Social Psychological and Personality Science

Multiculturalism and Creativity: Effects of Cultural Context, Bicultural Identity, and Ideational Fluency Carmel S. Saad, Rodica Ioana Damian, Veronica Benet-Marti nez, Wesley G. Moons and Richard W. Robins Social Psychological and Personality Science published online 21 August 2012 DOI: 10.1177/1948550612456560

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Multiculturalism and Creativity: Effects of Cultural Context, Bicultural Identity, and Ideational Fluency

Social Psychological and Personality Science 00(0) 1-7 © The Author(s) 2012 Reprints and permission: sagepub.com/journalsPermissions.nav DOI: 10.1177/1948550612456560 http://spps.sagepub.com



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Abstract

Today's diverse society often includes culturally rich environments that contain cues pertaining to more than one culture. These cultural cues can shape cognitive processes, such as creativity. Recent evidence shows that bicultural experience enhances creativity, and that for culture-related domains, this effect is particularly evident among biculturals who blend their two cultural identities. The present study tested whether enhanced creativity among more blended biculturals was due to increased idea generation (i.e., ideational fluency). Moreover, the authors tested whether these effects generalized to noncultural domains, which may indicate that bicultural experience enhances creativity in broader arenas. One hundred seventy-seven Chinese Americans completed a creativity task in either a monocultural or bicultural context (manipulated via Chinese or American symbols or both). Greater bicultural identity blendedness predicted domain-general creativity in bicultural but not in monocultural contexts, and this was mediated by ideational fluency. Implications for enhancing creativity in our diverse society are discussed.

Keywords

culture and cognition, creativity, identity, individual differences, personality, self/identity, culture/ethnicity

We live in a multicultural society. Ongoing globalization and immigration have created a diverse world, one in which mixed cultural symbols and contexts are pervasive and may influence the way we think. Increasing immigration has also led to growing numbers of biculturals, or individuals who have experienced and internalized multiple cultures. Approximately 20-30% of Americans are bicultural (U.S. Census Bureau, 2010), with Asian Americans being among the fastest growing bicultural groups (Leong & Okazaki, 2009). Biculturals are particularly sensitive to cultural cues, especially if they identify with the cultures represented (Hong, Morris, Chiu, & Benet-Martínez, 2000). Research reveals vast differences between Asian and American cultural norms (Kim, Sherman, & Taylor, 2008; Markus & Kitayama, 1991; Morris & Peng, 1994), leading Asian Americans to form bicultural identities that reconcile distinct expectations associated with Western and Asian cultures (Benet-Martínez & Haritatos, 2005; Phinney & Devich-Navarro, 1997). How does the experience of negotiating distinct cultural identities affect the way biculturals think?

Recent studies have shown that bicultural experience is linked to creativity (Leung, Maddux, Galinsky, & Chiu, 2008; Maddux & Galinsky, 2009). Culturally diverse work teams are more creative than monocultural teams, because they allow individuals to explore varied perspectives (Cox & Blake, 1991; McLeod, Lobel, & Cox, 1996). Moreover, a large proportion of eminent artists, inventors, and scientists are firstor second-generation immigrants (Simonton, 1999).

Of particular importance in the creativity literature is creative originality, or the uniqueness or novelty of ideas (Plucker, Runco, & Lim, 2006; Runco, 1991; Torrance, 1970). One explanation for why biculturalism is related to creative originality is that the experience of internalizing distinct cultural knowledge networks (i.e., sets of norms, values, and behaviors) allows biculturals to encode information in multiple ways, sample information from different viewpoints, and resolve inconsistencies between cultural perspectives (Crisp & Turner, 2011; Leung et al., 2008; Maddux & Galinsky, 2009). This experience with diverse knowledge networks may enhance biculturals' recruitment of unconventional knowledge,

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reducing their reliance on a single culture's conventions (Lambert, Tucker, & d'Anglejan, 1973; Leung et al., 2008; Wan & Chiu, 2002). Exposure to different cultural knowledge networks can foster cognitive adaptation, or recruitment of information from diverse perspectives to generate creatively original ideas. For example, Leung and Chiu (2010) found that extensiveness of multicultural experiences was positively associated with sampling information from diverse cultures.

However, many of the studies linking multicultural experience to creativity have been correlational in nature, thus limiting our knowledge of specific contexts that facilitate creative originality as well as mechanisms for this enhanced originality among biculturals. For example, Tadmor, Galinsky, and Maddux (2012) conducted a correlational study showing that biculturals who adopt what Berry (1997) originally described as a "bicultural" or "integrationist" acculturation strategy (i.e., those who identify highly with both ethnic and host cultures) were more creative than those adopting other acculturation strategies. But are these biculturals more creatively original in all contexts? What accounts for this greater creativity? Because sampling information from distinct knowledge sources can facilitate creativity, we propose that biculturals would be most creative when both of their cultural knowledge networks are activated simultaneously (i.e., bicultural contexts), rather than only one at a time (i.e., monocultural contexts). By experimentally manipulating the context in which biculturals complete the creativity task (i.e., activating one or both of a bicultural's cultural knowledge networks), we directly test the hypothesis that biculturals are only more creative in situations that make both of their cultural knowledge networks accessible at once.

Moreover, not all biculturals are more creative even in bicultural contexts. All biculturals internalize and navigate between potentially competing cultural orientations, but some successfully integrate both sets of cultural norms within their self-concept, and some do not. These and other differences in bicultural identity have been described as variations in bicultural identity integration (BII; Benet-Martínez & Haritatos, 2005). Biculturals perceiving their cultural identities as blended (e.g., report overlap and compatibility between their cultures) find it relatively easy to move fluidly between their cultural knowledge networks (Benet-Martínez, Leu, Lee, & Morris, 2002). Those viewing their cultures as less blended, however, report difficulty integrating their cultures (e.g., report keeping Chinese and American cultures separate). They often feel it is easier to choose one or the other culture but hard to be both simultaneously (Benet-Martínez & Haritatos, 2005). Bicultural identity blendedness represents the newer generation of bicultural identity measures in the biculturalism literature. It is different from Berry's (1997) original acculturation strategies in that it refers to the specific overlap perceived between a bicultural's cultures, or the intersection of their identities. Not all biculturals view their cultures as overlapping or blended, even if they do identify highly with both cultures. In fact, Benet-Martínez and Haritatos (2005) demonstrated that bicultural identity blendedness is largely independent of Berry's traditional "bicultural" or "integrationist" acculturation strategy in that it correlated only weakly at r = .10. Thus, the current research extends prior biculturalism work (e.g., Tadmor, Galinsky, & Maddux, 2012) by directly examining how biculturals' perception of the intersection of their cultural identities is related to creativity in contexts that cue one or both of their cultures.

Bicultural identity integration includes another dimension assessing the degree of perceived harmony versus conflict between cultures (Benet-Martínez & Haritatos, 2005). Several researchers have demonstrated that harmony is associated with *affective* aspects of biculturalism, whereas blendedness is associated with *cognitive* aspects (Benet-Martínez et al., 2002; Huynh, 2009). For example, harmony is related to lower levels of neuroticism and acculturative stress (Benet-Martínez & Haritatos, 2005; Haritatos & Benet-Martínez, 2002; Huynh, 2009). Blendedness, on the other hand, is associated with more cognitive or learning-based aspects of biculturalism, such as openness to experience and linguistic abilities and use (Benet-Martínez & Haritatos, 2005). For these reasons, we propose that blendedness, not harmony, will be related to biculturals' cognitive processes, such as creative originality.

Because they perceive less overlap between their cultural identities and move less fluidly between their cultural knowledge networks, biculturals who perceive less blendedness between their identities may sample information from both activated cultural networks to a lesser degree. For example, Cheng, Sanchez-Burks, and Lee (2008) found that only Asian Americans who perceived their identities as more blended were more creatively original in bicultural contexts. They produced more original culinary dishes when given both Asian and American ingredients (i.e., bicultural context) versus Asian or American ingredients alone (i.e., monocultural contexts).

Cheng et al.'s (2008) findings indicate that activating both cultures facilitates creativity for biculturals who perceive their identities as more blended. However, two gaps in the literature remain. First, the mechanism by which these highly blended biculturals experience enhanced creativity in bicultural contexts is unclear. The current study tested the hypothesis that biculturals generate more candidate ideas in bicultural versus monocultural contexts. This greater idea generation is referred to as ideational fluency (Guilford, 1967). Biculturals who perceive greater blendedness between their identities may more easily sample information from both cultural knowledge networks. This may allow them to generate more ideas, each having differing creative potential. Indeed, some research has suggested that greater ideational fluency enhances creative originality (Simonton, 2004; Weisberg, 1999) and that originality often results from generative processes (Finke, Ward, & Smith, 1992). In their creative cognition approach, Finke et al. (1992) propose that generating a larger number of ideas is a key antecedent of creative originality. Specifically, individuals may achieve creative originality by producing numerous ideas and then exploring, elaborating on, and transforming these into original creations. Thus, theory suggests that ideational fluency may account for greater originality in some contexts. Although fluency and originality are related (Plucker, Qian, & Wang, 2011), they are also distinct, as evidenced by their different antecedents and functional anatomical dissociation in the brain (Shamay-Tsoory, Adler, Aharon-Peretz, & Mayseless, 2011). The current study is the first to directly test whether ideational fluency actually mediated greater originality among more blended biculturals in bicultural contexts. We examined a mediated moderation model in which more blended biculturals were more creative in bicultural, but not monocultural contexts, because of greater ideational fluency.

Second, it is unclear whether more blended biculturals' greater originality applies to noncultural domains as well. A core aspect of creativity involves extending original thinking from one domain to another (Guimerà, Uzzi, Spiro, & Amaral, 2005; Leung et al., 2008). Cheng et al.'s (2008) findings indicated that bicultural identity blendedness facilitated creativity in Asian or American fusion cooking. This makes sense, given that biculturals who have blended their identities may find it easier to be creative in the cultural realm-the very realm in which they have reconciled distinct expectations. However, it is unclear whether they develop domain-general creative processing, or creativity that extends beyond cultural domains. We propose that more blended biculturals would also exhibit more creativity on domain-general tasks, or those which are not culturally relevant. By virtue of being constantly exposed to and resolving inconsistencies between their cultural knowledge networks, biculturals might have adapted by habitually drawing on different sources of knowledge in more general domains. This is advantageous, given that creativity often advances domains unrelated to a specific culture.

One well-established task that assesses more domaingeneral creativity is the unusual uses test (Guilford, 1967). This task prompts individuals to generate as many creative uses for a common object (e.g., paperclip) as possible. Utilizing this task allowed for a test of the relationship between bicultural identity blendedness and creative originality in domains unrelated to culture. Moreover, using this task allowed us to determine whether more blended biculturals actually generated more independent novel ideas, rather than simply synthesizing information provided to them already (e.g., cooking ingredients). Thus, this paradigm allowed us to test whether ideational fluency actually accounted for greater creative originality among highly blended biculturals in bicultural contexts.

Method

Participants

One hundred seventy-seven Chinese American students at the University of California, Davis participated in exchange for course credit (Median age = 19.00; range = 17–24). The sample consisted of 62% women, and 75% of participants were born in the United States. On a scale from 1 to 5, the mean bicultural identity blendedness score among the current sample was 3.65 (SD = .70). In accordance with prior literature on biculturals (Cheng et al., 2008; Mok & Morris, 2009; Ng, Han,

Mao, & Lai, 2010), our sample consisted of biculturals living in the United States. In line with Ng et al. (2010), our bicultural sample self-identified with both Chinese and American cultures, reporting an American culture identification of 4.17 (SD = 1.11) and a Chinese culture identification of 4.55 (SD = .91), both of which were rated on 6-point scales ranging from 1 (*very weak*) to 6 (*very strong*). Note that this self-identified Chinese American bicultural sample is in line with prior definitions of biculturals (see Ng et al., 2010).

Procedure

Participants were randomly assigned to an American (n = 57), Chinese (n = 53), or bicultural (n = 67) context condition. They were seated at computers and were told that they would be participating in a series of short studies. In the American condition, participants viewed images of the Statue of Liberty and Mount Rushmore. In the Chinese condition, they viewed the Great Wall of China and a traditional Chinese opera singer. In the bicultural condition, they viewed the Great Wall of China and the Statue of Liberty. In all conditions, participants wrote about the culture/cultures displayed in order to ensure cultural knowledge network activation (Hong et al., 2000). They then completed filler tasks that obstructed the purpose of the study before completing the creativity task.

Measures

Bicultural identity blendedness. Participants completed the blendedness subscale of the Bicultural Identity Integration scale (BIIS-1; Benet-Martínez & Haritatos, 2005) prior to coming to the laboratory. This measure assesses perceived blendedness of one's two cultural identities (Benet-Martínez & Haritatos, 2005; Cheng et al., 2008).¹ The blendedness subscale included 4 items rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*), $\alpha = .74$. Sample items are: "I feel that I am a cultural blend" and "I am simply a cultural minority who lives in North America" (reverse coded).

Creativity. Participants completed the unusual uses test (Guilford, 1967), a widely used and well-validated measure of creativity (Plucker et al., 2011). It assesses ideational fluency and creative originality. We instructed participants to list as many uses for a paperclip as possible. Three independent raters, blind to the experimental conditions, counted the number of independent and useful ideas generated to assess ideational fluency. Inconsistencies in this count were resolved by discussion. They rated the subjective originality of each use on a scale from 1 (*not at all original*) to 10 (*extremely original*), $\alpha = .94$.

Results

We hypothesized a bicultural identity blendedness by cultural context interaction such that blendedness would be positively associated with originality in the bicultural context, but not in the monocultural contexts. Further, we expected that this interaction would be mediated by ideational fluency. We

Table I. Effects of Bicultural Identity Blendedness and Cultural Context on Creative Originality (N = 177)

Variable	Ь	SE	β	95% CI
Identity blendedness Cultural context (D_1) Cultural context (D_2) Blendedness $\times D_1$ Blendedness $\times D_2$.19 .06 –.04 –.32 –.26	.07 .07 .07 .11	.34** .07 04 28** 27*	[.05, .33] [09, .20] [18, .10] [53,10] [45,06]

Note. $CI = confidence interval; D_1 = Dummy I (contrasting bicultural context to Chinese context); D_2 = Dummy 2 (contrasting bicultural context to American context).$

*p < .05. ** p < .01.

examined the mean of originality in line with prior research (Hocevar & Michael, 1979; Plucker et al., 2011; see Rietzschel, De Dreu, & Nijstad, 2007 for a similar analysis).² The continuous predictor, bicultural identity blendedness, was mean-centered (Aiken & West, 1991).

Interaction Between Blendedness and Cultural Context

As expected, a significant interaction emerged between blendedness and cultural context, $\Delta R^2 = .07$, p < .01 (Table 1). Blendedness significantly predicted originality for those in the bicultural context condition, ($\beta = .34$, p = .01), but not for those in the monocultural Chinese ($\beta = -.21$, p = .14) or monocultural American ($\beta = -.11$, p = .37) context conditions.

Ideational Fluency Mediation

We proposed a mediated moderation such that in the bicultural context condition only, greater originality among highly blended biculturals would be accounted for by greater ideational fluency. We tested this using the framework proposed by Muller, Judd, and Yzerbyt (2005). First, we confirmed the significant interaction between blendedness and cultural context, $\Delta R^2 = .07$, p < .01. Second, the blendedness by cultural context interaction significantly predicted fluency, the proposed mediator, $\Delta R^2 = .05$, p < .05. Blendedness significantly predicted fluency for those in the bicultural context condition, $\beta = .33$, p < .01, but not for those in the monocultural Chinese ($\beta = .02, p = .87$) or monocultural American ($\beta = -.11$, p = .39) context conditions (Table 2). Fluency also significantly predicted originality when blendedness and cultural context were included in the analysis, $\beta = .42$, p < .01. This final model (including fluency) accounted for more than 3 times the variance in originality than the one that did not include fluency, $\Delta R^2 = .16$, p < .01 (see Table 3 for final regression model controlling for fluency). In bicultural contexts, only more blended biculturals exhibited greater creative originality, and this was accounted for by their greater ideational fluency (Figure 1).

Table 2. Effects of Bicultural Identity Blendedness and Cultural Context on Ideational Fluency (N = 177)

Variable	Ь	SE	β	95% CI
Identity blendedness Cultural context (D_1) Cultural context (D_2) Blendedness $\times D_1$ Blendedness $\times D_2$	1.30 .18 .59 -1.21 -1.71	.49 .50 .49 .75 .69	.33** .03 .10 16 27*	[.34, 2.26] [81, 1.17] [39, 1.56] [-2.69, .27] [-3.06,36]

Note. $CI = confidence interval; D_1 = Dummy I (compared bicultural context to Chinese context); D_2 = Dummy 2 (compared bicultural context to American context).$

*p < .05. **p < .01.

Discussion

Chinese American biculturals who perceived greater blendedness between their Chinese and American cultural identities exhibited greater originality in bicultural, but not monocultural, contexts. This interaction was mediated by their greater ideational fluency in the bicultural context. While other researchers have demonstrated that bicultural identity blendedness is related to enhanced creativity in bicultural contexts (Cheng et al., 2008), the current findings are the first to provide evidence for an underlying mechanism by demonstrating the role of ideational fluency in accounting for this effect. By having reconciled or integrated distinct concepts rooted in their cultural backgrounds, biculturals with more blended identities may move more fluidly between each cultural knowledge network when they are both accessible. This may allow them to sample from more available information and generate more ideas in these contexts than biculturals who have less successfully integrated their cultural identities.

Our findings support a person-situation fit model of creativity among biculturals: Biculturals who better integrate their cultural identities exhibit more creativity, but this only occurs in situations that make both cultures salient. More highly blended biculturals may experience greater ideational fluency in bicultural contexts, and this accounts for their enhanced creativity in these contexts. In contrast to highly blended biculturals in bicultural contexts, less blended biculturals as well as biculturals in monocultural contexts may exhibit less ideational fluency and thus, less creative originality. One's cultural identity dynamics interact with cultural context to influence the processes involved in creative thinking.

Moreover, our findings extend prior literature by revealing that dual cultural activation enhances creativity not only in domains related to biculturals' cultural identities, but in more general domains as well. Instead of being more creative in Chinese- or American-related activities, we found that more blended Chinese Americans were more creative in the domain-general task of generating creative uses for a paperclip. This suggests that greater perceived cultural identity blendedness may foster creativity by helping biculturals develop a habitual tendency to integrate distinct concepts more broadly. Among more blended biculturals, the experience of integrating

Table 3. Effects of Bicultural Identity Blendedness, Cultural Context, and Ideational Fluency on Creative Originality (N = 177)

Variable	Ь	SE	β	95% CI
Identity blendedness	.12	.07	.20	[02, .25]
Cultural context (D ₁)	.05	.07	.05	[08, .18]
Cultural context (D ₂)	07	.07	09	[20, .06]
Ideational fluency	.06	.01	.42**	[.04, .08]
Blendedness $\times D_1$	24	.10	22 *	[44,05]
$Blendedness \times D_2$	—.I 5	.09	16	[33, .03]

Note. $CI = confidence interval; D_1 = Dummy I (compared bicultural context to Chinese context); D_2 = Dummy 2 (compared bicultural context to American context).$

*p < .05. **p < .01.

their cultural identities may foster cognitive adaptation, allowing them to draw upon diverse perspectives when thinking about a wide variety of domains. This is advantageous, because it allows them to utilize their experience of successfully managing the bicultural experience for enhanced creativity in broader endeavors, most of which are unlikely to relate to their cultural backgrounds directly.

Additionally, using the unusual uses test (Guilford, 1967) allowed us to show that biculturals were more creative in bicultural contexts because of generative processes (Finke et al., 1992). Because we assessed the extent to which biculturals generated a large number of uses, rather than combinations of a set of stimuli (Cheng et al., 2008), our findings indicate that greater idea generation is partly responsible for enhanced creativity among certain biculturals. No studies, to our knowledge, have tested the mediating effect of ideational fluency on the relationship between any predictors and creative originality. Therefore, our findings represent a novel contribution to the creativity literature (e.g., Cheng et al., 2008; Leung et al., 2008; Maddux & Galinsky, 2009; Tadmor et al., 2012), indicating that generative processes, specifically fluency, contribute to creative originality among biculturals. This makes sense, given that biculturals with more blended identities may find it easier to move fluidly between their rich cultural knowledge networks and thus gain access to more available information and produce more ideas. Moreover, the finding that generating more ideas in bicultural contexts mediated the effect of bicultural identity blendedness on creative originality qualifies prior work indicating that more general cognitive complexity (no matter the context) is needed for enhanced creativity among biculturals (Tadmor et al., 2012). Being more creatively original because one can generate more ideas only when both of one's cultures are accessible is different from being more creatively original because of a chronic tendency to differentiate and incorporate ideas more generally, regardless of context.

The current study examined originality controlling for fluency (i.e., pure originality), in line with prior research (Hocevar & Michael, 1979; Plucker et al., 2011). Findings revealed that fluency mediated "pure" originality (i.e., summed originality scores divided by total number of ideas). Therefore, our findings suggest that fluency does not necessarily enhance



5

Figure 1. Ideational fluency mediates the blendedness x cultural context effect on originality. *p < .05. **p < .01.

originality via sheer probability (Simonton, 1997; Weisberg, 1999). In fact, the mere act of generating more ideas led to a greater proportion of original ideas. In this sense, biculturals with more blended identities seem to be more efficiently creative; the process of generating ideas begets originality in and of itself.

Our findings imply that contexts that facilitate the perceived and real blending of cultures in their products (e.g., fusion food, multicultural media), policies (e.g., multicultural education), and institutions (e.g., culturally diverse work environments), versus cultural hegemony or compartmentalization, may enhance the creativity of its individuals. Culturally plural societies that foster integration of different cultural traditions can enhance the creativity of its members. Bicultural employees or students with blended cultural identities will experience enhanced creativity in settings and organizations that foster multicultural situations. Further, this creativity extends to noncultural domains, which are often more common in these professional settings.

Future research should examine whether the creative benefits of identity blendedness extend to integrating competing identities that are not cultural (e.g., gender and professional identities, such as male nurses). It may be that integration of diverse perspectives in general fosters the cognitive adaptation that facilitates creative originality.

Internalizing distinct cultural perspectives and finding the thread that connects them can enhance creativity. Only biculturals who have successfully resolved the discrepancies between their cultural identities may capitalize on the benefit of bicultural contexts in our increasingly multicultural world. Therefore, exposure to various cultures might not be enough to enhance creativity, as suggested by prior research. Instead, integrating perceived disparities or merging boundaries between distinct cultural perspectives is necessary to facilitate creativity, indicating the broad cognitive benefits of successfully managing the bicultural experience.

Authors' Note

Portions of this article were presented at the 2011 annual meeting of the Society for Personality and Social Psychology.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

- This measure also assessed perceived harmony between one's two cultural identities. However, harmony did not interact with cultural context in predicting creative originality. Therefore, it is not discussed here. This was to be expected, given previous findings showing that harmony is related to the affective aspects of biculturalism, whereas blendedness is related to the cognitive aspects, such as creative thought (Benet-Martínez et al., 2002; Huynh, 2009).
- 2. We conducted the analyses after operationalizing originality in two additional ways: the summed originality score (i.e., not dividing by fluency) and the most original single response the participant generated (i.e., peak originality). The pattern of results remained the same in both cases.

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