37–49.
- Kim, J., & Michael, W. B. (1995). The relationship of creativity measures to school achievement and to preferred learning and thinking style in a sample of Korean high school students. *Educational and Psychological Measurement, 55*, 60–74.
- Kim, K.-I. (1999). 공자가 죽어야 나라가 산다. [Confucius must die if the nation is to live]. Seoul, Korea: Pada Chulpansa.
- Kim, K. H. (2005). Can only intelligent people be creative? *Journal of Secondary Gifted Education, 16*, 57–66.
- Kim, K. H. (2006a). Can we trust creativity tests? A review of the Torrance Tests of Creative Thinking (TTCT). *Creativity Research Journal, 18*, 3–14.
- Kim, K. H. (2006b). Is creativity unidimensional or multidimensional? Analyses of the torrance tests of creative thinking. *Creativity Research Journal, 18*, 251–260.
- Kim, K. H. (2007). Exploring the interactions between Asian culture (Confucianism) and creativity. *Journal of Creative Behavior, 41*, 28–54.
- Kim, K. H. (2009). Cultural influence on creativity: The relationship between Asian culture (Confucianism) and creativity among Korean educators. *Journal of Creative Behavior, 43*, 73–93.
- Kim, K. H. (2010). Measurements, causes, and effects of creativity. *Psychology of Aesthetics, Creativity, and the Arts, 4*, 131–135.
- Kim, K. H., Cramond, B., & Bandalos, D. L. (2006). The latent structure and measurement invariance of scores on the Torrance Tests of Creative Thinking—Figural. *Educational and Psychological Measurement, 66*, 459–477.
- Kim, K. H., & Sergent, D. F. (2004, August). *The relationship between Confucianism and creativity among American and Korean teachers for gifted children*. Poster session presented at the International Council of Psychologists (ICP) conference held in Jinan, Shandong, China.
- Kirton, M. J. (1999). *Kirton adaption–innovation inventory manual*. Berkhamsted, UK: Occupational Research Center.
- Kwang, N. A., Ang, R. P., Ooi, L. B., Shin, W. S., Oei, T. P. S., & Leng, V. (2005). Do adaptors and innovators subscribe to opposing values? *Creativity Research Journal, 17*, 273–281.
- Kwang, N. A., & Smith, I. (2004). The paradox of promoting creativity in the Asian classroom: An empirical investigation. *Genetic, social, and general psychology monographs, 130*, 307–332.
- Kwang, N. A., & Rodrigues, D. (2002). A big-five personality profile of the adaptor and innovator. *Journal of Creative Behavior, 36*, 254–268.
- Lee, H., & Kim, K. H. (2010). Relationships between bilingualism and adaptive creative style, innovative creative style, and creative strengths among Korean American students. *Creativity Research Journal, 22*, 402–407.
- Leung, A. K., Maddux, W. W., Galinsky, A. D., & Chiu, C. (2008). Multicultural experience enhances creativity: The when and how. *American Psychologist, 63*, 169–181.
- Li, J. (1997). Creativity in horizontal and vertical domains. *Creativity Research Journal, 10*, 107–132.
- Lim, W., & Plucker, J. A. (2001). Creativity through a lens of social responsibility: Implicit theories of creativity with Korean samples. *Journal of Creativity Behavior, 35*, 115–130.
- Lissitz, R. W., & Willhoft, J. L. (1985). A methodological study of the Torrance Tests of Creativity. *Journal of Educational Measurement, 22*, 1–111.
- Liu, Q. (2003). Filiality versus sociality and individuality: On Confucianism as “consanguinitism.” *Philosophy East and West, 53*, 234–250.
- Liu, S. (2009). The differences of Sino-American culture and effects on the motivation pattern in Chinese enterprises. *International Journal of Business and Management, 4*(1), 42–46.
- Lubart, T. I. (1990). Creativity and cross-cultural variation. *International Journal of Psychology, 25*, 39–59.
- Lubart, T. I. (1999). Creativity across cultures. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 339–350). New York: Cambridge University Press.
- Lytton, H. (1971). *Creativity and education*. London, England: Routledge & Kegan Paul.
- MacKinnon, D. W. (1978). Educating for creativity: A modern myth? In G. A. Davis & J. A. Scott (Eds.), *Training creative thinking*. Melbourne, FL: Krieger.
- Marcon, R. A. (1995). Fourth-grade slump: The cause and cure. *Principal, 74*(5), 16–17.
- Martinsons, M. G., & Martinsons, A. B. (1996). Conquering cultural constraints to cultivate Chinese management creativity and innovation. *Journal of Management Development, 15*(9), 18–35.
- Maslow, A. H. (1976). Creativity in self-actualizing people. In A. Rothenberg & C. R. Hausman (Eds.), *The creativity question* (pp. 86–92). Durham, NC: Duke University Press.
- Millar, G. W. (2002). *The Torrance kids at mid-life*. Westport, CT: Ablex.
- Mouchiroud, C., & Bernoussi, A. (2008). An empirical study of the construct validity of social creativity. *Learning and Individual Differences, 18*, 372–380.
- Ng, A. K. (2001). *Why Asians are less creative than Westerners*. Singapore: Prentice Hall.
- Ogawa, M., Kuehn-Ebert, C., & De Vito, A. (1991). Differences in creative thinking between Japanese and American fifth-grade children. *Ibaraki University Faculty of Education Bulletin, 40*, 53–59.
- Paletz, S. B. F., & Peng, K. (2008). Implicit theories of creativity across cultures: Novelty and appropriateness in two product domains. *Journal of Cross-Cultural Psychology, 39*, 286–303.
- Papalia, D. E., & Olds, S. W. (1986). *Human development* (3rd ed.). New York: McGraw-Hill.
- Park, Y.-S., & Kim, U. (1999). The educational challenge of Korea in the global era: The role of family, school, and government. *Chinese University Education Journal, 26*, 91–120.
- Richards, R. (1996). Beyond Piaget: Accepting divergent, chaotic, and creative thought. *New Directions for Child Development, 72*, 67–86.
- Rudowicz, E., & Hui, A. (1997). The creative personality: Hong Kong perspective. *Journal of Social Behavior and Personality, 12*, 139–148.
- Rudowicz, E., & Ng, T. S. (2003). On Ng’s why Asians are less creative than Westerners (Book review). *Creativity Research Journal, 15*, 301–302.
- Rudowicz, E., & Yue, X. D. (2000). Concepts of creativity: Similarities and differences among mainland, Hong Kong and Taiwanese Chinese. *Journal of Creative Behavior, 34*, 175–192.
- Saeki, N., Fan, X., & Van Dusen, L. V. (2001). A comparative study of creative thinking of American and Japanese college students. *Journal of Creative Behavior, 35*, 24–38.
- Seo, H.-A., Lee, E. A., & Kim, K. H. (2005). Science teachers’ understandings of creativity in gifted education in Korea. *Journal of Secondary Gifted Education, 16*, 98–105.

- Smith, G. J. W., & Carlsson, I. M. (1990). *The creative process: A functional model based on empirical studies from early childhood to middle age*. Madison, CT: International Universities Press.
- Solomon, R. (1985). Creativity and normal narcissism. *Journal of Creative Behavior, 19*, 47–55.
- Sorensen, C. W. (1994). Success and education in South Korea. *Comparative Education Review, 38*, 10–35.
- Sung, H., Lubin, B., & Yi, J. (1992). Reliability and validity of the Korean Youth Depression Adjective Check List (Y-DACL). *Adolescence, 27*, 527–533.
- Swartz, J. D. (1988). Torrance Tests of Creative Thinking. In D. J. Keyser & R. C. Sweetland (Eds.), *Test critique, vol. 7* (pp. 619–622). Kansas, MS: Test Corporation of America.
- Torrance, E. P. (1962). *Guiding creative talent*. Englewood Cliffs, NJ: Prentice-Hall.
- Torrance, E. P. (1968). A longitudinal examination of the fourth grade slump in creativity. *Gifted Child Quarterly, 12*, 195–199.
- Torrance, E. P. (1974). *The Torrance tests of creative thinking norms: Technical manual research edition. Verbal tests, forms A and B, figural tests, forms A and B*. Princeton, NJ: Personnel Press.
- Torrance, E. P. (1977). *Creativity in the classroom*. Washington, DC: National Education Association.
- Torrance, E. P. (1990). *The Torrance tests of creative thinking norms: Technical manual figural (streamlined) forms A and B*. Bensenville, IL: Scholastic Testing Services.
- Torrance, E. P. (1998). *The Torrance tests of creative thinking norms—technical manual figural (Streamlined) forms A and B*. Bensenville, IL: Scholastic Testing Services.
- Torrance, E. P. (2008). *The Torrance tests of creative thinking norms—technical manual figural (Streamlined) forms A and B*. Bensenville, IL: Scholastic Testing Services.
- Torrance, E. P., Ball, O. E., & Safter, H. T. (1992). *The torrance tests of creative thinking: Streamlined scoring guide figural A and B*. Bensenville, IL: Scholastic Testing Services.
- Torrance, E. P., & Horng, R. Y. (1980). Creativity and style of learning and thinking characteristics of adaptors and innovators. *Creative Child and Adult Quarterly, 5*, 80–85.
- Treffinger, D. J. (1985). Review of the Torrance Tests of Creative Thinking. In J. V. Mitchell, Jr. (Ed.), *The ninth mental measurements yearbook* (pp. 1632–1634). Lincoln, NE: Burors Institute of Mental Measurements, University of Nebraska.
- Van Gundy, A. B. (1987). Organizational creativity and innovation. In S. G. Isaksen (Ed.), *Frontiers of creativity research* (pp. 358–379). Buffalo, NY: Bearly Limited.
- Van Hoorn, J., Nourrot, P., & Alward, K. (1993). *Play at the center of the curriculum*. New York: Macmillan.
- Vygotsky, L. S. (1992). Imagination and creativity in childhood (F. Smolucha, Trans.). *Creativity Research Journal, 5*, 49–67.
- Whitmore, J. R. (1980). *Giftedness, conflict, and underachievement*. Boston: Allyn and Bacon.
- Williams, F. E. (1976). Rediscovering the fourth-grade slump in a study of children's self-concept. *Journal of Creative Behavior, 10*, 15–28.
- Williams, L. K., & McGuire, S. J. J. (2005). *Effects of national culture on economic creativity and innovation implementation*. Paper presented at the International Society for New Institutional Economics Conference Barcelona, Spain.
- Williams, W. M., & Yang, L. T. (1999). Organizational creativity. In R. J. Sternberg (Ed.), *The handbook of creativity* (pp. 373–391). New York: Cambridge University Press.
- Wollam, J. (1992). Equality versus excellence: The South Korean dilemma in gifted education. *Roeper Review, 14*, 212–217.
- Yi, S. H. (1993). Transformation of child socialization in Korean culture. *Early Child Development and Care, 85*, 17–24.
- Yue, X. D., & Rudowicz, E. (2002). Perception of the most creative Chinese by undergraduates in Beijing, Guangzhou, Hong Kong, and Taipei. *Journal of Creative Behavior, 36*, 88–104.

APPENDIX

EASTERN–WESTERN PERSPECTIVE

SCALE (EWPS) ★ Please read following sentences and circle one that is the closest to what you think. There is no right or wrong answer

Item	Content	Response Options				
		<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>
1	Affection should be kept within the heart rather than expressed.	1	2	3	4	5
2	A person with deepest thought speaks the least.	1	2	3	4	5
3	The better you are, the more self-effacing you should be.	1	2	3	4	5
4	It is OK if a husband stays at home and raises his children if his wife has a job.	1	2	3	4	5
5	The mother should be the primary caregiver for the children.	1	2	3	4	5
6	It is good that parents are friends with their children.	1	2	3	4	5
7	It is inappropriate for husband to hug his wife in front of his parents.	1	2	3	4	5
8	A man who talks to his wife about his life outside the home is not considered a real man.	1	2	3	4	5
9	A man should be the head of the household.	1	2	3	4	5
10	Discipline is the father's primary child care role.	1	2	3	4	5
11	When my children want to get married to someone, they should have my permission.	1	2	3	4	5
12	It should not be easy to fall in love.	1	2	3	4	5
13	Modesty is more important than self-esteem.	1	2	3	4	5
14	An obedient woman is better than a willful woman.	1	2	3	4	5
15	I would worry if my daughter never married.	1	2	3	4	5
16	A man should not be talkative.	1	2	3	4	5
17	Modesty comes with wisdom.	1	2	3	4	5
18	A woman's place is in the home.	1	2	3	4	5
19	I will financially support my children's college education.	1	2	3	4	5
20	Showing emotion is a sign of immaturity.	1	2	3	4	5
21	Talking about my children's talents to other people should be restrained.	1	2	3	4	5
22	Kitchen work is a woman's job.	1	2	3	4	5
23	Children should always obey their parents.	1	2	3	4	5
24	College graduation is more important than what my child may learn from a high school job.	1	2	3	4	5
25	I expect my employees to follow my directions rather than suggesting new ideas.	1	2	3	4	5
26	A career as an educator is superior to that of a business professional.	1	2	3	4	5
27	Working hard is more important than enjoying one's life.	1	2	3	4	5
28	It is better to be wary of eccentric people.	1	2	3	4	5
29	Work must be separate from play.	1	2	3	4	5
30	Elderly parents should live with their children, who will take care of them.	1	2	3	4	5
31	You should be loyal to your company until you retire.	1	2	3	4	5
32	People with greater seniority should have a much stronger voice in a company than those with less seniority.	1	2	3	4	5
33	I should be like everyone else.	1	2	3	4	5
34	I would rather be normal than be creative and a little different.	1	2	3	4	5
35	You must work hard and save money when you are young.	1	2	3	4	5
36	Throughout a person's life his or her parents should always come first.	1	2	3	4	5
37	Teachers should be respected at all times.	1	2	3	4	5
38	Conflict should be avoided at all times.	1	2	3	4	5
39	A genius is abnormal.	1	2	3	4	5
40	I want my children to study hard rather than to play sports.	1	2	3	4	5
41	A married man should put his parents' wishes above his wife's.	1	2	3	4	5
42	A healthy relationship is found between equals.	1	2	3	4	5
43	You should obey your boss and never voice disagreements.	1	2	3	4	5
44	Students should not question what they are taught by their teachers.	1	2	3	4	5
45	It is good to stand out for your individual qualities.	1	2	3	4	5
46	Eccentricity has no positive components.	1	2	3	4	5
47	Men should be masculine and women should be feminine.	1	2	3	4	5
48	Students should not speak until they are spoken to by their teacher.	1	2	3	4	5
49	When I make decisions, group opinions are more important than personal ones.	1	2	3	4	5