# Journal of Cross-Cultural Psychology http://jcc.sagepub.com/

# Beyond Individual Creativity: The Superadditive Benefits of Multicultural Experience for Collective Creativity in Culturally Diverse Teams

Carmit T. Tadmor, Patricia Satterstrom, Sujin Jang and Jeffrey T. Polzer Journal of Cross-Cultural Psychology 2012 43: 384 originally published online 9 February 2012 DOI: 10.1177/0022022111435259

> The online version of this article can be found at: http://jcc.sagepub.com/content/43/3/384

> > Published by:

**\$**SAGE

http://www.sagepublications.com

On behalf of:



International Association for Cross-Cultural Psychology

Additional services and information for Journal of Cross-Cultural Psychology can be found at:

Email Alerts: http://jcc.sagepub.com/cgi/alerts

Subscriptions: http://jcc.sagepub.com/subscriptions

Reprints: http://www.sagepub.com/journalsReprints.nav

Permissions: http://www.sagepub.com/journalsPermissions.nav

Citations: http://jcc.sagepub.com/content/43/3/384.refs.html

>> Version of Record - Mar 12, 2012

OnlineFirst Version of Record - Feb 9, 2012

What is This?

# Beyond Individual Creativity: The Superadditive Benefits of Multicultural Experience for Collective Creativity in Culturally Diverse Teams

Journal of Cross-Cultural Psychology 43(3) 384–392 © The Author(s) 2012 Reprints and permission: sagepub.com/journalsPermissions.nav DOI: 10.1177/0022022111435259 jccp.sagepub.com



Carmit T. Tadmor<sup>1</sup>, Patricia Satterstrom<sup>2</sup>, Sujin Jang<sup>2</sup>, and Jeffrey T. Polzer<sup>2</sup>

#### **Abstract**

Although recent research has consistently demonstrated the benefits of multicultural experience for individual-level creativity, its potential advantages for collective creativity in culturally diverse teams have yet to be explored. We predicted that multicultural experience among members of a collective would enhance joint creativity in a superadditive fashion. Using a two-step methodology that included both individual and dyadic brainstorming sessions, we found that even after controlling for individual creativity, multicultural experience had a superadditive effect on dyadic creativity. Specifically, dyads performed best on a creative task in terms of fluency, flexibility, and novelty—three classic dimensions of creativity—when both dyad partners had high levels of multicultural experience. These results show that when it comes to multicultural experience, the creative whole is greater than the sum of its parts. Implications for diversity research are discussed.

# **Keywords**

multiculturalism, creativity, culture and cognition, brainstorming

Brainstorming researchers have theorized that groups have the potential to outperform individuals on creative tasks. This prediction is rooted in the belief that each person can trigger in other members' minds relevant categories of ideas that would otherwise not be accessible. Each newly introduced category is a source of new ideas by itself as well as in combination with already-activated categories, allowing it to spark new ideas in a "chain reaction" that should enhance creativity (Osborn, 1957; Paulus & Brown, 2003; Paulus, Larey, & Dzindolet, 2000).

#### **Corresponding Author:**

Carmit T.Tadmor, Tel Aviv University, Ramat Aviv, Tel Aviv 69978, Israel. Email: ctadmor@post.tau.ac.il

<sup>&</sup>lt;sup>1</sup>Tel Aviv University, Tel Aviv, Israel

<sup>&</sup>lt;sup>2</sup>Harvard University, Boston, Massachusetts, USA

Although some studies have provided support for this hypothesis, research on the whole has been far from conclusive. Indeed, much empirical research has suggested that brainstorming can often lead to productivity loss (e.g., Paulus, Dugosh, Dzindolet, Coskun, & Putman, 2002) and that this negative effect is particularly likely to occur in culturally diverse teams due to the challenges of intercultural communication (e.g., Han, Peng, Chiu, & Leung, 2010; Jackson, Joshi, & Erhardt, 2003; Tadmor, Galinsky, & Maddux, 2011; Williams & O'Reilly, 1998). In the current article, we propose that the multicultural experiences of individual members can mitigate the potential negative impact of brainstorming in culturally diverse teams and even produce a superadditive effect on team creativity.

Although researchers have yet to investigate empirically what happens when people of varying degrees of multicultural experience come together to collectively explore new ideas, a surge of research has already demonstrated how multicultural experience can foster individual-level creativity both in the lab and in the real world (e.g., Leung & Chiu, 2010; Leung, Maddux, Galinsky, & Chiu, 2008; Maddux & Galinsky, 2009; Tadmor et al., 2011). This research suggests that exposure to foreign cultures promotes creative expansion by providing individuals with opportunities to acquire new perspectives and ideas, destabilizing their reliance on routine knowledge structures, and fostering their capacity to view issues from multiple perspectives and integrate them into a coherent whole (e.g., Leung et al., 2008; Tadmor, Tetlock, & Peng, 2009). We expect that these mechanisms that cause multicultural experience to boost creativity at the individual level would also have the potential to enhance collective creativity. After all, if a group is the sum of its parts, the overall level of collective creativity should be greater to the extent that individual group members are more creative due to their multicultural experience. Our purpose, however, is to ask a more provocative question: As group members engage in creative tasks, can the benefits of their multicultural experiences go beyond a simple summation of enhanced individual creativity? As we explain next, two parallel processes—cognitive and social—offer complementary explanations for why we expect multicultural experiences to produce a superadditive effect on collective creativity in culturally diverse teams.

From a cognitive perspective, because multicultural experiences broaden the conceptual space from which categories of ideas can be drawn, individuals with high levels of multiculturalism should be well-positioned to prompt novel ideas from their group members in ways that go beyond an additive effect. In particular, if activating new categories of ideas is an important part of the idea sparking process, and if the intersection of unique combinations of categories can be a source of novel ideas (e.g., Paulus & Brown, 2003), then the multicultural experiences of group members should have a synergistic effect on collective creativity. This reasoning is similar to the "logic of diversity" derived by Page (2007), who modeled the effects of *categorical* diversity (e.g., diversity in surface-level attributes such as ethnicity) and concluded that they should be "superadditive," with each additional categorical perspective adding not only the ideas from within that category but also adding another intersecting point to each existing combination of categories. We adopt this reasoning but posit that categorical measures of diversity based on readily observable demographic attributes are only indirect indicators of the underlying informational diversity presumed to foster creative benefits (e.g., Priem, Lyon, & Dess, 1999). We suggest that multicultural experience offers a more direct estimate of this deep-level diversity.

From a social perspective, it is well documented that cultural diversity can harm group productivity by undermining team cohesion and communication (e.g., Jackson et al., 2003; Williams & O'Reilly, 1998). High levels of multicultural experience, however, may help mitigate these negative effects and consequently pave the way for high levels of collective creativity. In fact, there is considerable evidence that as multicultural experiences accumulate, individuals become more competent in intercultural communication, develop a general willingness to learn from and work with people from other cultures, and demonstrate a greater tolerance for and belief in the

value of cultural diversity (e.g., Han et al., 2010; Leung et al., 2008; Tadmor, Hong, Chiu, & No, 2010; Tadmor & Tetlock, 2006; Tadmor et al., 2009). Nonetheless, because intercultural relations are a two-way street, successful interaction may require that both members of the exchange be high on multiculturalism. Put simply, even if one person possesses a high degree of multicultural competence, as long as his interaction partner does not have the capacity to function well with a culturally dissimilar other, the dyad may still suffer (cf., Imai & Gelfand, 2010). Indeed, this prediction is in line with Han et al.'s (2010) suggestion that employees are likely to use "the rich pool of intellectual resources that a diverse work team brings to the work setting *only* when the workers value and respect differences in the team" (p. 292, italics added). Thus, we predict that in a dyadic context, a significant increase in team creativity will occur only when both team members have relatively high levels of multicultural experience.

Few researchers have explored collective creativity as a criterion while empirically distinguishing it from the individual creativity of group members (Hennessey & Amabile, 2010). In the current study, we measure individual multicultural experience, individual creativity, and collective creativity in a laboratory study of brainstorming dyads, allowing us to test multiculturalism's superadditive effect on collective creativity, after controlling for individual creativity. Moreover, in order to isolate and highlight the importance of focusing on the underlying informational diversity of multicultural experience as a unique predictor of collective creativity in culturally diverse teams, the dyads in this study were designed to be uniformly and maximally diverse along categorical dimensions, with each dyad comprising one Caucasian and one Asian. Based on categorical measures of ethnicity, these dyads should not be expected to differ in creativity since they are all equally and maximally diverse. Yet we propose that by measuring underlying levels of multicultural experience, systematic differences between teams will be observed.

## Method

# **Participants**

A total of 114 participants (50 males; average age = 21.3, SD = 3.60) were recruited from an East Coast university subject pool and paid for participating. Half of the participants were Caucasian Americans born in the United States, and half were of Asian descent (94.7% born in Asia).

#### Procedure and Research Materials

Materials were collected in two parts. First, before coming to the lab, participants completed an online survey, which included questions about their multicultural experience as well as a series of controls described below. Second, after arriving at the lab, participants performed a "creative uses" task, completed first individually and then with a randomly assigned ethnically different partner. In the individual creativity task, they were asked to generate as many uses of a brick as possible in 5 minutes (Guilford, 1950). In the dyadic creativity task, they spent 15 minutes jointly generating more ideas for uses of a brick, without using the ideas they had each generated individually.

Multicultural Experience. Multicultural experience was assessed using Leung and Chiu's (2010) full Multicultural Experience Survey (MES). It measured time lived outside country of origin (Item 1), exposure to non-American cultures (Item 2), number of foreign languages spoken (Item 3), parents' places of birth (Items 4 and 5), and number of foreign friends (Item 6), favorite foreign cuisines

(Item 7), and favorite foreign musicians (Item 8). Following Leung and Chiu, we rescaled the eight items so that each ranged from 0 to 1 and then summed them, giving each item equal weight. Asians' MES score did not include Item 2 since it was not applicable to them.

**Creativity Coding.** For both the individual and dyadic creativity tasks, two coders independently coded participants' uses for a brick in three ways: (1) *fluency* measured as the total number of distinct uses participants generated (any duplicate ideas—ideas that were found in both the individual list and the dyad list—were removed from the dyad list),  $^1$  (2) *flexibility* measured as the number of different categories generated (Cohen's Kappa = .89; disagreements were resolved through discussion), and (3) *novelty* measured as the mean of the coders' ratings of the overall creativity of each individual's and dyad's total list of ideas on a scale from 1 (*not creative at all*) to 7 (*very creative*) (r = .84; ICC = .78).

**Control Measures.** We controlled for a variety of individual difference factors previously shown to be associated with creativity, including things such as intrinsic motivation, risk taking, promotion focus, and the Big Five (e.g., Amabile, 1996; Baer & Kaufman, 2008; Dewett, 2007; Feist, 1998; Lam & Chiu, 2002; Maddux & Galinsky, 2009). By measuring and subsequently controlling for these variables, we minimized the possibility that they could provide alternative explanations for our results. These individual-level factors included the Big Five personality characteristics (10 items; Gosling, Rentfrow, & Swann, 2003; Cronbach alphas ranged from .76 to .51), intrinsic motivation (2 items; Amabile, Hill, Hennessey, & Tighe, 1994;  $\alpha = .80$ ), promotion focus (2 items; Cunningham, Raye, & Johnson, 2005;  $\alpha = .90$ ), risk taking (2 items; e.g., "I frequently take risks";  $\alpha = .73$ ), as well as gender and age. We averaged dyadic partners' responses to these individual difference variables to control for dyad-level scores. Finally, dyad members who share exposure to similar cultures are likely to have greater overlap in their knowledge bases, which may be a detriment to creativity. Consequently, we also controlled for the amount of cultural overlap between dyad partners.<sup>2</sup>

### Results

# **Analysis Overview**

To test the superadditive effect of multicultural experience on dyadic creativity, we computed a cross-product interaction term from Caucasian and Asian dyadic partners' individual levels of multiculturalism. We used multiple regressions to test whether this interaction term significantly predicted the dyadic dependent variables of fluency, flexibility, and novelty, controlling for (1) the main effects of multicultural experience for the Caucasian and Asian dyad members, (2) the controls, and (3) individual creativity, measured as the mean of participants' standardized individual creativity scores on fluency, flexibility, and novelty based on the individual creativity task. Importantly, if other omitted variables influenced both multicultural experience and creativity, which is always a concern in a correlational study, such effects should be accounted for by controlling for individual creativity. After running regression models including all controls, we attempted to preserve our limited statistical power by conducting a second set of regressions controlling for (1) the main effects of multiculturalism, (2) only controls found in the full-control model to significantly predict the dependent variables, and (3) individual creativity. We report below the results of this limited model, which were consistent with results from the full-control model. Anotably, the unit of analysis in these regression models was the dyad.

		(a)			(b)			(c)	
		Fluency			Flexibility			Novelty	
Predictor	В	SE	β	В	SE	β	В	SE	β
Extraversion	3.90	2.64	.19	.49	.55	.10	.08	.26	.04
Openness to experience	.18	2.91	.01	.71	.61	.12	.31	.29	.12
Promotion focus	-3.80	1.58	31*	.05	.33	.02	29	.16	22
Cultural overlap	-2.24	1.25	30	.14	.26	.08	05	.12	06
Aggregated individual creativity	7.52	2.36	.38**	2.75	.49	.60**	1.07	.23	.51**
Caucasian multicultural experience (CME)	.69	1.69	.06	.33	.35	.12	.03	.17	.03
Asian multicultural experience (AME)	1.01	1.79	.08	13	.37	04	00	.18	00
Dyad multicultural experience (CME×AME)	4.41	1.69	.32*	.99	.35	.31**	.58	.17	.40**
R <sup>2</sup>	.40			.53			.48		
N	57			57			57		

Table 1. Dyad-Level Regressions for (a) Fluency, (b) Flexibility, and (c) Novelty

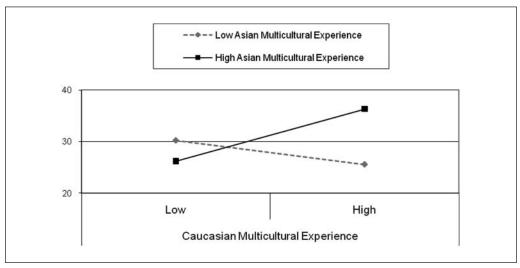
Note: B = unstandardized coefficient; SE = standard error;  $\beta$  = standardized coefficient. \*p < .05. \*\*p < .01.

# **Dyad-Level Creativity Results**

As expected, individual creativity, averaged across the members of each dyad, positively predicted dyadic fluency ( $\beta$  = .38, p = .003), flexibility ( $\beta$  = .60, p = .0001), and novelty ( $\beta$  = .51, p = .0001). This set the stage for our primary prediction that, even after controlling for this effect of individual creativity, individual levels of multicultural experience would have a superadditive effect on dyadic creativity. In line with this prediction, the interaction term we used to test this superadditive effect was a significant predictor of dyadic fluency ( $\beta$  = .32, p = .012), flexibility ( $\beta$  = .31, p = .007), and novelty ( $\beta$  = .40, p = .001) (see Table 1). As expected, simple slopes analyses (Aiken & West, 1991) revealed that for Asians with high levels of multiculturalism (+1 SD), Caucasians' multiculturalism positively predicted dyadic fluency ( $\beta$  = .42, p = .030; see Figure 1), flexibility ( $\beta$  = .46, p = .007), and novelty ( $\beta$  = .47, p = .009). This pattern was symmetrical, such that for Caucasians with high multiculturalism (+1 SD), Asians' multiculturalism positively predicted dyadic fluency ( $\beta$  = .30, p = .057), and novelty ( $\beta$  = .45, p = .008).

# Individual-Level Creativity Results

To replicate past research, we also tested whether multiculturalism enhanced individual creativity. After controlling for the complete list of individual difference measures described above, multicultural experience had a positive effect on individual fluency ( $\beta = .19$ , p = .043) and



**Figure 1.** Predicted Mean Values of Dyadic Fluency as a Function of Participants' Multicultural Experience, at One Standard Deviation Above And Below the Means

novelty ( $\beta$  = .19, p = .056), though it was unrelated to flexibility ( $\beta$  = .06, ns). Although somewhat weak, the direction of these results is consistent with past research demonstrating the positive effects of multiculturalism on creativity.

# **Discussion**

This study is the first to examine the benefits of multicultural experience for collective creativity in culturally diverse teams. Using a two-step methodology of individual and dyadic brainstorming, we extended previous multiculturalism research by demonstrating that the creative utility of multicultural experience extends beyond the individual level by enhancing collective creativity through a superadditive effect. Even after controlling for individual creativity along with a variety of individual difference variables, dyadic creativity—measured in terms of fluency, flexibility, and novelty—was greatest when both dyadic partners had high levels of multicultural experience. Notably, our results also contribute to diversity research by underscoring the importance of directly measuring the deep-level experiences thought to yield creative benefits. Indeed, given that our dyads were maximally diverse on categorical measures, reliance on surface-level measures would predict that they be equally creative. And yet, by measuring underlying levels of multiculturalism, we were able to demonstrate systematic differences in dyadic creativity. Finally, this study is one of the first to simultaneously investigate individual and collective creativity. We have shown that although it is helpful for a group to have creative members, collective creativity is more than a simple aggregation of individual creativity. Taken together, these results show that when it comes to multicultural experience, the creative whole is greater than the sum of its parts.

Nonetheless, the purpose of our research was relatively simple: to provide a first account of the potential synergistic benefits of multiculturalism for team-level creativity, beyond aggregated individual capabilities. Moreover, our exclusive focus on culturally dissimilar dyads further allowed us to provide a straightforward demonstration that two teams can look demographically equivalent but can harbor very different creative potential that is better captured by the deep-level estimate of multicultural experience. And yet our research also has several limitations including the fact that we did not investigate the underlying mechanism that can

explain why these results occur nor did we demonstrate that our results are generalizable to homogeneous dyads. Therefore, looking forward, future research would greatly benefit from exploring whether the superadditive effects of multicultural experiences occur through the underlying cognitive and social interaction processes that we have speculated are at the heart of collective creativity. It is further important to generalize our results by testing whether multicultural experiences of team members also have a superadditive effect on team creativity when the team is ethnically homogeneous. Interestingly, given that demographically homogeneous teams are expected to have good communication processes (Williams & O'Reilly, 1998), such a study could also help empirically differentiate between the expected cognitive effects of multiculturalism and the expected social effects of improved intercultural communication processes.

The specific nature of our task should also be mentioned. Indeed, our study involved a creative uses task, which participants first completed individually and then collectively after being instructed to come up with ideas that were different from those they generated individually. This design had the advantage of allowing us to better isolate dyadic performance from individual creativity by making sure our dyads did not simply repeat ideas that were previously generated in the individual task. It further has a good degree of realism given that in real life employees are often first given a chance to think about a problem on their own before they begin to collaboratively brainstorm solutions with a team. Nonetheless, the instruction given to the participants in the dyadic task to not use items they had generated individually could have artificially elevated creativity both directly by forcing dyads to come up with completely new ideas and indirectly by highlighting the importance of listening to their culturally distinct partner. Given that duplicate ideas were found in only two dyads, there is little danger that this instruction particularly affected dyads high on multiculturalism. Regardless, it would be extremely worthwhile to replicate our results using other designs. Finally, it would be important to generalize our findings to additional types of creativity tasks, including tasks that have the potential of eliciting more conflict than the alternate uses task. Indeed, if multiculturalism can help induce collective creativity partly through its ameliorative effects on intercultural communication, such tasks would offer an ideal context to test this hypothesis.

To conclude, it is clear that in our increasingly global world, finding creative solutions to many vexing problems hinges on effective cross-cultural collaboration. Yet these collaborations often fail to yield the creative outcomes initially envisioned. The present study has taken an important first step in demonstrating the importance of taking into account the multicultural experiences that problem solvers bring to their collaborations as an underlying factor that can significantly enhance collective creativity in a synergistic fashion. We hope that future research will continue to investigate more thoroughly how and when this effect occurs.

#### **Author's Note**

We thank Adam Galinsky, Michael Norton, Chi-Yue Chiu and two anonymous reviewers for their helpful comments on an earlier draft of this article.

## **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) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was partially supported by grants awarded to the first author from the European Union Marie Currie International Reintegration Program (#239160) and by the Henry Crown Institute of Business Research in Israel.

# **Notes**

1. In line with previous research (e.g., Dugosh & Paulus, 2005; Paulus & Yang, 2000), duplicate ideas were removed in order to provide a clean estimate of the number of unique ideas produced by the team during the dyadic task. If nonrepetitive ideas are not removed, there is a danger that these duplicates may artificially inflate the relationship between individual creativity and dyad creativity. For the current study, duplicate ideas were found in only two dyads. Notably, when these ideas were taken into account, these dyads' flexibility scores did not change. Moreover, when duplicate ideas were taken into account in the dyad fluency score, the significant pattern of results remained exactly the same.

- 2. To assess overlap, we compressed the 86 cultures mentioned by participants across five MES domains (countries lived, languages spoken, friends, cuisine, and music) into seven continent variables (African, Asian, Australian, European, Middle Eastern, South American, and North American). Within each domain, we counted the number of instances when both members of a dyad reported the same continent (e.g., both had European friends). Amount of cultural overlap was calculated as the sum of overlap scores across the five domains.
- Controls in the limited model included extroversion, promotion focus, and cultural overlap. In addition, we controlled for openness to experience given its importance in other creativity studies.
- 4. Dyad-level results from the full-control model reveal that dyadic multicultural experience had a positive effect on dyadic fluency ( $\beta$  = .30, p = .019), flexibility ( $\beta$  = .29, p = .012), and novelty ( $\beta$  = .39, p = .003).
- 5. Interestingly, simple slope analysis also demonstrated that for Asians with low levels of multiculturalism (-1 SD), Caucasians' multiculturalism was negatively related to dyadic fluency ( $\beta = -.30$ , p = .14), flexibility ( $\beta = -.23$ , p = .21), and novelty ( $\beta = -.42$ , p = .030). Similar results were found when the data were split based on the Caucasians' multiculturalism. These findings underscore the idea that the multiplicative benefits of multiculturalism for collective creativity are greatest when both members of the dyad are high on multiculturalism.

# References

- Aiken, L. S., & West, S. G. (1991). Multiple regression: Testing and interpreting interactions. Newbury Park, CA: SAGE.
- Amabile, T. M. (1996). Creativity in context. Boulder, CO: Westview Press.
- Amabile, T. M., Hill, K. G., Hennessey, B. A., & Tighe, E. M. (1994). The work preference inventory: Assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology*, 66, 950-967.
- Baer, J., & Kaufman, J.C. (2008). Gender differences in creativity. *Journal of Creative Behavior*, 42, 75-105.
  Cunningham, W. A., Raye, C. L., & Johnson, M. K. (2005). Neural correlates of evaluation associated with promotion and prevention regulatory focus. *Cognitive Affective & Behavioral Neuroscience*, 5, 202-211.
- Dewett, T. (2007). Linking intrinsic motivation, risk taking, and employee creativity in an R&D environment. *R&D Management*, *37*, 197-208.
- Dugosh, K. L., & Paulus, P. B. (2005). Cognitive and social comparison in brainstorming. *Journal of Experimental Social Psychology*, 41, 313-320.
- Feist, G. J. (1998). A meta-analysis of personality in scientific and artistic creativity. *Personality and Social Psychology Review*, *2*, 290-309.
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A very brief measure of the big-five personality domains. *Journal of Research in Personality*, 37, 504-528.
- Guilford, J. P. (1950). Creativity. American Psychologist, 5, 444-454.
- Han, J., Peng, S.- q., Chiu, C.- y., & Leung, A. K.- y. (2010). Workforce diversity and creativity: A multilevel analysis. In A. K.- y. Leung, C.- y. Chiu, & Y.- y. Hong (Eds.), *Cultural processes: A social psychological perspective* (pp. 286-311). New York: Cambridge University Press.
- Hennessey, B. A., & Amabile, T. M. (2010). Creativity. Annual Review of Psychology, 61, 569-598.

- Imai, L., & Gelfand, M. J. (2010). The culturally intelligent negotiator: The impact of cultural intelligence (CQ) on negotiation sequences and outcomes. *Organizational Behavior and Human Decision Processes*, 112, 83-98.
- Jackson, S. E., Joshi, A., & Erhardt, N. L. (2003). Recent research on team and organizational diversity: SWOT analysis and implications. *Journal of Management*, 29, 801-830.
- Lam, T. W.- h., & Chiu, C.- y. (2002). The motivational function of regulatory focus in creativity. *Journal of Creative Behavior*, 36, 138-150.
- Leung, A. K.- y., & Chiu, C.- y. (2010). Multicultural experiences, idea receptiveness, and creativity. *Journal of Cross Cultural Psychology*, 41, 1-19.
- 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.
- Osborn, A. F. (1957). Applied imagination (1st ed.). New York: Scribner.
- Page, S. E. (2007). The difference: How the power of diversity creates better groups, firms, schools, and societies. Princeton, NJ: Princeton University Press.
- Paulus, P. B., & Brown, V. R. (2003). Enhancing ideational creativity in groups. In P. B. Paulus & B. A. Nijstad (Eds.), *Group creativity: Innovation through collaboration* (pp. 110-136). New York: Oxford University Press.
- Paulus, P. B., Dugosh, K. L., Dzindolet, M. T., Coskun, H., & Putman, V. L. (2002). Social and cognitive influences in group brainstorming: Predicting production gains and losses. *European Review of Social Psychology*, 12, 299-325.
- Paulus, P. B., Larey, T. S., & Dzindolet, M. T. (2000). Creativity in groups and teams. In M. Turner (Ed.), *Groups at work: Advances in theory and research* (pp. 319-338). Hillsdale, NJ: Hampton.
- Paulus, P. B. & Yang, H.- c.(2000). Idea generation in groups: A basis for creativity in *organizations*. *Organizational Behavior and Human Decision Processes*, 82, 76-87.
- Priem, R. L., Lyon, D. W., & Dess, G. G. (1999). Inherent limitations of demographic proxies in top management team heterogeneity research. *Journal of Management*, 25, 935-953.
- Tadmor, C. T., Galinsky, A. D., & Maddux, W. W. (2011). Biculturalism and integrative complexity: Capturing the key to the creative and professional benefits of multicultural experiences (Working paper). Tel-Aviv, Israel: Tel-Aviv University.
- Tadmor, C. T., Hong Y.- y, Chiu, C.- y, & No, S. (2010). What I know in my mind and where my heart belongs: Multicultural identity negotiation and their cognitive consequences. In R. Crisp (Ed.), *The* psychology of social and cultural diversity (pp. 115-144). West Sussex, UK: Blackwell Publishing.
- Tadmor, C. T., & Tetlock, P. E. (2006). Biculturalism: A model of the effects of second-culture exposure on acculturation and integrative complexity. *Journal of Cross Cultural Psychology*, *37*, 173-190.
- Tadmor, C. T., Tetlock, P. E., & Peng, K. (2009). Biculturalism and integrative complexity: Testing the Acculturation Complexity Model. *Journal of Cross Cultural Psychology*, 40, 105-139.
- Williams, K. Y., & O'Reilly, C. A., III. (1998). Demography and diversity in organizations: A review of 40 years of research. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 20, pp. 77-140). Greenwich, CT: JAI Press.