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# Revisiting the Multicultural Experience–Creativity Link: The Effects of Perceived Cultural Distance and Comparison Mind-Set

Chi-Ying Cheng<sup>1</sup> and Angela K.-y. Leung<sup>1</sup>

## Abstract

A growing literature provides evidence for the multicultural experience–creativity link such that exposure to the juxtaposition of two cultures facilitates individual creativity. The underlying mechanisms for this relationship, however, are still far from being well explored. Drawing upon the novel perspective of motivated cognition, we hypothesize that two factors interact to affect creative outcomes: (a) perceived cultural distance between the two juxtaposed cultures, and (b) comparison mind-sets. Specifically, we argue that individuals' creative performance will be increased only when a difference mind-set is employed to process the cultural stimuli that are sufficiently different from each other. In two studies, individuals exposed to dual cultural primes with higher levels of perceived cultural distance consistently performed more adeptly in creative insight tasks when they personally predisposed to or experimentally manipulated to adopt a difference (vs. similarity) mind-set. Theoretical and practical implications are discussed.

## Keywords

multicultural experience, creativity, comparison mind-sets, perceived cultural distance

When facing the unprecedented worldwide trend of accelerating globalization, we are presented with both challenges and opportunities. On one hand, we need to step out from our comfort zone to make contacts with foreign cultures that may be strikingly different from our own; on the other hand, sufficient exposure to foreign cultures, coupled with an experiential cultural learning mind-set, offers us the opportunity to sharpen our competitive advantage. Enhanced creativity is one important benefit of immersion in another culture in this era of globalization.

It is evident that creativity is essential for personal and professional success. The *creative cognition approach* suggests that the acquisition of different knowledge systems is precursory to the generation of creative ideas (Finke, Ward, & Smith, 1992; Ward, Smith, & Vaid, 1997). In this century, the acceleration of globalization is creating ample opportunities for multicultural navigators to acquire new cultural knowledge systems (Chiu & Hong, 2006; Leung, Chen, & Chiu, 2011), which according to the creative cognition account is largely conducive to motivating the critical process of synthesizing seemingly incompatible ideas and providing the cognitive catalyst for creativity. This expansion of cultural knowledge can yield important creative benefits due to two major reasons. First, given their broad knowledge of different cultures, individuals with extensive multicultural experiences are in a better position to make connections between disparate ideas originating from different cultural sources (Cheng,

Sanchez-Burks, & Lee, 2008; Leung, Maddux, Galinsky, & Chiu, 2008). Second, extensive exposure to multiple cultures also makes available sometimes contradictory perspectives. This helps multicultural individuals to overcome cognitive fixedness, to break away from structured and routine ways of approaching problems, and to inspire creative thinking (Crisp & Turner, 2011; Leung et al., 2008).

A growing body of research has offered supporting evidence for this multicultural experience–creativity link, with creativity pertaining to both creative processes and creative outcomes. In terms of creative processes, research has shown that multicultural individuals are more open to sampling ideas from diverse cultures for creative idea expansion (Leung & Chiu, 2010). In terms of creative outcomes, there is both correlational and experimental evidence that corroborates the creative benefits of simultaneous activation of two cultures or foreign living experience, with individuals exposed to foreign cultures performing more adeptly in creative idea generation or creative insight tasks (Leung & Chiu, 2008, 2010; Maddux & Galinsky,

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2009). Recent research has further substantiated these findings by showing that multicultural individuals exhibit higher creativity when exposed to the juxtaposition of two cultures, particularly if one culture is self-relevant (i.e., one local and one foreign culture) than when exposed to either one of them or two foreign cultures (Cheng, Leung, & Wu, 2011).

One question that extends from the research about the multicultural experience–creativity link is: When two cultures are too similar, can they provide distinctive ideas to afford individuals' creativity? In contrast, when two cultures are too different, will it be too challenging for individuals to forge conceptual bridges among highly diverse ideas from different cultural sources to facilitate creativity? A further question is, given the same level of cultural distance, if some individuals focus on attending to cultural similarities while others focus on attending to cultural differences, will the similarity versus difference comparison mind-set differentially impact creative outcomes? In the present research, we set forth to offer the first empirical evidence that examines the interactive roles of perceived cultural distance and comparison mind-sets in the multicultural experience–creativity link.

## **Perceived Cultural Distance of the Juxtaposed Cultures**

The notion of cultural distance involves a comparison of a pair of cultures. For example, East Asian cultures in relation to Western European cultures are more distinctive in their cultural values and imperatives, whereas North American cultures in relation to Western European cultures embody relatively similar cultural tendencies. Israel and the United States, for instance, are geographically distant, but people in these countries embrace similar attitudes and values (Schwartz, 2004). As such, the perceived cultural distance between Israeli and American cultures will be different from the perceived cultural distance between Chinese and American cultures.

Cultural distance can be measured objectively or subjectively. In prior research (e.g., Suanet & Van de Vijver, 2009), some objective measures of cultural distance include differences in income inequality indicators (e.g., Gini coefficient), gross domestic product (GDP), and psychological tendencies on a country level, such as attitudes or values (e.g., Hofstede's dimensions). Perceived cultural distance, on the other hand, is an individual difference measure of the perceived discrepancies between two cultures on given social and physical aspects. As perceived cultural distance is an individual difference measure, it would be possible that any given cultural distance could be seen as high or low. Suanet and Van de Vijver (2009) showed that perceived cultural distance is a better predictor of acculturation-related outcomes and psychological adjustment in the host country than objective cultural distance. They also found that perceived and objective cultural distance bear virtually no relations with each other. As the central role of perceived cultural distance in predicting psychological and behavioral outcomes was demonstrated in many other studies (e.g., Abe & Wiserman, 1983; Galchenko & Van de Vijver, 2007; Ingman,

Ollendick, & Akande, 1999; Nesdale & Mak, 2000) and perceived cultural distance is not a mere reflection of objective cultural distance (Suanet & Van de Vijver, 2009), we focus on the construct of perceived cultural distance.

## ***Similarity and Difference Comparison Mind-Sets***

Aside from the notion of perceived cultural distance, we argue that it is essential to take into account the nature of cognitive mind-sets that individuals adopt to analyze the cultural stimuli. Recently, Leung and Chiu (2010) showed that by exposing individuals to a foreign culture, they are able to capture enduring creative benefits. This is probably because these individuals are able to engage in a *comparative frame* that enables cognitive juxtaposition of local and foreign cultures in promoting creative synthesis of ideas from diverse cultural sources. In the current research, we seek to extend this finding by probing further into the nature of this comparative frame – we examine whether a similarity or a difference *comparison mind-set* would better produce creative outcomes.

Comparison mind-sets were primarily examined by decision-making and social judgment research to study how individuals compare a target with a pertinent norm or standard when making evaluations (see Mussweiler, 2003 for a review). When a comparison mind-set is activated, individuals can adopt either a similarity or difference mind-set to conduct information processing and judgment of the target (e.g., Mussweiler, 2003; Mussweiler & Damisch, 2008). In Mussweiler and Damisch's (2008) distinction, a similarity processing mind-set captures a process by which individuals focus on similarities between the comparison target (e.g., a foreign culture) and the standard (e.g., a local culture) and thereby selectively makes accessible knowledge that indicates target-standard similarity. In contrast, a dissimilarity processing mind-set captures a process by which individuals focus on dissimilarities between the comparison target and the standard and thereby selectively makes accessible knowledge that indicates target-standard contrast. When individuals are exposed to the juxtaposition of two cultures, it is reasonable to argue that individuals can activate either a similarity or a difference mind-set.

Taken together, we predict that when individuals are exposed to two juxtaposed cultures, individuals' comparison mind-sets will moderate the perceived cultural distance of the presented cultures to affect creativity. To elaborate, prior research on multicultural experience revealed that some creativity-supporting capacities attest to whether individuals can recognize cultural discrepancies and reconcile these discrepancies in order to transform their multicultural experience into the currency of individual creativity (Suedfeld, Tetlock, & Streufert, 1992; Tadmor, Tetlock, & Peng, 2009). These capacities are likely to be motivated by a difference mind-set adopted to process cultural stimuli. To energize this difference comparison mind-set, we argue that the two cultures should be of sufficiently large cultural distance, that is, they are distinctive enough to induce creative processing. In sum, we hypothesize that when exposed to two cultures with high

cultural distance, individuals who adopt a difference mind-set will exhibit higher creativity than those who adopt a similarity mind-set. In contrast, comparison mind-sets will not moderate individuals' creative performance when they are exposed to cultures with low cultural distance.

## Overview of Studies

We sought to test our hypothesis in two ways. In Study 1, we measured individuals' level of difference mind-set after they were exposed to dual cultural primes that were of higher (i.e., Chinese and American cultures) or lower (i.e., Chinese and Indian cultures) levels of perceived cultural distance. We argue that there is not a definite relationship between the perceived cultural distance of the presented dual cultural primes and the kind of comparison mind-sets individuals adopted. Rather, given the same juxtaposed cultures with a certain degree of cultural distance, some individuals might readily adopt a similarity or a difference comparison mind-set depending on whether they focus on assimilative or contrastive comparisons.

In Study 2, we manipulated individuals' comparison mind-sets before they were exposed to dual cultural primes with higher or lower levels of perceived cultural distance. Across Studies 1 and 2, we tested the hypothesis that individuals who are exposed to dual cultural primes with higher levels of perceived cultural distance will exhibit higher creativity when they are personally predisposed to or experimentally manipulated to adopt a difference (vs. similarity) mind-set; and that in contrast, individuals who are exposed to dual cultural primes with lower levels of perceived cultural distance will not differ in their creative performance whether they adopt a similarity or difference mind-set.

With Singaporean Chinese as our research sample, we had the advantage of controlling for participants' knowledge of different cultures. Singapore is a multicultural society populated by major Chinese, Indians, Malays and other ethnic groups. It is also strongly influenced by Western culture due to a long colonial history. As a result, Singaporean Chinese have sufficient knowledge about Chinese, American, and Indian cultures. When priming participants with the two pairs of cultural juxtapositions (Chinese and American vs. Chinese and Indian dual cultural primes), we can be more confident in ruling out the effect of unequal cultural knowledge and test the influence of perceived cultural distance among Singaporean Chinese. To confirm that Singaporean Chinese do have equal knowledge about Chinese, American, and Indian cultures, but display individual differences in perceiving different cultural distance between the two pairs of cultures, we conducted a pilot study.

## Pilot Study

### Participants

Forty-three Singaporean Chinese college students (18 females;  $M_{\text{age}} = 21.86$  years,  $SD = 1.36$ ) participated in this pilot study for course credit.

## Procedure

Participants first answered three questions for measuring their knowledge about Chinese, American, and Indian cultures (e.g., How much do you know about Chinese culture?) with a 5-point Likert-type scale (1 = *not at all* and 5 = *very much*). Then, adapting Ward and Kennedy's (1994) acculturation index, participants indicated their perceived cultural distance by rating the degree of similarity or difference for two pairs of cultures: (a) Chinese and American cultures and (b) Chinese and Indian cultures. For each pair, participants answered 14 questions about how similar or different they find the two cultures in different areas (e.g., food, language, pace of life, cultural beliefs and norms) on a 7-point Likert-type scale (1 = *very similar* and 7 = *very different*).

## Results

A repeated-measures analysis of variance (ANOVA) was conducted on participants' knowledge of Chinese, Indian, and American cultures. Results showed that participants had at least medium levels of understanding about the three cultures, as the means of cultural knowledge were not significantly lower than 3 (the scale midpoint),  $F_s < 1$ . Furthermore, there was no difference in their cultural understanding among the three cultures,  $F(1, 42) = 1.67$ ,  $p = .28$ ,  $\eta_p^2 = .03$  ( $M_{\text{Chinese}} = 3.11$ ,  $SD = .90$ ;  $M_{\text{Indian}} = 2.64$ ,  $SD = .85$ ;  $M_{\text{American}} = 3.27$ ,  $SD = .95$ ).

We aggregated participants' ratings on the questions in the acculturation index to form a perceived cultural distance index (with a higher score indicating a higher perceived cultural distance). Results of a paired sample  $t$  test revealed that the perceived cultural distance between Chinese and American cultures is significantly higher than that between Chinese and Indian cultures for Singaporean Chinese,  $t(42) = 4.19$ ,  $p < .001$  ( $M_{\text{Chinese and American}} = 5.01$ ,  $SD = 1.18$ ;  $M_{\text{Chinese and Indian}} = 4.11$ ,  $SD = 1.20$ ). Analyses further showed that the cultural distance rating between Chinese and American cultures is significantly higher than the scale mid-point (4),  $t(42) = 5.60$ ,  $p < .001$ , but this is not case for the rating between Chinese and Indian cultures,  $t(42) = .61$ ,  $p = .55$ . These two pairs of cultures were used in Studies 1 and 2 as dual cultural primes to represent high and low levels of perceived cultural distance, respectively.

## Study 1

### Participants

Participants were 82 Singaporean Chinese students (29 females;  $M_{\text{age}} = 22.43$  years,  $SD = 2.18$ ) at a Singapore university, who took part in the study in exchange for S\$10 (~US\$7.5).

### Procedure and Materials

Participants first watched a 10-min Powerpoint slideshow depicting different characteristic aspects of (a) both Chinese

and American cultures or (b) both Chinese and Indian cultures (adopted from Cheng et al., 2011). A total of 72 slides were presented that covered different cultural aspects including apparel, architecture, arts, cuisine, entertainment, landscape, life encounters, and scenery. In the high cultural distance condition (i.e., Chinese and American cultural primes), one Chinese picture and one American picture matched in content were shown side by side on each slide (e.g., a picture of roasted turkey for Thanksgiving on the left and a picture of hot pot for the Chinese New Year's Eve on the right). In the low cultural distance condition (i.e., Chinese and Indian cultural primes), one Chinese picture and one Indian picture matched in content were shown side by side on each slide. Eighty percent of the Chinese pictures used in the two conditions were the same. This part of the study was disguised as a preset for pilot testing the slideshow materials. After the slideshow, participants wrote down briefly their personal thoughts or comments about the slideshow.

Next, participants worked on a comparison task composed of 10 pairs of objects (e.g., whale—dolphin, adopted from Mussweiler & Damisch, 2008, study 6). Participants rated how similar or different the two objects are in each pair using a 6-point Likert-type scale (1 = *very different* to 6 = *very similar*).

**Creativity tasks.** Creativity was measured by two commonly used insight problem-solving tasks: the four dots task (Dow & Mayer, 2004) and the tumor task (Gick & Holyoak, 1980). In the four dots task, participants were asked to join four dots on the paper with two straight lines without lifting their pen from the paper.

In the tumor task, participants read the following instructions:

Imagine you are a doctor treating a patient with a malignant stomach tumor. You cannot operate but you must destroy the tumor. You could use high-intensity X rays to destroy the tumor but unfortunately the intensity of the X rays needed to destroy the tumor also will destroy healthy tissue through which the X rays must pass. Less powerful X rays will spare the healthy tissue but will not be strong enough to destroy the tumor. How can you destroy the tumor without damaging the healthy tissue? Write your answer below.

The correct answer involved irradiating the tumor with small doses of radiation from multiple angles that focus on the tumor. Creativity performance was indicated by adding up the scores participants received from the two tasks ranging from 0 to 2.

## Results and Discussion

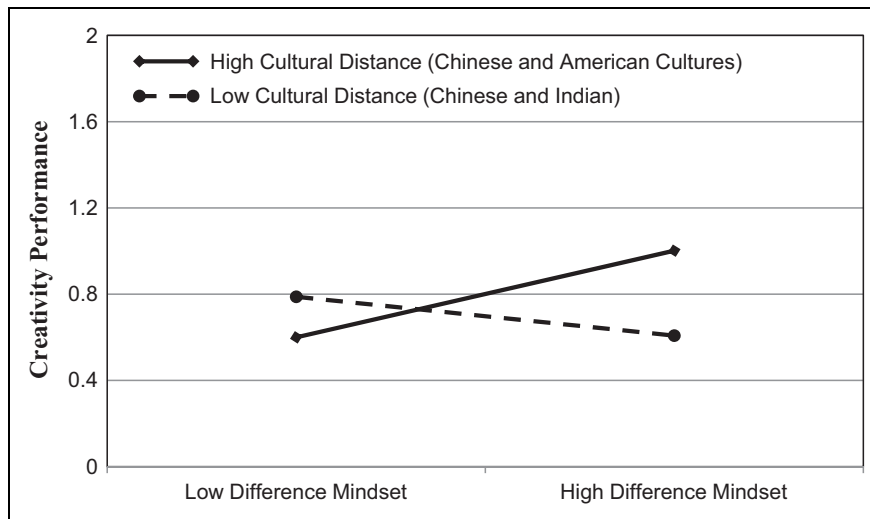
Participants' ratings on the 10 object pairs in the comparison task were aggregated to form a difference mind-set score, with a lower score indicating a higher level of difference mind-set ( $M = 3.49$ ,  $SD = .74$ ). An independent samples  $t$  test was performed to compare the two cultural distance conditions on participants' levels of difference mind-set. As predicted, there

was no difference between the two conditions,  $t(81) = .24$ ,  $p = .81$ , thus suggesting that participants' comparison mind-set was not influenced by the perceived cultural distance of the dual cultural primes used in the current experimental conditions.

We tested the hypothesis using a regression model with perceived cultural distance (high distance was coded as 1 and low distance was coded as  $-1$ ), difference mind-set (mean centered), and the interaction between cultural distance and difference mind-set as independent variables and creativity performance as the dependent variable. The analysis revealed no significant main effect. Of import, a significant interaction between perceived cultural distance and difference mind-set emerged,  $B = -.15$ ,  $SE = .07$ ,  $t(79) = -2.10$ ,  $p = .039$ . Planned contrast analyses showed that when participants were exposed to the high cultural distance primes, higher levels of difference mind-set were associated with higher creativity performance,  $B = -.20$ ,  $SE = .09$ ,  $t(79) = -2.26$ ,  $p = .03$ . In comparison, when participants were exposed to the low cultural distance primes, levels of difference mind-set had no association with creativity performance,  $B = .09$ ,  $SE = .11$ ,  $t(79) = .84$ ,  $p = .41$ . These results supported our hypothesis (see Figure 1).

The findings of Study 1 offered the first empirical support that the perceived cultural distance between the dual cultural primes and individuals' comparison mind-set interact to play a role in the multicultural experience—creativity link. Specifically, when individuals are exposed to two distinctive cultures with sufficient cultural distance and adopt a difference mind-set to process information, they perform better in creativity tasks, at least for insight problem-solving tasks. Notably, results showed no association between different sets of dual cultural primes (with different levels of perceived cultural distance) and whether participants adopted a similarity or a dissimilarity comparison mind-set. This suggests that participants' comparison mind-set was independent of the level of perceived cultural distance represented by the dual cultural primes: Higher levels of perceived cultural distance do not automatically imply the employment of a difference mind-set.

These findings provide preliminary evidence that using a difference comparison mind-set to approach cross-cultural experiences with sufficient cultural distance is the building block for the relationship between multicultural experience and creative performance. Merely being exposed to two distinctive cultures is not enough; only when individuals pay attention to the differences between the two juxtaposed cultures are they more likely to motivate the creative synthesis of cultural discrepancies and have a creative advantage. Drawing upon prior findings about the relationship between a difference mind-set and perspective taking ability (Todd, Hanks, Galinsky, & Mussweiler, 2011), it is possible that paying attention to cultural differences broadens individuals' mental vista and provides alternative perspectives that facilitate their ability to see the hidden rules in insight problem-solving tasks. In Study 2, we manipulated individuals' comparison mind-sets to provide further evidence for the direct effects of the difference



**Figure 1.** Interaction effect between levels of perceived cultural distance and difference mind-set on creativity.

Note. Creativity performance was measured by two insight creativity tasks, the four dots task and the tumor task. Means were predicted at 1 SD above and below the mean on the level of difference mind-set.

mind-set and perceived cultural distance between the dual cultural primes on the multicultural experience–creativity link.

## Study 2

### Participants

Participants were 151 Singaporean Chinese students (95 females;  $M_{\text{age}} = 21.69$  years,  $SD = 1.88$ ) at a Singapore university, who took part in the study in exchange for S\$10 (~US\$7.5).

### Procedure and Materials

Participants were first randomly assigned into one of the two comparison mind-set conditions (similarity vs. difference). In each condition, participants consecutively compared two pairs of illustrated pictures by listing up to 10 similarities or differences for each pair (Mussweiler, 2001). Previous research has demonstrated that this procedural priming task activates a similarity or difference mind-set, respectively (e.g., Corcoran, Hundhammer, & Mussweiler, 2009; Todd et al., 2011). There was no difference between the numbers of similarities and differences listed in the two comparison conditions,  $t(149) = .13$ ,  $p = .90$ . Next, identical to the cultural distance manipulation used in Study 1, participants watched a 10-min Powerpoint slideshow depicting different characteristic aspects of (a) both Chinese and American cultures (i.e., high perceived cultural distance condition) or (b) Chinese and Indian cultures (i.e., low perceived cultural distance condition).

### Creativity Task

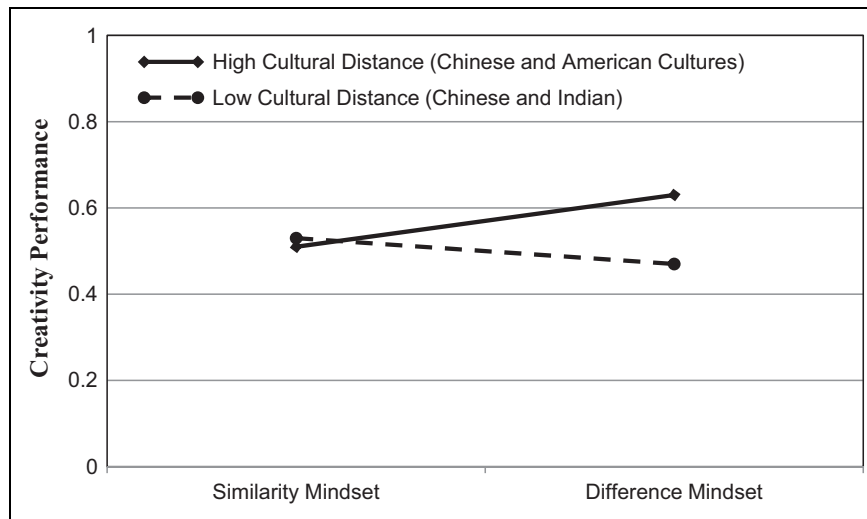
Participants completed the Remote Associates Test (RAT; Mednick, Mednick, & Mednick, 1964), a classic insight

problem-solving creativity task. Each of the 15 items in the test consists of three words, and the task requires conjecturing a fourth word that has associations with all three provided words. Each correct answer was given one point.

### Results and Discussion

The RAT score was log-transformed due to the positively skewed distribution. A 2 (comparison mind-set: similarity vs. difference)  $\times$  2 (perceived cultural distance: high vs. low) analysis of variance (ANOVA) was conducted on the log-transformed RAT score. A marginally significant perceived cultural distance main effect emerged,  $F(1, 147) = 2.86$ ,  $p = .09$ ,  $\eta_p^2 = .02$ ; participants exposed to higher perceived cultural distance primes exhibited higher creativity ( $M = .57$ ,  $SD = .03$ ) than those exposed to lower perceived cultural distance primes ( $M = .50$ ,  $SD = .03$ ). More importantly, there was a significant two-way interaction,  $F(1, 147) = 4.37$ ,  $p = .04$ ,  $\eta_p^2 = .03$  (see Figure 2). Planned-contrast analyses showed that when exposed to the high-perceived cultural distance condition, participants primed with a difference mind-set exhibited significantly higher creativity than those primed with a similarity mind-set,  $F(1, 67) = 4.34$ ,  $p = .04$ ,  $\eta_p^2 = .06$  ( $M_{\text{Difference Mind-set}} = .63$ ,  $SD = .04$ ;  $M_{\text{Similarity Mind-set}} = .51$ ,  $SD = .04$ ). However, when exposed to low perceived cultural distance condition, there was no difference between the two difference mind-set priming conditions,  $F(1, 80) = .88$ ,  $p = .35$ ,  $\eta_p^2 = .01$  ( $M_{\text{Difference Mind-set}} = .47$ ,  $SD = .04$ ;  $M_{\text{Similarity Mind-set}} = .53$ ,  $SD = .04$ ).

We carried out follow-up analyses to examine the differences between the two dual cultural primes with different perceived cultural distance among participants primed with different mind-sets. As expected, when the similarity mind-set was primed, there was no significant difference between the two perceived cultural distance conditions,



**Figure 2.** Interaction effect between levels of perceived cultural distance and comparison mind-sets (similarity vs. difference mind-sets) on creativity.

Note. Creativity performance was measured by log-transformed RAT score.

$F(1, 76) = .08, p = .78, \eta_p^2 = .001$ . In contrast, when the difference mind-set was primed, a significant difference between the two perceived cultural distance conditions emerged,  $F(1, 71) = 7.29, p = .009, \eta_p^2 = .09$ , with participants exhibiting higher creativity when exposed to a high perceived cultural distance condition as opposed to a low perceived cultural distance condition.

Consistent with Study 1, Study 2 provided further evidence for the interactive effects between a difference mind-set and perceived cultural distance on insight creativity. Extending Study 1's findings, Study 2 experimentally manipulated comparison mind-sets by directing participants to selectively process similarity or dissimilarity information prior to their exposure to the high or low cultural distance primes. In support of our hypothesis, temporarily activating a difference (vs. similarity) mind-set to make sense of dual cultural experiences with relatively high levels of cultural discrepancies facilitated higher creative benefits.

## General Discussion

Across two studies, we consistently found that individuals who are exposed to dual cultural primes with higher levels of perceived cultural distance perform more adeptly in creative insight tasks when they are personally predisposed to or experimentally manipulated to adopt a difference (vs. similarity) mind-set. In contrast, individuals who are exposed to dual cultural primes with lower levels of perceived cultural distance do not differ in their creative performance whether they adopt a similarity or a difference mind-set.

Our findings offer the first empirical evidence supporting the interactive effects of perceived cultural distance of dual cultural primes and comparison mind-sets on insight creativity. In predicting such an interaction, we suppose that better creative outcomes can be captured if a sufficient level of perceived

cultural distance goes together with a difference processing mind-set. Given that a comparative mind-set is independent of the levels of perceived cultural distance, using a dissimilarity comparative frame to approach the juxtaposed cultures that are of sufficient perceived cultural distance, selectively attending to cultural differences can motivate a deeper level of cognitive processing conducive for recognizing, reconciling, and synthesizing cultural discrepancies and thereby inspire creativity to a greater degree (Cheng et al., 2011; Leung et al., 2008).

The current research provides several important implications for the understanding of the multicultural experience–creativity link. First, our studies were the first to test the multicultural experience–creativity link on insight creativity. Whereas prior research predominantly tested the effect of multiculturalism on creativity measured by divergent thinking or idea generation tasks (e.g., unusual uses of a garbage bag, rewriting the Cinderella story for Turkish children; Cheng et al., 2011; Leung et al., 2008), the current studies provided further evidence that multicultural experience can facilitate individuals' insight problem-solving ability, an important facet of creativity. Without replicating the main effect of different dual cultural primes (i.e., with or without self-relevant culture in the dual-cultural primes) on creativity performance (i.e., creative idea generation) reported in prior research (Cheng et al., 2011, study 2), the hypothesized interaction between perceived cultural distance and comparison mind-sets was replicated across Studies 1 and 2 with different insight problem-solving creativity tasks. One potential implication is that the present findings demonstrate that the boundary conditions for the multicultural experience–creativity link might be more stringent for insight creativity than for creative idea generation. For example, although solving the RAT requires activating the cognitive process of forging broader associative links among given stimuli in order to arrive at the best solution (Dewhurst, Thorley, Hammond, & Ormerod,

2011; Rossman & Fink, 2010), successfully coming up with the solution also requires individuals to overcome cognitive fixedness and to gain the insight of correctly linking the three clue words. In this light, a difference mind-set is particularly conducive for creative insight tasks. We encourage future research to also test the effect of a difference mind-set on divergent thinking tasks and to shed further light on the different mechanisms or prerequisites for the multicultural experience–creativity link when different facets of creativity are pursued.

Second, although Study 2 temporarily activated a similarity or a difference mind-set, Study 1 measured participants' individual tendency to adopt one mind-set over another. One might ask about the antecedents that contribute to a chronic difference mind-set. Prior concept priming research showed that people are more likely to engage in the dissimilarity processing mind-set if some extreme comparison targets are spontaneously available or activated (Mussweiler & Damisch, 2008). If we apply the same logic to the context of multicultural exposures, it is reasonable to argue that if individuals are chronically exposed to “extreme” foreign culture in relation to the local culture, this might render the difference mind-set more chronically accessible. The exposure to these “extreme” foreign cultures as a comparison target could be a result of the individuals' personal predisposition of having higher levels of openness to experience or receptivity to exotic foreign cultures.

Third, although our findings showed that sufficient cultural distance is necessary to activate the multicultural experience–creativity link, it remains an empirical question whether too much cultural distance between cultures will paralyze this relationship. Our pilot study showed that the perceived cultural distance between Chinese and American cultures is both significantly above the scale mid-point and below the highest scale point, suggesting that the cultural distance between cultures is sufficiently large but not too extreme. In order to paint a more complete picture for the multicultural experience–creativity link, future research can test a wider spectrum of perceived cultural distance by extensively examining dual exposures to a larger number of local and foreign locales. As one of the reviewers suggested, it might also be fruitful to go beyond national cultures and to compare cities or states of different countries (e.g., Hong Kong vs. New York as opposed to Hong Kong vs. Utah).

To conclude, approaching from the novel perspective of motivated cognition, our research goes beyond the prior established multicultural experience–creativity link to provide the first evidence on the interactive roles of perceived cultural distance between two juxtaposed cultures and comparison mind-sets in facilitating insight creativity. By untangling the psychological processes underlying the multicultural experience–creativity link, individuals will be better able to capitalize on their growing global experiences to becoming a world citizen.

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The authors contributed equally to this work. Chi-Ying Cheng and Angela K.-y. Leung, School of Social Sciences, Singapore Management University, Singapore.

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### References

- Abe, H., & Wiseman, R. (1983). A cross-cultural confirmation of the dimensions of intercultural effectiveness. *International Journal of Intercultural Relations*, 8, 53–67.
- Cheng, C.-Y., Leung, A. K.-Y., & Wu, T.-Y. (2011). Going beyond the multicultural experience–creativity link: The mediating role of emotions. *Journal of Social Issues*, 67, 806–824.
- Cheng, C.-Y., Sanchez-Burks, J., & Lee, F. (2008). Connecting the dots within: Creative performance and identity integration. *Psychological Science*, 19, 1178–1184.
- Chiu, C.-Y., & Hong, Y. (2006). *Social psychology of culture*. New York, NY: Psychology Press.
- Corcoran, K., Hundhammer, T., & Mussweiler, T. (2009). A tool for thought! When comparative thinking reduces stereotyping effects. *Journal of Experimental Social Psychology*, 45, 1008–1011.
- Crisp, R. J., & Turner, R. N. (2011). Cognitive adaptation to the experience of social and cultural diversity. *Psychological Bulletin*, 137, 242–266.
- Dewhurst, S. A., Thorley, C., Hammond, E. R., & Ormerod, T. C. (2011). Convergent, but not divergent, thinking predicts susceptibility to associative memory illusions. *Personality and Individual Differences*, 51, 73–76.
- Dow, G. T., & Mayer, R. E. (2004). Teaching students to solve insight problems: Evidence for domain specificity in creativity training. *Creativity Research Journal*, 16, 389–402.
- Finke, R. A., Ward, T. B., & Smith, S. M. (1992). *Creative cognition: Theory, research, and applications*. Cambridge, MA: MIT Press.
- Galchenko, I., & Van de Vijver, F. J. R. (2007). The role of perceived cultural distance in acculturation among exchange students in Russia. *International Journal of Intercultural Relationships*, 31, 187–197.
- Gick, M. L., & Holyoak, K. J. (1980). Analogical problem solving. *Cognitive Psychology*, 12, 306–355.
- Ingman, K. A., Ollendick, T. H., & Akande, A. (1999). Cross-cultural aspects of fears in African children and adolescents. *Behavior Research and Therapy*, 37, 337–345.
- Leung, A. K.-Y., Chen, J., & Chiu, C.-Y. (2010). Multicultural experience fosters creative conceptual expansion. In A. K.-Y. Leung, C.-Y. Chiu, & Y.-Y. Hong. (Eds.), *Cultural processes: A social psychological perspective*. New York, NY: Cambridge University Press.
- Leung, A. K.-Y., & Chiu, C.-Y. (2008). Interactive effects of multicultural experiences and openness to experience on creativity. *Creativity Research Journal*, 20, 376–382.



- Leung, A. K.-Y., & Chiu, C.-Y. (2010). Multicultural experiences, idea receptiveness, and creativity. *Journal of Cross-Cultural Psychology, 41*, 723–741.
- Leung, A. K.-Y., Maddux, W. W., Galinsky, A. D., & Chiu, C.-Y. (2008). Multicultural experience enhances creativity: The when and how? *American Psychologist, 63*, 169–181.
- Maddux, W. W., & Galinsky, A. D. (2009). Cultural borders and mental barriers: The relationship between living abroad and creativity. *Journal of Personality and Social Psychology, 96*, 1047–1061.
- Mednick, M. T., Mednick, S. A., & Mednick, E. V. (1964). Incubation of creative performance and specific associative priming. *The Journal of Abnormal and Social Psychology, 69*, 84–88.
- Mussweiler, T. (2001). “Seek and Ye shall find”: Antecedents of assimilation and contrast in social comparison. *European Journal of Social Psychology, 31*, 499–509.
- Mussweiler, T. (2003). Comparison processes in social judgment: Mechanisms and consequences. *Psychological Review, 110*, 472–489.
- Mussweiler, T., & Damisch, L. (2008). Going back to Donald: How comparisons shape judgmental priming effects. *Journal of Personality and Social Psychology, 95*, 1295–1315.
- Nesdale, D., & Mak, A. (2000). Immigrant acculturation attitudes and host country identification. *Journal of Community and Applied Social Psychology, 10*, 483–495.
- Rossmann, E., & Fink, A. (2010). Do creative people use shorter associative pathways? *Personality and Individual Differences, 49*, 891–895.
- Schwartz, S. H. (2004). Mapping and interpreting cultural differences around the world. In H. Vinken, J. Soeters, & P. Ester (Eds.), *Comparing cultures: Dimensions of culture in a comparative perspective* (pp. 43–73). Leiden, The Netherlands: Brill.
- Suanet, I., & Van de Vijver, F. J. R. (2009). Perceived cultural distance and acculturation among exchange students in Russia. *Journal of Community and Applied Social Psychology, 19*, 182–197.
- Suedfeld, P., Tetlock, P. E., & Streufert, S. (1992). Conceptual/integrative complexity. In C. P. Smith, J. W. Atkinson, D. C. McClelland, & J. Veroff (Eds.), *Motivation and personality: Handbook of thematic content analysis* (pp. 393–400). New York, NY: Cambridge University Press.
- Tadmor, C. T., Tetlock, P. E., & Peng, K. (2009). Acculturation strategies and cognitive complexity. *Journal of Cross-Cultural Psychology, 40*, 105–139.
- Todd, A. R., Hanko, K., Galinsky, A. D., & Mussweiler, T. (2011). When focusing on differences leads to similar perspectives. *Psychological Science, 22*, 134–141.
- Ward, C., & Kennedy, A. (1994). Acculturation strategies, psychological adjustment and sociocultural competence during cross-cultural transitions. *International Journal of Intercultural Relations, 18*, 329–343.
- Ward, T. B., Smith, S. M., & Vaid, J. (1997). Conceptual structures and processes in creative thought. In T. B. Ward, S. M. Smith, & J. Vaid (Eds.), *Creative thought: An investigation of conceptual structures and processes*. (pp. 1–27) Washington, DC: American Psychological Association Books.

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