

# Are All Diversity Ideologies Creatively Equal? The Diverging Consequences of Colorblindness, Multiculturalism, and Polyculturalism

Journal of Cross-Cultural Psychology  
2018, Vol. 49(9) 1376–1401  
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DOI: 10.1177/0022022118793528  
journals.sagepub.com/home/jcc



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## Abstract

In three studies, we examined how diversity ideologies can differentially affect creativity. Building on past research establishing that embracing foreign ideas contributes to creativity in problem solving, we predicted that diversity ideologies would have consequences for cultural creativity through their differential impact on how people would make use of foreign knowledge. We found that colorblindness (the ethos of disregarding cultural differences) was associated with lower cultural creativity through reduced inclusion of foreign ideas. Polyculturalism (the ethos of fostering intercultural interaction) was associated with higher cultural creativity through greater inclusion of foreign ideas. Finally, we found that classical multiculturalism (the ethos of preserving separate cultural traditions) had no effects on creative problem solving. Results held across different populations of participants (Americans, Israelis), different measures of creativity (flexibility, novelty), and different ways of probing ideologies (individual differences, experimental priming). These results indicate that diversity ideologies not only affect how people treat foreign people but also how they treat foreign ideas, with implications for their creativity.

## Keywords

polyculturalism, multiculturalism, colorblindness, creativity, diversity

As globalization brings people into contact with different cultures, researchers and policy makers have sought to understand how best to facilitate positive interactions in diverse societies and organizations (Bezrukova, Jehn, & Spell, 2012; Rattan & Ambady, 2013). In this quest, intergroup researchers have found that a key ingredient influencing how people judge and treat members of cultural out-groups is their diversity ideology (for reviews, see Rattan & Ambady, 2013; Rosenthal & Levy, 2010). Diversity ideologies refer to background beliefs about the nature of

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cultural and ethnic groups. Essentially, they are the layperson's intuitive versions of the frameworks in organizational or national policies about diversity, such as *colorblindness* and *multiculturalism*. Much research has found that intergroup judgments and behaviors are affected by these ideologies and their effects have been assessed through both individual difference and situational priming designs (e.g., Correll, Park, & Smith, 2008; Vorauer, Gagnon, & Sasaki, 2009; Wolsko, Park, Judd, & Wittenbrink, 2000). These studies have investigated the effects of diversity ideologies in the context of cross-ethnic interactions, interactions with immigrants, or evaluations of foreign visitors (e.g., Bernardo, Rosenthal, & Levy, 2013; Cho, Morris, & Dow, 2018; Rosenthal & Levy, 2010; Rosenthal, Levy, Katser, & Bazile, 2015).

The current research proposes that diversity ideologies will also have important implications outside of interpersonal perceptions and interactions. Although how we treat people from other cultures is very important, it is not the only important way that other cultures figure into our psychological lives. For example, drawing on ideas from other cultures is an important path to creative problem solving (e.g., Cho & Morris, 2015; Leung, Maddux, Galinsky, & Chiu, 2008; Maddux & Galinsky, 2009; Tadmor, Satterstrom, Jang, & Polzer, 2012). Cultural creativity can be defined as novel solutions that come from mixing ideas from different cultures. Yet, incorporating foreign cultural ideas is not always easy. Mixing foreign and domestic products or images sometimes induces negative responses such as disgust, defensiveness, and contamination concerns (Cheon, Christopoulos, & Hong, 2016; Chiu & Kwan, 2016). Moreover, these concerns about contamination are differentially engendered by diversity ideologies (Cho, Morris, Slepian, & Tadmor, 2017).

The current research takes this further by asking whether diversity ideologies affect the propensity for inclusion of foreign ideas in problem solving. Given that diversity ideologies have been linked to essentialism (e.g., Bernardo et al., 2016; Verkuyten & Brug, 2004), we further seek to test that effects of diversity ideologies on inclusion of foreign ideas and resulting cultural creativity differ from the previously documented effects of racial essentialism (i.e., beliefs that racial groups have fixed underlying essence). Thus, we test that the effects are independent from essentialism and motivated closed mindedness (Tadmor, Chao, Hong, & Polzer, 2013), and that they hold for problems requiring cultural creativity but not those requiring general creativity.

By addressing this research question, we seek to contribute to both theory and practice. We extend theory on diversity ideologies by showing that they affect not only treatment of foreign people but also treatment of foreign ideas. Thus, they have implications not just for social interactions but also for personal creativity on problems that reward inclusion of foreign ideas. We further extend research on lay beliefs and creativity (e.g., Tadmor et al., 2013) by identifying that diversity ideologies affect creative problem solving, distinctly from effects of racial essentialism. From a practical perspective, we suggest that the diversity policies promulgated by organizations may have unintended consequences on their path to creative problem solving (Apfelbaum, Stephens, & Reagans, 2016; Ely & Thomas, 2001; Neville, Awad, Brooks, Flores, & Bluemel, 2013). We further propose that some diversity ideologies may offer a lever that individuals or organizations can use to foster creativity, even without having to gain more foreign life experience (Leung et al., 2008; Tadmor, Galinsky, & Maddux, 2012).

## Diversity Ideologies

Research has focused on three diversity ideologies, each with distinctive assumptions about the sources and solutions to intergroup conflicts and discrimination: *colorblindness*, *multiculturalism*, and *polyculturalism* (Morris, Chiu, & Liu, 2015; Rosenthal & Levy, 2010). *Colorblindness*, rooted in civil rights movements, holds culture and ethnicity to be skin deep and best ignored. *Multiculturalism*,<sup>1</sup> rooted in ethnic pride movements, treats culture and ethnicity as central to people's identities and seeks to actively preserve minority cultures against assimilatory pressures

of the mainstream culture. As multiculturalism became an increasingly used popular buzzword, different meanings have become attached to it, some in tension with its original meaning. For example, the classical ethos of preserving authentic traditions and guarding against assimilation and appropriation stands in tension with the celebration of creolization and hybridity. In recent years, policies and ideologies emphasizing the latter theme have been distinguished as polyculturalism, the view that different cultural traditions are inherently intertwined and best intermixed (Meer & Modood, 2012; Modood & Meer, 2012). As opposed to stressing the preservation of separate cultural communities, polyculturalism encourages dialogue and exchange between them that generates new cultural patterns (Kelley, 1999; Morris et al., 2015; Prashad, 2001, 2003). Importantly, each of these three policies/ideologies seeks to reduce intergroup prejudice and conflict, but they do so based on different understandings of how conflict originates (Rattan & Ambady, 2013). We predict that these different premises will also have differential cognitive implications for people's tendency to utilize foreign cultural concepts and, consequently, how culturally creative they will be.

Colorblindness maintains that intergroup tensions arise from overattention to ethnic and cultural categories. Thus, as a solution, it entails ignoring differences and focusing on commonality across groups such as common group membership or common humanity (for reviews, Rattan & Ambady, 2013). Indeed, colorblindness seeks to influence individuals' intergroup processes by obscuring the role of cultural backgrounds in social interactions (e.g., Apfelbaum, Pauker, Ambady, Sommers, & Norton, 2008; Norton, Sommers, Apfelbaum, Pura, & Ariely, 2006). And yet, it turns out that this willful blindness to cultural differences ultimately engenders more discrimination and prejudice. Not only are people primed with colorblindness unable to recognize racial discrimination better than those primed with multiculturalism (Apfelbaum, Pauker, Sommers, & Ambady, 2010), but also they showed more negative attitudes toward the out-group under some conditions than did multiculturalism-primed participants (Correll et al., 2008). Moreover, colorblindness even resulted in less friendly behaviors to out-groups (Apfelbaum, Sommers, & Norton, 2008).

The key to solving this apparent paradox of why ignoring cultural differences actually espouses greater intergroup bias is not taking the name of the ideology literally. Colorblindness may seem to imply an acceptance of ideas from all cultures, but the vision it yields in practice is less one of color inclusiveness than color myopia. All too easily, it becomes seeing only one's own community norms and practices and expecting others to follow them. For instance, historically, the United States proclaimed a colorblind melting-pot ideology toward immigrants but in practice it has been assimilationism, the expectation that immigrant adopt mainstream American values and practices (Neville, Lilly, Duran, Lee, & Browne, 2000). Indeed, research has shown that colorblindness leads people to think that the values important to their group are the same as those important to other groups (Wolsko et al., 2000). In addition, the endorsement of colorblindness has been found to predict ethnocentrism (Ryan, Hunt, Weible, Peterson, & Casas, 2007) and increased in-group favoritism (Richeson & Nussbaum, 2004). As a whole, it appears that colorblindness induces an anchoring on one's own culture as a universal standard. Given these impacts of colorblindness, we posit that it reduces cognitive access to foreign ideas, which ultimately means less cultural creativity.

In contrast to colorblindness, we posit that multiculturalism may foster two offsetting effects on foreign idea inclusion, and, thus, on cultural creativity. On one hand, because it assumes that intergroup conflicts derive from ignorance of cultural differences, multiculturalism celebrates and appreciates cultural differences (Takaki, 1993). Just as multiculturalist policies typically involve education about the history and traditions of minority cultural groups, multiculturalist ideologies may also push people to learn about others' traditions (for a review, see Rosenthal & Levy, 2010; Stephan & Stephan, 2001). Empirical findings have shown that multiculturalism increases perspective taking (Todd & Galinsky, 2012), positive behaviors toward out-group

members (Vorauer et al., 2009), and support for prodiversity policies (Wolsko, Park, & Judd, 2006). Given these positive effects of multiculturalism in embracing cultural diversity, it seems that multiculturalism may guide people to appreciate and welcome foreign ideas into the intrapersonal domain.

On the other hand, another aspect of multiculturalism suggests an impediment toward foreign idea inclusion. Specifically, in addition to recognizing differences, multiculturalism strives to maintain cultural communities and traditions (Berry & Kalin, 1995). It involves a notion of cultural authenticity rooted in purity (Morris et al., 2015). Historically, multiculturalist policies first emerged in Canada as a policy to prevent Quebec's secession by the French and to maintain First Nations people's traditions and cultural property. To preserve multiple cultures, it views cultures as separate and timeless traditions (Kelley, 1999; Prashad, 2001, 2003). Consistent with this, empirical findings show that multiculturalism strengthens categorical thinking (Wolsko et al., 2000), suggesting that people who endorse multiculturalism are more likely to believe that differences between racial groups are fixed and nonchangeable (Bernardo et al., 2016). It further leads to valuing the preservation of heritage identity when people cross cultural boundaries and experience a foreign culture (Cho et al., 2018). These findings suggest that multiculturalism may lead people to restrict themselves to their own cultural boundaries, both to maintain their own authenticity and to avoid appropriating ideas that belong to other traditions. Thus, we propose that the above two aspects of multiculturalism may offset its impact on inclusion of foreign concepts. Consequently, we refrained from making a specific prediction about its impact on cultural creativity.

Polyculturalism, like multiculturalism, recognizes the cultural differences; however, it sees the world's cultures not as independent and unchanging traditions but as interconnected and ever-changing systems (Kelley, 1999; Prashad, 2001, 2003). The flow of people and ideas across boundaries is seen as the driving force in cultural regeneration and change. Polyculturalism is associated with positive attitudes toward people from different cultures as well as an openness to change one's own culture (Bernardo et al., 2013; Rosenthal & Levy, 2012; Rosenthal et al., 2015; Rosenthal, Levy, & Militano, 2014; Rosenthal, Levy, & Moss, 2012). These empirical findings coupled with the theoretical account suggest that polyculturalism will encourage people to welcome and utilize foreign ideas. As such, people adhering to this ideology may be more likely to draw on foreign ideas during problem solving.

## Foreign Idea Inclusion and Creativity

The ability to implement foreign ideas during problem solving is a component to increased creativity (Chiu & Hong, 2005; Leung et al., 2008; Tadmor, Hong, Chiu, & No, 2010; Tadmor, Satterstrom, Jang & Polzer, 2012). Bringing together ideas from foreign cultures and one's own culture can break down familiar categories and increase the chance of designing something genuinely novel (Hampton, 1997; Smith, Ward, & Finke, 1995; Wan & Chiu, 2002; Ward, 1994; Ward, Smith, & Vaid, 1997). In experiments that present people with ideas from multiple cultures simultaneously and field studies that assess people's naturally occurring experiences of other cultures, exposure to multiple cultures has been shown to be consistently associated with greater creativity (Leung & Chiu, 2010; Maddux & Galinsky, 2009; Tadmor, Galinsky & Maddux, 2012).

But for these benefits to be fully realized, people must be willing to put foreign ideas to use. And, that is not without risk. Studies have demonstrated that general negative reactions to foreign cultural influence on one's own culture, such as threat or fear, lead to the exclusion of foreign cultural ideas and interactions (e.g., Cheon et al., 2016; Chiu & Cheng, 2007; Chiu & Kwan, 2016; Morris, Mok, & Mor, 2011). Differences in individual cognitive style, values, and personality also moderate reactions to foreign influences. For example, individuals high in need for cognitive closure reacted negatively toward the mixing of elements from their own culture with

those of another culture (De keersmaecker, Van Assche, & Roets, 2016). Similarly, American students high in patriotism experienced disgust in response to pictures that fused iconic images from American and Chinese cultures (Cheon et al., 2016). Finally, people low in openness to experience performed poorly in creative performance when a foreign cultural symbol (i.e., McDonald's) was embedded on an image of a cultural sacred place of their homeland (the Great Wall; Chen et al., 2016).

Hence, a topic of increasing empirical investigation is the search for the conditions under which people welcome combinations of ideas from different cultures (e.g., Cheon et al., 2016; Chiu & Cheng, 2007; Chiu & Kwan, 2016; Leung & Chiu, 2010; Morris et al., 2011). Given that we predict that diversity ideologies will differentially affect individual's inclusion of foreign culture concepts in his or her thinking, we theorize that these ideologies will further differ in the odds of producing a creative burst in the cultural domain. Specifically, we predict that colorblindness would yield a reduced tendency to draw on foreign ideas, thereby inhibiting cultural creativity, whereas polyculturalism will boost cultural creativity due to an increased tendency to draw on foreign ideas. We made no prediction about the effect of multiculturalism as we have suggested it may have two offsetting effects on foreign idea inclusion. Notably, given that our proposed underlying mechanism focuses on the propensity to utilize foreign cultural knowledge, we predict the effect will be limited to cultural—but not general—creative domain. This contrasts with past research on racial essentialism, for example, which has been shown to carry its effects on domain-general creativity through its impact on a domain-general cognitive process of motivated closed mindedness (Tadmor et al., 2013). Thus, given recent work showing a connection between diversity ideologies and racial essentialism (Bernardo et al., 2016), we include measures of racial essentialism and motivated closed mindedness to demonstrate the independent effect of diversity ideologies on creativity.

## Overview of Studies

We tested these predictions in three studies using different populations of participants (Americans, Israelis), different methodologies (correlational, experimental), and different measures of creativity (flexibility and novelty). Specifically, Study 1 was a correlational study that tested the relationship between American participants' endorsements of diversity ideologies and a creative problem-solving task. Study 2 randomly assigned Israeli participants to one of four diversity ideology conditions (colorblindness, multiculturalism, polyculturalism, and control) and assessed their creative problem-solving ability. These studies included both cultural and noncultural creativity tasks. In Study 3, we primed the different ideologies in American participants and tested the mediating role of inclusion of foreign culture on performance in two cultural problem-solving tasks.

## Study 1

In the first study, we sought to explore the nature of the association between diversity ideology and creative problem solving, differentiating between cultural and general domains. We further sought to demonstrate that the association holds even after controlling for another well-known lay belief—racial essentialism and its proposed mechanism of motivated closed mindedness.

## Method

**Participants.** One hundred seventy-four U.S.-born undergraduates who were enrolled in an introductory class from an East Coast university were invited to a computer lab to participate in the study in exchange for course credit (108 women,  $M_{\text{age}} = 20.47$  years,  $SD = 4.61$  years).<sup>2</sup>

**Procedure and measures.** Participants' endorsement of colorblindness, multiculturalism, and polyculturalism were measured using established scales. For each ideology, we asked participants to rate their degree of agreement with five different statements on a scale from 1 = *strongly disagree* to 7 = *strongly agree*. These ratings were then averaged to create a single score indicating endorsement of the ideology. The Colorblindness Scale, taken from Rosenthal and Levy (2012), included statements such as, "Ethnic and cultural group categories are not very important for understanding or making decisions about people" ( $\alpha = .86$ ). The Multiculturalism Scale, taken from Wolsko et al. (2006) included items such as, "We must appreciate the unique characteristics of different ethnic groups to have a cooperative society" ( $\alpha = .70$ ). The Polyculturalism Scale, taken from Rosenthal and Levy (2012), consisted of statements such as, "There are many connections between different cultures" ( $\alpha = .83$ ). For all items, see the appendix.

**Remote Associates Test (RAT).** To measure creativity, we used the RAT. This task assesses participants' ability to form new combinations from mutually remote associative clusters (Mednick, 1962). It requires participants to find a solution word that can be linked to three stimulus words. To measure performance in the cultural domain, participants completed 12 items for which the solution required the ability to make connections among concepts associated with different cultures (cultural RAT; Chua, 2013; e.g., Roman, State, British: Empire). To measure performance in the noncultural domain, participants completed 12 general RAT items (e.g., light, birthday, stick: Candle; Zhong, Dijksterhuis, & Galinsky, 2008). The sum of correct problems solved in each form is our measure of cultural and general RAT.

**Control variables.** As in previous research (see Maddux & Galinsky, 2009; Tadmor, Galinsky & Maddux, 2012), we controlled for age, gender, amount of time that participants had spent living abroad, and the Big Five personality variables (Gosling, Rentfrow, & Swann, 2003). To differentiate the effect of diversity ideology as a lay belief from that of racial essentialism and its proposed underlying mechanism of motivated closed mindedness (Tadmor et al., 2013), we further included a measure of racial essentialism (No et al., 2008), which asks participants to what degree they agreed with eight statements (e.g., "To a large extent, a person's race biologically determines his or her abilities and traits") using a 6-point scale ( $\alpha = .66$ ), as well as a measure of motivated closed mindedness, which was assessed using a subscale taken from the Need for Cognitive Closure Scale (Webster & Kruglanski, 1994;  $\alpha = .55$ ).

## Results

Table 1 reports the descriptive statistics and bivariate correlations among all variables. Table 2 shows results from multiple regression analyses in which diversity ideologies were entered simultaneously with covariates that were either excluded (Model 1) or included (Model 2) from the analysis.

**Cultural RAT.** As seen in Model 1, colorblindness,  $B = -0.00$ ,  $SE = 0.12$ ,  $p = .985$ , 95% confidence interval (CI) =  $[-0.23, 0.23]$ , and multiculturalism ( $B = -0.28$ ,  $SE = 0.20$ ,  $p = .159$ , 95% CI =  $[-0.67, 0.11]$ ) were not significant predictors of performance on the cultural RAT. However, as predicted, the more participants endorsed polyculturalism, the greater the number of correct solutions in the cultural RAT task ( $B = 0.63$ ,  $SE = 0.25$ ,  $p = .013$ , 95% CI =  $[0.13, 1.12]$ ). We found the exact same pattern of results when we included the covariates in Model 2. Specifically, polyculturalism remained significantly associated with performance on the cultural RAT ( $B = 0.57$ ,  $SE = 0.26$ ,  $p = .032$ , 95% CI =  $[0.05, 1.09]$ ) but colorblindness ( $p = .888$ ) and multiculturalism ( $p = .093$ ) were not.

**Table 1.** Study 1: Descriptive Statistics and Correlations.

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Colorblindness	2.96	1.20														
2. Multiculturalism	5.75	0.73	-.18*													
3. Polyculturalism	6.05	0.58	-.22**	.33***												
4. Cultural RAT	3.43	1.79	-.03	-.05	.17*											
5. General RAT	4.07	2.42	.03	.04	.11	.52***										
6. Racial essentialism	2.92	0.63	.09	-.26**	-.22**	-.11	-.01									
7. Closed mindedness	3.13	0.94	.17*	-.02	-.21**	-.15†	-.08	.17*								
8. Age	20.47	4.61	-.01	-.08	.07	.07	.06	-.10	-.07							
9. Gender (female = 1, male = 0)	—	—	-.02	.24**	.05	.05	.10	-.04	.04	-.07						
10. Total months abroad	8.69	29.65	-.15†	.06	-.02	.06	-.08	-.09	.01	.01	-.07					
11. Extraversion	4.33	1.36	-.10	.08	-.06	-.07	-.00	.08	-.04	-.00	.02	.10				
12. Agreeableness	4.80	1.11	.09	.14†	.01	.08	.18*	.05	.02	-.10	.27***	-.06	-.10			
13. Emotional stability	4.38	1.42	-.06	-.02	.13†	.05	.01	.00	-.06	-.01	-.21**	.07	-.04	.26**		
14. Conscientiousness	5.34	1.17	-.14†	.06	.15†	-.10	-.18*	.01	-.03	.14†	.08	-.02	.06	.06	.10	
15. Openness to experience	5.26	1.05	.03	-.06	.00	.08	.05	-.11	-.30***	.17*	-.09	.02	.18*	-.21**	.01	-.07

Note. RAT = Remote Associates Test.  
†p < .10. \*p < .05. \*\*p < .01. \*\*\*p < .001.

**Table 2.** Study 1: Summary of Regression Analyses for Cultural RAT and General RAT.

Variable	Cultural RAT				General RAT			
	Model 1		Model 2		Model 1		Model 2	
Colorblindness	-0.00	(0.12)	-0.02	(0.12)	0.11	(0.16)	0.01	(0.16)
Multiculturalism	-0.28	(0.20)	-0.36 <sup>†</sup>	(0.21)	0.05	(0.27)	-0.03	(0.28)
Polyculturalism	0.63*	(0.25)	0.57*	(0.26)	0.50	(0.34)	0.56	(0.35)
Age			0.02	(0.03)			0.05	(0.04)
Gender (female = 1, male = 0)			0.27	(0.31)			0.34	(0.42)
Total months abroad			0.00	(0.01)			-0.01	(0.01)
Extraversion			-0.06	(0.10)			0.06	(0.14)
Agreeableness			0.16	(0.14)			0.42*	(0.19)
Emotional stability			0.02	(0.11)			-0.03	(0.14)
Conscientiousness			-0.21 <sup>†</sup>	(0.12)			-0.49**	(0.16)
Openness to experience			0.09 <sup>†</sup>	(0.14)			0.10	(0.19)
Racial essentialism			-0.21	(0.23)			0.11	(0.31)
Closed mindedness			-0.16	(0.16)			-0.14	(0.21)
F	2.30 <sup>†</sup>		1.36		0.88		1.62 <sup>†</sup>	
R <sup>2</sup>	.04		.10		.02		.12	

Note. Estimates are unstandardized regression coefficients with standard errors in parentheses. RAT = Remote Associates Test.

<sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**General RAT.** Although polyculturalism was positively associated with number of general RAT items solved correctly, the relationship was not significant (Model 1:  $B = 0.50$ ,  $SE = 0.34$ ,  $p = .146$ ; Model 2:  $B = 0.56$ ,  $SE = 0.35$ ,  $p = .111$ ). Colorblindness and multiculturalism also had no significant effect, regardless of either the exclusion (Model 1:  $p_{\text{colorblindness}} = .847$ ,  $p_{\text{multiculturalism}} = .857$ ) or inclusion of control variables (Model 2:  $p_{\text{colorblindness}} = .962$ ,  $p_{\text{multiculturalism}} = .913$ ).

Interestingly, when we added the general RAT score as a predictor to the Model 1 regression of cultural RAT, performance on the general RAT was significantly associated with performance on the cultural RAT ( $B = 0.38$ ,  $SE = 0.05$ ,  $p < .001$ ). And yet, even controlling for general creativity, polyculturalism was still significantly associated with number of cultural RAT solved correctly ( $B = 0.44$ ,  $SE = 0.22$ ,  $p = .044$ ), colorblindness had no effect ( $B = -0.04$ ,  $SE = 0.10$ ,  $p = .985$ ), and multiculturalism was marginally negatively correlated with cultural RAT problem solving ( $B = 0.30$ ,  $SE = 0.17$ ,  $p = .081$ ).

## Study 2

Study 1 provided some correlational evidence for the connection between diversity ideologies and cultural—but not general—creativity. In addition, similar to previous research (Rosenthal & Levy, 2012), it found that although multiculturalism and polyculturalism were positively correlated, they had distinct effects, with the former being positively associated with creativity and the latter not having a significant effect. And yet, the correlational design does not allow us to draw any conclusions with regard to causality. Thus, Study 2 aimed to establish a causal link between diversity ideologies and creativity through the use of priming techniques. Specifically, we utilized the fact that like other lay theories (e.g., Levy, West, & Rosenthal, 2012; Tadmor et al., 2013), beliefs about how to manage diversity are a part of people’s declarative knowledge. Consequently, they follow the principles of knowledge activation (Higgins, 1996) and can be experimentally activated by reading persuasive arguments that support each position (e.g.,



Wolsko et al., 2000). As in Study 1, we included both cultural and general RAT problems, so we could test the reach of the diversity ideology effect. We further included racial essentialism and motivated closed mindedness as covariates to differentiate their effect from that of diversity ideologies. To test the generalizability of the effects, in Study 2, we tested our effect on a sample of Israeli participants.

## Method

**Participants.** Ninety-three Israeli-born undergraduates who were enrolled in an introductory class participated in the study in exchange for course credit (52 women, average age = 22.56 years,  $SD = 2.23$  years).<sup>3</sup>

**Materials and procedure.** We invited students to participate in two unrelated research projects conducted online. They were told that the first study was intended to test reading comprehension and that the second study would investigate their problem-solving abilities. We introduced the diversity ideology manipulations during the first project and administered the creativity tasks as part of the second project.

**Ideology manipulation.** To manipulate ideology, we used the mock article methodology in which participants read a *Times*-type article that compellingly describes research supporting either one of the diversity mind-sets or a control topic (Cho et al., 2017). Specifically, participants were randomly assigned to one of four conditions: *colorblind* prime (CB), *multicultural* prime (MC), *polycultural* prime (PC), and *no-prime control* group. In the CB condition, participants read about an article supporting the colorblind stance that different cultures share a common origin and that people everywhere are all the same at the core. In the MC condition, participants read how every culture has its own unique characteristics, with its distinct cultural traditions having been preserved and appreciated throughout history. In the *polyculturalism prime* condition, participants read an article that described historical examples and scientific research supporting the polyculturalist stance that cultural groups continually influence each other's traditions and perspectives as a result of interaction and contact. In the no-prime control condition, participants read an actual *New York Times* article about the formation of icicles (Gorman, 2015). The articles were translated into Hebrew and then back translated into English by two bilinguals to verify accuracy. After reading the article, all participants were asked to describe the main theme of the article and to recall three major findings.

**Task equivalence across conditions.** To ensure that participants did not differ in their reading experiences across conditions, after the task was completed, we asked them to indicate the following: (a) How they felt about the general tone of the article on a scale from 1 (*extremely pessimistic*) to 7 (*extremely optimistic*), (b) how much effort they put into the reading task on a scale from 1 (*very little effort*) to 7 (*a lot of effort*), and (c) how much they liked the reading task on a scale from 1 (*did not like it at all*) to 7 (*liked it very much*). They also rated their emotions after reading the article, including both positive emotions (happy, pleased, content, satisfied;  $\alpha = .97$ ) and negative emotions (angry, afraid, worried, irritated, anxious;  $\alpha = .92$ ) on a 5-point scale.

**Cultural RAT and general RAT.** As in Study 1, participants received 12 triads to solve. Six items tested cultural associations (Chua, 2013) and six items tested general associations (Tadmor et al., 2013). All items were tested by native Hebrew speakers who verified they were linguistically and conceptually sound.

**Control variables.** In addition, after the manipulation and creativity tasks, we measured racial essentialism (No et al., 2008;  $\alpha = .84$ ) and closed mindedness (Webster & Kruglanski, 1994;

$\alpha = .49$ ). At the end of the study, we asked participants to provide additional demographic information and then thanked, debriefed, and dismissed them.

## Results and Discussion

**Contrast coding.** To test the effects of the diversity ideology manipulation, we conducted regression analyses, using three contrast vectors, which together test for effects of all the experimental conditions (Hayes & Preacher, 2014; also see, Cohen, Cohen, West, & Aiken, 2003). Following Vorauer and Sasaki (2010), the first contrast, labeled  $C_{cb}$ , compared the colorblind condition with the control condition. The second contrast, labeled  $C_{mc}$ , compared the multicultural condition with the control condition. The third contrast, labeled  $C_{pc}$ , compared the polycultural condition with the control condition.

**Task equivalence.** As expected, results revealed no systematic differences across conditions in task tone,  $F(3, 89) = 1.29, p = .282$ ; task effort,  $F(3, 93) = 1.52, p = .214$ ; and negative emotions,  $F(3, 89) = 0.63, p = .598$ . There was an overall effect for task liking,  $F(3, 89) = 3.210, p = .027$ , but follow-up analyses showed that none of the specific contrasts were significant ( $ps > .110$ ). Finally, participants did differ in how positive they felt,  $F(3, 89) = 2.68, p = .052$ , with participants in the multicultural mind-set condition feeling marginally more positive relative to control participants ( $C_{mc}: B = 0.58, p = .079$ ). Nonetheless, neither colorblind-primed participants ( $C_{cb}: B = 0.29, p = .401$ ) nor polycultural-primed participants ( $C_{pc}: B = -0.17, p = .641$ ) differed from the control.

**Cultural RAT.** The three contrast vectors were included first (see Table 3) and then racial essentialism and close mindedness were added as covariates. In line with expectations, regression results revealed that relative to the control condition, a colorblind mind-set led participants to correctly solve significantly less cultural RAT items both without ( $C_{cb}: B = -0.82, SE = 0.35, p = .020, 95\% CI = [-1.50, -0.13]$ ) and with the covariates ( $C_{cb}: B = -0.94, SE = 0.35, p = .009, 95\% CI = [-1.64, -0.25]$ ). A multicultural mind-set, relative to the control, did not affect the number of cultural RAT items solved both without ( $C_{mc}: B = -0.11, SE = 0.32, p = .728, 95\% CI = [-0.76, 0.53]$ ) and with covariates ( $p = .945$ ). Finally, as predicted, a polycultural mind-set led participants to correctly solve significantly more cultural RAT items both without ( $C_{pc}: B = 0.86, SE = 0.35, p = .016, 95\% CI = [0.16, 1.56]$ ) and with covariates ( $C_{pc}: B = 0.95, SE = 0.35, p = .009, 95\% CI = [0.25, 1.66]$ ).

**General RAT.** The number of correct responses on the general RAT were not affected by either the colorblind or multicultural mind-set contrast ( $C_{cb}: B = -0.15, SE = 0.34, p = .660, 95\% CI = [-0.83, 0.53]$ ;  $C_{mc}: B = -0.09, SE = 0.32, p = .789, 95\% CI = [-0.72, 0.55]$ ). The polycultural mind-set had a positive but nonsignificant effect on the number of general RAT problems solved correctly ( $C_{pc}: B = 0.44, SE = 0.35, p = .206, 95\% CI = [-0.25, 1.13]$ ; see Table 3). The nonsignificant pattern of results remained even after the inclusion of the covariates (all  $ps > .131$ ).

Interestingly, when we reran the analysis for cultural RAT, while including general RAT as a predictor without the covariates (racial essentialism and close-mindedness), as in Study 1, performance on the general RAT was a significant predictor of cultural RAT performance ( $B = 0.67, SE = 0.08, p < .001$ ). However, priming condition continued to be a significant predictor of performance on the cultural RAT. Specifically, regression results revealed that even with the inclusion of the general RAT score, relative to the control condition, a colorblind mind-set led participants to solve significantly fewer cultural RAT items correctly ( $C_{cb}: B = -0.71, SE = 0.26, p = .007$ ). A multicultural mind-set, relative to the control, did not affect the number of cultural

**Table 3.** Study 2: Means and Standard Errors as a Function of Prime Condition and Summary of Multiple Regression Results for Cultural RAT and General RAT.

Dependent Variables	M (SE)				F (3, 89)	p	$\eta^2$	$C_{cb}$ B (SE)	$C_{mc}$ B (SE)	$C_{pc}$ B (SE)
	Control condition (n = 18)	Colorblind condition (n = 23)	Multicultural condition (n = 19)	Polycultural condition (n = 33)						
Cultural RAT	4.09 (1.88)	3.21 (2.04)	3.91 (1.95)	4.89 (0.76)	2.79	.045*	0.086	-0.82* (0.35)	-0.11 (0.32)	0.86* (0.35)
General RAT	2.58 (1.87)	2.63 (1.86)	2.70 (1.69)	3.22 (1.44)	0.58	.628	0.019	-0.15 (0.34)	-0.09 (0.32)	0.44 (0.35)

Note. Estimates are unstandardized regression coefficients with standard errors in parentheses for regression model without covariates. RAT = Remote Associates Test.  
\* $p < .05$ .

RAT items solved ( $C_{mc}: B = -0.06, SE = 0.24, p = .822$ ). Finally, as predicted, a polycultural mind-set led participants to correctly solve significantly more cultural RAT items ( $C_{pc}: B = 0.57, SE = 0.27, p = .037$ ). Thus, even when controlling for a domain-general indicator of creativity (general RAT), it appears that diversity ideologies have an independent effect on culture-specific creativity.

Taken together, the priming experiment demonstrated that whereas colorblindness induced a reduction in cultural creativity, polyculturalism led to an increase in the capacity to reach creative solutions in the cultural domain. Although none of the ideologies affected domain-general creativity, controlling for domain-general creativity did not reduce the effects of diversity ideology on creativity in the cultural domain. Finally, we found this pattern of results was independent from that of another lay belief associated with creativity—racial essentialism—and from that of its underlying mechanism of motivated closed mindedness.

### Study 3

Our results thus far suggest that diversity ideologies give rise to differential levels of cultural—but not general—creative problem solving. Nonetheless, an important limitation of Study 2 is that it relied on a relatively small sample size. Thus, one of goals for Study 3 was to replicate the effects of diversity ideology on cultural creativity, using the same experimental priming materials we used in Study 2, but this time testing them on an American sample. In addition, focusing only on cultural creativity tasks, we sought to test the hypothesized mediating role of inclusion of foreign ideas. As in previous studies, we included a cultural RAT task but in Study 3, we also included a second cultural problem-solving task in which participants created a chicken dish recipe from a list of foreign and local ingredients (Cheng, Sanchez-Burks, & Lee, 2008). The latter task not only afforded us with a different kind of creativity measure of creativity—novelty—but more critically, allowed us to count the number of foreign ingredients used in the recipe, providing an unobtrusive and objective indicator of foreign idea inclusion.

Notably, we view the “inclusion of foreign food ingredients” as reflecting a *general proclivity* toward foreign inclusion because participants were not forced to use any foreign ingredients in the recipe task. Consequently, any usage they chose to do can be assumed to represent their *general* receptiveness to foreign ideas. Furthermore, by using this objective count measure of foreign ingredient inclusion as the mediator in the cultural RAT task, we were further able to ensure that the statistical mediation reflects a causal relationship between two separate constructs and not just identify a relationship of two overlapping constructs, taken from the same task. Importantly, this fits with the growing preference in psychology for mediational analyses involving a mediator that is operationally distinct from the dependent variable rather than from a question in the same task that potentially overlaps with the dependent variable (MacKinnon & Pirlott, 2015). As such, this approach offers a more conservative test of the mediation hypothesis.

### Method

**Participants.** One hundred thirty-four U.S.-born participants from an East Coast university were invited to a computer lab and participated in the study in exchange for course credit (81 women, average age = 21.57 years,  $SD = 4.92$  years).<sup>4</sup>

**Materials and procedure.** As in Study 2, participants were informed that they would participate in two unrelated research projects.

**Diversity ideology manipulation.** Using the English-version of the same mock articles used in Study 2, participants were randomly assigned to one of four conditions: CB, MC, PC, and no-prime control group.

**Cultural RAT.** As in Study 2, participants were given six triads of cultural RAT that were nestled between two filler items.

**Recipe task.** Participants were presented with a list of ingredients from American culture (e.g., barbeque sauce), Asian culture (e.g., wasabi sauce), and Mexican/Spanish culture (e.g., Jalapeno Chile) as well as nonculturally specific (e.g., onion). Following Cheng et al. (2008), they were asked to develop a creative chicken dish (defined as “new, delicious, and popular with potential customers”) for a new restaurant. The ingredients that were typical of Asian and American cultures were taken from Cheng et al. (2008) and Chua, Morris, and Mor (2012). The typical Mexican/Spanish ingredients were chosen after we reviewed websites that described ingredients that were typical of this type of cuisine. We selected the ones that appeared in all of them (e.g., <https://www.thespruce.com/ingredients-used-in-mexican-food-2342811>). Prior to data collection, two coders who were blind to the hypotheses and conditions, successfully coded each ingredient in the list of ingredients as belonging to American culture, non-American cultures, or nonculturally specific (e.g., carrot, onion).

**Foreign idea inclusion.** After data collection, to determine diversity ideologies’ impact on degree of foreign idea inclusion, two raters reviewed participants’ list of ingredients for the recipe and counted the number of ingredients taken from each of the three cultural categories. We created the index of *foreign idea inclusion* by calculating the percentage of foreign ingredients used in the recipe. This served as our mediator.<sup>5</sup>

**Recipe creativity.** To assess the novelty aspect of creativity, two coders (one Asian and one American) rated the recipe creativity using a 5-point scale, 1 = *not creative at all*, 5 = *highly creative*; intraclass correlation [ICC](2) = .63.

**Control variables.** After the manipulation, we measured racial essentialism (No et al., 2008;  $\alpha = .82$ ) and closed mindedness (Webster & Kruglanski, 1994;  $\alpha = .46$ ). At the end of the study, we asked participants to provide additional demographic information and then thanked, debriefed, and dismissed them.

## Results

As in Study 2, the three contrast vectors were included first (see Table 4) and then the racial essentialism and close mindedness were added as covariates.

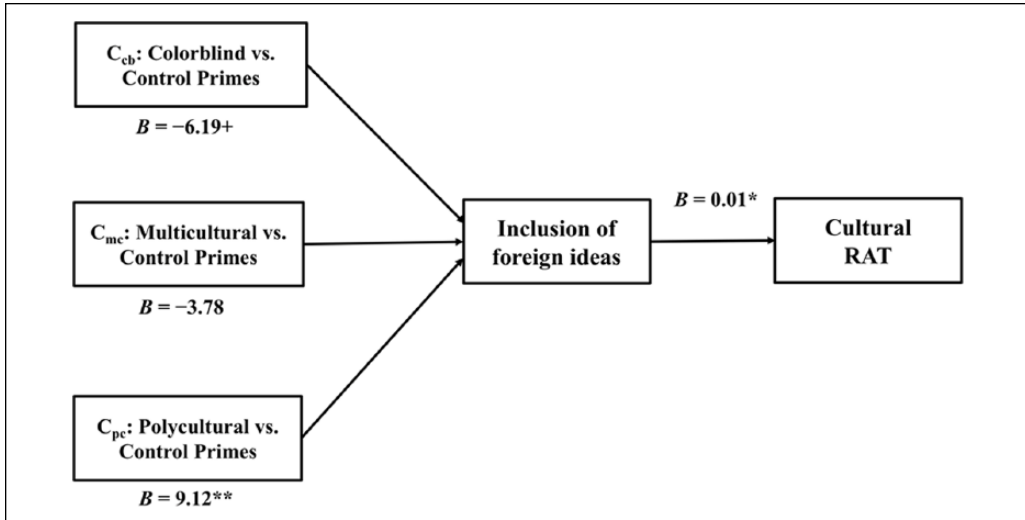
**Cultural RAT.** The colorblind mind-set did not significantly predict performance on the cultural RAT neither without covariates ( $C_{cb}$ :  $B = 0.09$ ,  $SE = 0.19$ ,  $p = .628$ , 95% CI = [-0.28, 0.47]) nor with covariates ( $p = .944$ ). Multicultural mind-set was also not significantly associated with the number of correct cultural RAT items solved (without covariates:  $C_{mc}$ :  $B = -0.27$ ,  $SE = 0.19$ ,  $p = .161$ , 95% CI = [-0.66, 0.11]; with covariates:  $p = .215$ ). In contrast, as predicted, the polycultural mind-set led participants to correctly solve a significantly greater number of cultural RAT items both without covariates ( $C_{pc}$ :  $B = 0.50$ ,  $SE = 0.19$ ,  $p = .011$ , 95% CI = [0.02, 0.88]) and with covariates ( $C_{pc}$ :  $B = 0.47$ ,  $SE = 0.19$ ,  $p = .015$ , 95% CI = [0.09, 0.85]).

**Recipe creativity.** The recipes of participants in the colorblind mind-set were rated as less creative, relative to the control group. Nonetheless, this was not significant when the covariates were excluded ( $C_{cb}$ :  $B = -0.23$ ,  $SE = 0.15$ ,  $p = .130$ , 95% CI = [-0.54, 0.07]) and was only marginally significant when they were included ( $p = .096$ ). The multicultural mind-set did not predict recipe creativity (without covariates:  $C_{mc}$ :  $B = 0.05$ ,  $SE = 0.16$ ,  $p = .741$ , 95% CI = [-0.26,

**Table 4.** Study 3: Means and Standard Error as a Function of Prime Condition and Summary of Multiple Regression Results for Cultural RAT, Recipe Creativity, and Foreign Idea Inclusion.

Dependent Variables	M (SE)				F(3, 130)	p	$\eta^2$	$C_{cb}$ B (SE)	$C_{mc}$ B (SE)	$C_{pc}$ B (SE)
	Control condition (n = 39)	Colorblind condition (n = 33)	Multicultural condition (n = 31)	Polycultural condition (n = 31)						
Cultural RAT	2.44 (1.14)	2.85 (1.25)	2.48 (1.23)	3.26 (1.41)	3.03	.032	0.065	0.09 (0.19)	-0.27 (0.19)	0.50* (0.19)
Recipe creativity	2.88 (1.08)	2.70 (1.04)	2.98 (1.03)	3.16 (0.93)	1.15	.331	0.026	-0.23 (0.15)	0.05 (0.16)	0.23 (0.16)
Foreign idea inclusion	29.49 (19.01)	22.46 (21.69)	24.87 (21.83)	37.77 (22.79)	3.19	.026	0.068	-6.19† (3.20)	-3.78 (3.27)	9.12** (3.27)

Note. Estimates are unstandardized regression coefficients with standard errors in parentheses for the regression model without covariates. RAT = Remote Associates Test.  
 †p < .10. \*p < .05. \*\*p < .01.



**Figure 1.** Study 3: Indirect effects of diversity ideologies on cultural RAT through inclusion.

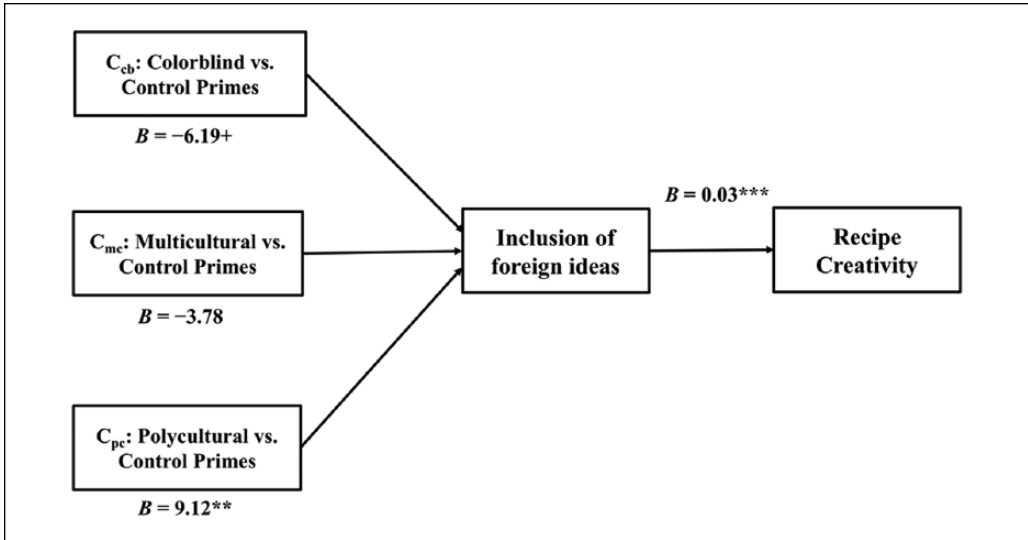
Note. Estimates are unstandardized regression coefficients for the regression model without covariates. RAT = Remote Associates Test.

† $p < .10$ . \* $p < .05$ . \*\* $p < .01$ .

0.36]; with covariates:  $p = .779$ ). The polycultural mind-set was positively, though not significantly, predictive of recipe creativity (without covariates:  $C_{pc}$ :  $B = 0.23$ ,  $SE = 0.16$ ,  $p = .147$ , 95% CI =  $[-0.08, 0.54]$ ; with covariates:  $p = .174$ ). Notably, the overall  $F$  value for the model was not significant,  $F(3,130) = 1.15$ ,  $p = .331$ )

**Foreign idea inclusion.** As predicted, the CB prime led participants to use proportionally fewer foreign ingredients (without covariates:  $C_{cb}$ :  $B = -6.19$ ,  $SE = 3.20$ ,  $p = .055$ , 95% CI =  $[-12.51, 0.14]$ ; with covariates:  $C_{cb}$ :  $B = -7.77$ ,  $SE = 3.20$ ,  $p = .017$ , 95% CI =  $[-14.10, -1.44]$ ). The MC prime did not affect the proportion of foreign idea inclusion (without covariates:  $C_{mc}$ :  $B = -3.78$ ,  $SE = 3.27$ ,  $p = .250$ , 95% CI =  $[-10.24, 2.69]$ ; with the covariates:  $p = .32$ ). As predicted, the PC prime led participants to use a significantly greater proportion of foreign culture ingredients (without covariates:  $C_{pc}$ :  $B = 9.12$ ,  $SE = 3.27$ ,  $p = .006$ , 95% CI =  $[2.66, 15.59]$ ; with covariates:  $C_{pc}$ :  $B = 8.50$ ,  $SE = 3.21$ ,  $p = .009$ , 95% CI =  $[2.14, 14.85]$ ).

**Indirect effects on cultural RAT through foreign idea inclusion.** We used Hayes and Preacher's (2014) bootstrapping method with 10,000 resamples to test the indirect effect of diversity ideology on cultural RAT via foreign inclusion. The three contrast vectors were entered as simultaneous fixed factors. As can be seen in Figure 1, results indicated that foreign culture inclusion significantly mediated the effect of the CB prime on cultural RAT (without covariates:  $C_{cb}$ : indirect effect =  $-0.07$ ,  $SE = 0.05$ , 95% CI =  $[-0.22, -0.002]$ ; with covariates:  $C_{cb}$ : indirect effect =  $-0.08$ ,  $SE = 0.06$ , 95% CI =  $[-0.23, -0.0001]$ ). In addition, foreign culture inclusion also mediated the effect of the polyculturalism prime on cultural RAT (without covariates:  $C_{pc}$ : indirect effect =  $0.11$ ,  $SE = 0.06$ , 95% CI =  $[0.02, 0.26]$ ; with covariates:  $C_{pc}$ : indirect effect =  $0.08$ ,  $SE = 0.05$ , 95% CI =  $[0.01, 0.24]$ ). In contrast, foreign culture inclusion was not a significant mediator of the multicultural prime–cultural RAT relationship (without covariates:  $C_{mc}$ : indirect effect =  $-0.04$ ,  $SE = 0.05$ , 95% CI =  $[-0.17, 0.02]$ ; with covariates:  $C_{mc}$ : indirect effect =  $-0.03$ ,  $SE = 0.04$ , 95% CI =  $[-0.15, 0.02]$ )



**Figure 2.** Study 3: Indirect effects of diversity ideologies on recipe creativity through inclusion. Note. Estimates are unstandardized regression coefficients for the regression model without covariates. † $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

*Indirect effects on recipe creativity through foreign idea inclusion.* The three contrast vectors were entered as simultaneous fixed factors. As shown in Figure 2, bootstrapping results, with 10,000 resamples, revealed that foreign inclusion significantly mediated the positive effect of the PC prime on the rated creativity of the chicken recipe (without covariates:  $C_{pc}$ : indirect effect = 0.25,  $SE = 0.10$ , 95% CI = [0.08, 0.47]; with covariates:  $C_{pc}$ : indirect effect = 0.24,  $SE = 0.10$ , 95% CI = [0.06, 0.46]). Notably, for the CB prime, although the mediation was not significant without the covariates ( $C_{cb}$ : indirect effect = -0.17,  $SE = 0.10$ , 95% CI = [-0.37, 0.01]), it did become significant when the covariates were included ( $C_{cb}$ : indirect effect = -0.22,  $SE = 0.09$ , 95% CI = [-0.41, -0.04]). In contrast, the indirect effect for multiculturalism was not significant (without covariates:  $C_{mc}$ : indirect effect = -0.10,  $SE = 0.09$ , 95% CI = [-0.29, 0.08]; with covariates:  $C_{mc}$ : indirect effect = -0.09,  $SE = 0.10$ , 95% CI = [-0.29, 0.09]).

Taken together, the propensity for foreign culture inclusion appears to be the mechanism responsible for the divergent effects of colorblindness and polyculturalism on both cultural measures of creativity.

### General Discussion

Previous research has steadily explored the effects of diversity ideologies on interpersonal and intergroup relations. For the first time, we show that diversity ideologies affect intrapersonal cultural crossing, specifically in the realm of integrating foreign ideas into one’s cultural problem solving. Across three studies, we found that polyculturalism led to increased creative ability on problems that rewarded cultural integration, whereas colorblindness tended to impede creative problem solving (though it did not do so consistently). As shown in Study 3, both effects were mediated through the either positive or negative impact each ideology had on the propensity for foreign idea inclusion. In contrast, multiculturalism did not affect participants’ creativity relative to the baseline. We found similar patterns for the positive effects of polyculturalism, regardless of the type of creativity task (flexibility or novelty) and regardless of the country sampled (Israel or the United States). Finally, our findings were limited to the influence of diversity ideologies



on cultural—but not general—creativity. This latter finding resonates with prior work showing that the polyculturalism effect is specific to a preference for cultural fusion (e.g., mix of music from two cultures) and not to general fusion (e.g., mix of two musical instruments; Cho et al., 2017).

### Implications

*Extending the scope of consequences of diversity ideologies.* The current studies extend research on diversity ideologies from the interpersonal/intergroup to the intrapersonal. We demonstrate that these belief systems about how to manage divergent cultural groups affect not only intergroup relations but also have a critical, though unintended, impact on intrapersonal performance in domains unrelated to social dynamics. Our finding that not all diversity ideologies yield equally culturally creative insights meshes well with previous research showing that diversity ideologies are also not equally effective in advancing harmonious relations (e.g., Rattan & Ambady, 2013). Thus, we emphasize the conclusion that although all diversity ideologies share a common goal for improving intergroup relations, the specific approaches they take can have either positive or negative effects, not only on interpersonal but also intrapersonal processes.

Our findings further contribute to understanding what leads people to mix elements from different cultures. Prior work in cultural psychology has investigated when and why people like or dislike cultural mixtures produced by others (e.g., Cheon et al., 2016; De keersmaecker et al., 2016). The current research exhibits polyculturalism encourages not only the consumption (Cho et al., 2017) but also the production of cultural mixing. Finally, our work differentiates the lay beliefs associated with diversity ideologies, and highlights the independent role they play in advancing creative output, beyond that associated with racial essentialism—another common lay belief that deals with the properties of racial groups (Tadmor et al., 2013).

*Separating multicultural ideology from multicultural experience and from polycultural ideology.* The null effects of multiculturalism allow us to call attention to and clarify some linguistic confusion that exists in the field of cultural psychology, differentiating between multicultural experience, multicultural ideology, and polycultural ideology. Specifically, many past studies have looked at “multicultural experience” as a predictor of creativity, operationalizing it as time living in foreign countries (e.g., Maddux & Galinsky, 2009) or as experiences of encountering or interacting with the elements and/or members of foreign cultures (e.g., Leung & Chiu, 2010; Tadmor, Berger, Brenick, Abu-Raiya, & Benatov, 2017; Tadmor, Hong, Chao, & Cohen, in press; Tadmor, Hong, Chao, Wiruchnipawan, & Wang, 2012; Tadmor, Satterstrom, Jang & Polzer, 2012). These findings are sometimes referred to as multiculturalism effects, but this is an unfortunate blurring of terminology. Multiculturalism is a policy or ideology that emphasizes preserving cultural communities (the term originated in the *Canadian Multiculturalism Act* of 1985, which provided resources for the preservation of French and First Nations cultures). Multicultural experience aids creativity by psychologically engaging individuals with foreign knowledge, thus broadening the pool of old and new cultural elements they can draw upon and compare. Over time, this process of understanding and integrating what is old with what is new produces a transformation in basic information processing abilities that allow individuals to enjoy creative advantages in multiple domains that transcend the cultural sphere (Crisp & Turner, 2011; Leung & Chiu, 2010; Maddux, Adam, & Galinsky, 2010; Maddux, Bivolaru, Hafenbrack, Tadmor, & Galinsky, 2014; Maddux & Galinsky, 2009; Tadmor, Galinsky & Maddux, 2012; Tadmor, Satterstrom, Jang & Polzer, 2012; Tadmor, Tetlock, & Peng, 2009).

In stark contrast, multicultural ideology, which emphasizes and appreciates cultural differences, is not associated with a creative boost. Indeed, we hypothesized that it places competing forces on the propensity to utilize foreign ideas because whereas, on the one hand, it encourages

celebration of cultural diversity, on the other hand, it preserves strict cultural boundaries. The ideology that increases creativity is polyculturalism. By legitimizing the flow of people and ideas across boundaries and promoting intercultural exchange, we found it increases the willingness to draw upon the foreign knowledge that one possesses. Thus, polyculturalism leads to not only positive judgments of foreigners who adopt local customs (Cho et al., 2018) but also actions of crossing cultural boundaries during problem solving (albeit these advantages appear to be limited to the cultural domain).

The different effects of multicultural and polycultural ideologies may be elucidated by phase models of intercultural development. Researchers have looked at long-term and serial changes of expatriates in background assumptions about cultures (e.g., Bennett, 1993; Bennett, 1986; Kim & Ruben, 1988; Selmer, Torbiorn, & de Leon, 1998). A development model of intercultural sensitivity (DMIS; Bennett, 1993; Bennett, 1986) features people's worldview progression from a simple ethnocentric to complex ethnorelative orientations. During the first stage, people only perceive worlds through their own culture, and cultural differences are denied or underrecognized. Accepting cultural differences is the first step necessary to progress from the ethnocentrism stage to the ethnorelative stage, where people understand how interrelated their own culture is with others and, therefore, accept other cultures equally (Hammer, Bennett, & Wiseman, 2003). From recognizing cultural differences and adapting other cultural practices, people reach the final stage of intercultural sensitivity, integrating differences (Bennett, 1993; Bennett, 1986). This model suggests the possibility that polyculturalism might be the next stage of multiculturalism as polyculturalism begins with the recognition of cultural differences just as multiculturalism does, but beyond that, polyculturalism values cultural interactions and mutual influence. Indeed, this may explain why both we and others (e.g., Bernardo et al., 2016) have found the two ideologies are correlated with each other but still have distinct effects. Thus, as moving from an ethnocentric view to an ethnorelative view, we suggest the shift from multiculturalism to polyculturalism is followed by a change in motivation and strategies toward cultural differences, and that to obtain a creative advantage, acceptance of cultural difference is not enough.

*The practical goal of fostering creativity and tolerance.* From a practical perspective, the current research has implications for fostering creativity alongside social harmony. Organizations have focused much attention on uncovering the potential individual, social, and organizational factors that affect creativity (Anderson, Potočnik, & Zhou, 2014; Zhou & Hoever, 2014). As such, the present research contributes to this growing body of work by identifying diversity ideology as a novel antecedent to creative performance. Moreover, given previous findings demonstrating the benefits of polyculturalism to promoting positive intergroup relations (e.g., Bernardo et al., 2013), the induction of a polycultural approach may provide a double whammy of not only increasing tolerance but also enhancing creative performance. In contrast, the activation of a colorblind belief may be a necessary tool to dismantling discrimination in policy or in organizations (Morris et al., 2015), but it may unintentionally preclude out-of-the-box thinking. Thus, our findings carve a potentially useful blueprint for practitioners by suggesting that instead of colorblindness or multiculturalism, which are not uniformly positive in their impact (e.g., Rattan & Ambady, 2013), polyculturalism may offer a more failsafe approach.

### *Limitations and Future Directions*

Notably, the current research has several limitations, which offer interesting directions for future research. First, the main effect results for the colorblind ideology are not as consistent as they are for polyculturalism and multiculturalism. Specifically, although foreign idea inclusion did mediate the effect of colorblindness on creativity (Study 3), the direct effect of colorblindness appears to differ between country samples (Israel or the United States): We found that whereas the CB

successfully predicted reduced creativity among Israelis (Study 2), it did not yield a significant effect for U.S.-born Americans (Studies 1 and 3). It is possible that the inconsistent findings may be due to the colorblind ideology being less familiar to Israelis, given that their country is founded on the basis of the Jewishness of its citizens (Smootha, 2002). Indeed, according to Smootha (2002), Israel is an exemplar of an ethnic democracy where the Jewish population—not its general citizenry—shape the symbols, laws, and policies of the state. As such, this ideology of ethnic nationalism makes a crucial distinction between members and nonmembers of the ethnic nation, and the very concept of colorblindness runs counter to the definition on which the state is founded. Thus, with its very definition as a country founded on the basis of highlighting—rather than ignoring—the existence of cultural/religious differences, it is possible to assume that the colorblind ideology is less familiar to Israelis than it would be to Americans, yielding a more powerful impact when Israelis are primed with it. In contrast, the United States exemplifies a classic civic democracy in which the state treats all its citizens equally and makes them members of a common civic nation. Notably, its citizens are allowed to maintain their ethnic identity, but it is neither recognized nor encouraged by the state. As such, a colorblind ideology is firmly grounded in the ideology of the country, increasing the likelihood that Americans are more strongly habituated to its impact (Plaut, Thomas, & Goren, 2009). Thus, Americans may be more weakly affected when they are primed with it. On a related note, it is important to note that in our research, we focused on culturally heterogeneous countries. And yet, it is possible that in a highly homogeneous society, diversity ideologies may have vastly different effects because there is a lack of popular discourse about cultural diversity (Chiu & Kwan, 2016). Future research should investigate these claims as well.

Second, although we have provided evidence that diversity ideologies can affect people's propensity to integrate foreign ideas, we have not explored the underlying mechanism. For example, could it be due to one's sense of being allowed or entitled to sample from other cultures? Could it be about one's fluency in doing so effectively? Could it be about a sense of cultural confidence (e.g., feeling OK with making a cultural guess/assumption without full information at hand)? Could it be that diversity ideologies differentially effect the fear of cultural contamination, yielding different propensities to integrate foreign cultural elements (Cho et al., 2017)? In addition, prior findings show that polyculturalism is associated with openness to changing traditions (e.g., Rosenthal et al., 2014; Rosenthal et al., 2012) and with acceptance of foreign people (e.g., Cho et al., 2018; Rosenthal et al., 2015), which could also be linked to increased ease of idea integration. Future research would greatly benefit from delving more deeply into these questions.

Third, the creative impact associated with diversity ideologies appears to be limited to the cultural domain. Although we found foreign culture inclusion was the underlying mechanism driving the diverging culturally specific creative effects of polyculturalism and colorblindness in Study 3, it is possible to speculate, however, that foreign inclusion may serve as a crucial first step in the creative expansion process (cf. Chiu & Hong, 2005; Smith et al., 1995). Starting out, polyculturalism's impact may, thus, be limited to the cultural domain. However, over time, once individuals become accustomed to using foreign ideas, they may become more comfortable switching frameworks, ultimately leading to change in general cognitive processes that can yield creative advantages that transcend the cultural domain (e.g., Leung et al., 2008; Maddux & Galinsky, 2009; Maddux et al., 2014; Tadmor, Galinsky & Maddux, 2012).

Importantly, we acknowledge several additional limitations with the current work that could open fruitful avenues for future research. For example, the current research provides an initial attempt to measure the effects of diversity mind-sets on people's cultural creativity, but our studies were comprised of relatively smaller sample sizes, involved only a single test of the mediation effect, and focused on a limited number of creativity tasks. It is heartening that we were able to generally replicate our polyculturalism effects on different cultural samples using similar

materials and while using an objective measure of the mediating process (inclusion of foreign ideas). However, future research would benefit from replicating this effect on larger samples, with other creativity measures and through other ways of encapsulating inclusion of foreign ideas, including the direct manipulation of the mediator (i.e., via priming high foreign ideas inclusion vs. low foreign ideas inclusion).

In addition, although we found effects of ideology primes on undergraduate students' creativity in lab environments, our research did not reveal whether the effects would translate to the effect of diversity ideologies on employees in organizational settings. In this sense, it is encouraging that previous lab findings have been extended into real-world effects. For example, the benefits associated with exposure to foreign culture experiences have been successfully replicated on real-world organizational outcomes, including organizational innovation and job market success (e.g., Godart, Maddux, Shipilov, & Galinsky, 2015; Maddux et al., 2014; Tadmor, Galinsky & Maddux, 2012). Looking forward, it would be worthwhile to replicate our findings in organizational field studies as well as to explore whether organizational diversity policies can successfully stimulate the intended ideology mind-sets. It would also be important to test the potential negative side effects that may be associated with the higher propensity of polyculturals to integrate foreign ideas as it is possible that they may also be more prone to engage in unacceptable kinds of cultural appropriation than would multiculturalists who value cultural distinction and originality.

Finally, it would be valuable to extend our findings by investigating whether individuals' creative gains from a polycultural mind-set can also lead to enhancing team-level creativity. Given that cultural diversity sometimes hurts group performance (see van Knippenberg & Schippers, 2007), a polycultural mind-set may promote team functioning in terms of both improving interpersonal relations and increasing the scope from which categories of ideas can be drawn. This would dovetail with previous research showing that multicultural experience also had a super-additive effect on dyadic creativity through both cognitive and social routes (Tadmor, Satterstrom, Jang & Polzer, 2012).

To conclude, our findings establish the potential benefits and hindrances of diversity ideologies for creativity. Whereas previous research has focused almost exclusively on the interpersonal impact of people's cultural preconceptions about how to manage and accommodate diversity, we show that these can also have critical implications for intrapersonal performance by changing the way people relate to foreign cultures. The current work suggests that diversity policies may unintentionally prime specific individual mind-sets that may increase or decrease performance in completely unrelated domains.

## Appendix

### *Diversity Ideologies Measure*

#### *Colorblindness items (Rosenthal & Levy, 2012)*

- Ethnic and cultural group categories are not very important for understanding or making decisions about people.
- It is really not necessary to pay attention to people's racial, ethnic, or cultural backgrounds because it does not tell you much about who they are.
- At our core, all human beings are really all the same, so racial and ethnic categories do not matter.
- Racial and ethnic group memberships do not matter very much to who we are.
- All human beings are individuals, and, therefore, race and ethnicity are not important.

*Multiculturalism items (Wolsko, Park, & Judd, 2006)*

- We must appreciate the unique characteristics of different ethnic groups to have a cooperative society.
- Learning about the ways that different ethnic groups resolve conflict will help us develop a more harmonious society.
- To live in a cooperative society, everyone must learn the unique histories and cultural experiences of different ethnic groups.
- When interacting with a member of an ethnic group who is different from your own, it is very important to take into account the history and cultural traditions of that person's ethnic group.
- If we want to help create a harmonious society, we must recognize that each ethnic group has the right to maintain its own unique traditions.
- I would like my children to be exposed to the language and cultural traditions of different ethnic groups (this item was not used in the current study).

*Polyculturalism items (Rosenthal & Levy, 2012)*

- Different cultural groups affect one another, even if members of those groups are not completely aware of the impact.
- Although ethnic groups may seem to have some clear distinguishing qualities, ethnic groups have interacted with one another and, thus, have influenced each other in ways that may not be readily apparent or discussed.
- There are many connections between different cultures.
- Different cultures and ethnic groups probably share some traditions and perspectives because these groups have affected each other to some extent over the years.
- Different racial, ethnic, and cultural groups influence each other.

**Acknowledgments**

This research is based, in part, on the doctoral dissertation submitted by Jae-e Cho to Columbia University. We thank the committee members, Kathy Phillips, Adam Galinsky, Veronica Benet-Martinez, and Eric Knowles, for their insightful feedback and suggestions on earlier drafts. We also thank the editor and two anonymous reviewers for their critical comments and suggestions. We are grateful to research assistants Aitong Li, Brian Maislin, Kristina Ann Wald, and SeulKi Chin for their help in data collection and coding.

**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**

1. The term "multiculturalism" refers to a policy or ideology and should not be confused with the term of "multicultural experience," which references life experiences giving a person's exposure to foreign cultures (e.g., Leung, Maddux, Galinsky, & Chiu, 2008; Maddux, Bivolaru, Hafenbrack, Tadmor, & Galinsky, 2014; Saad, Damian, Benet-Martinez, Moons, & Robins, 2013; Tadmor, Berger, Brenick, Abu-Raiya, & Benatov, 2017; Tadmor, Hong, Chao, & Cohen, in press; Tadmor, Hong, Chao, Wiruchnipawan, & Wang, 2012). Whereas the former refers to a person's blueprint of how he approaches out-group members, the latter refers to actual exposure experiences to foreign cultures

- (e.g., through living abroad or having foreign friends). Thus, in this article, we use the original meaning of multiculturalism found in the ideology literature.
2. Across all three studies, we sought to safeguard data quality, by excluding participants (a) who failed to correctly pay attention to the content of the study and (b) who took too little or too much time to fill out the survey (e.g., two standard deviations below or above the rest of the sample). For Study 1, we sought to collect 180 U.S.-born participants based on the sample sizes used in previous correlational studies that tested the three ideologies (Cho, Morris, Slepian, & Tadmor, 2017). We recruited 184 students who were born in the United States. After excluding 10 participants who spent either completely insufficient or excessive time completing the survey, 174 participants remained for analysis. A sample size of 174 provides 80% power to detect a small-to-medium effect size ( $f^2 = 0.06$ ), using G\*Power with “linear multiple regression: fixed model,  $R^2$  increase.”
  3. Based on the sample sizes used in similar experimental studies (e.g., Vorauer & Sasaki, 2010), we sought  $n = 100$  participants. Yet, due to departmental regulations, we could not limit participation to the Israeli-born participants we were interested in. Consequently, despite a limited amount of course credit, we had to leave participation open to the entire subject pool. Of this sample, 105 Israeli-born participants completed the online experiment. To safeguard data quality, using the same exclusion criteria used in Study 1, we excluded three participants who failed to correctly answer two questions describing and recalling the article’s content and nine participants who spent two standard deviations below or above the rest of the sample in filling out the study. Thus, the final sample included 93 Israeli-born participants. The final sample size yields 80% power to detect a small-to-medium effect size ( $f^2 = 0.12$ ) using G\*Power with “linear multiple regression: fixed model,  $R^2$  increase.”
  4. As in Studies 1 and 2, we left participation open to the entire subject pool following the department’s protocol but in the final sample, we only included American participants who were not associated with cultures related to the ingredients listed (Asian and Mexican/Spanish). In addition, we excluded participants who were outliers ( $+2 SD$ ) in terms of having spent a significant part of their lives living outside the United States. This was because our focus was on keeping the participants who had lived the majority of their lives in the United States and had been exposed mainly to mainstream American culture. As such, all ingredients, except the typical American ones should be considered to be from a foreign cultural milieu. Using the parallel exclusion criteria to those used in Studies 1 and 2, the final sample size was 134, which yields 80% power to detect a small-to-medium effect size ( $f^2 = 0.08$ ).
  5. We use the word “foreign” to capture things that come from cultural traditions other than from the traditional mainstream American culture. Although this is not entirely a matter of the objective empirical record of what practices originated in the United States, it is what most Americans regard as the American tradition, via the intersubjective consensus. We use the word “foreign” because it more accurately captures that the idea that it is not just nonstereotypically American but rather it is from another, different cultural tradition.

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